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*Harmonisation for Health in Africa (HHA). Service Delivery of High Impact
Interventions :a study conducted in four West African countries*

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Abstract

Despite the progress made in many sub-Saharan countries in terms of reducing maternal and child mortality, the overall situation remains worrisome. Mothers and children continue to suffer and die from a wide range of preventable and treatable conditions and illnesses, notwithstanding the existence of many High Impact Interventions (HII) that have the potential to improve their health status. We have today a fairly good knowledge on *what* needs to be done, but we lack insight and understanding on *how* to do this. The challenge for policymakers and health planners is thus straightforward: there is a need “to get the systems right” and increase their ability to deliver HII to individuals and communities in need.

UNICEF’s regional office for West and Central Africa (WCARO), in partnership with the West African Health Organisation (WAHO) and the Regional Office of the World Health Organisation (WHO), under the umbrella of the Harmonisation for Health in Africa (HHA) initiative, commissioned the Institute of Tropical Medicine in Antwerp (ITM-A) to conduct a study of the service delivery of HII. The objective of the study was to better understand the organizational features needed for effective and efficient health care delivery. This included an analysis of the contextual variables that contribute to successful service delivery and the identification of key health system bottlenecks to the delivery and scaling up of HII.

Four WCARO countries were selected: Burkina Faso, Ghana, Guinea-Bissau, and Guinea-Conakry. This choice was guided by two important considerations: the wish for contextual heterogeneity in the study settings (allowing to contextualize the analysis and recommendations), and the availability of an interested institutional partner. The study was conducted in the period August 2010 - April 2011 together with the following organisations: the *Institut de Recherche en Sciences de la Santé* (IRSS) in Burkina Faso, the Ghana Health services (GHS) institute in Ghana, the non-governmental organization *Fraternité Médicale Guinée* (FMG) in Guinea, and the *Instituto Nacional de Estudos e Pesquisa* (INEP) in Guinea-Bissau.

A case study approach was used and each of the four countries was considered as a separate case. The design of the study was inspired by the theory-driven evaluation approach. The emphasis in this approach is on the questioning of “what intervention works, why, in which conditions, and for whom?” - in line with

the increasing recognition of the critical role of implementation science. The partners of the study consortium developed a set of assumptions - or *theories* - on the managerial and organizational conditions needed to successfully implement specific HII in each of the four settings. A number of HII were purposively selected by the study partners for subsequent field investigations. On the whole, some 15-20 (very) different HII were investigated in each country, ranging from the promotion of hand-washing before food intake to emergency obstetrical care at hospital level. These HII can be delivered to people via three distinct but complementary delivery channels or platforms: the delivery of interventions via individual oriented/clinical services; the delivery via community/family oriented services; and the delivery via population based/schedulable services. The selection of the HII ensured a reasonably balanced distribution of interventions according to these three delivery platforms.

Joint field visits of 2-3 weeks were conducted by local and ITM-A researchers in each of the four countries. The field investigations were preceded by detailed context descriptions in each of the four settings and consisted further of a thorough documentary analysis of policy and health services activity reports, a broad range of face-to-face and group discussions with managers, health workers and patients, and observations of routine health care delivery practices. In the subsequent desk analysis of each of the country reports, an exhaustive list was compiled of all bottlenecks and facilitating factors in HII implementation. These factors were then grouped in more generic themes, thereby bundling factors of a similar nature.

The results are presented along the lines of increasingly specific levels of analysis: starting from a general overview of the nature and frequency of the different supply- and demand-side bottlenecks and facilitating factors in HII implementation (all countries combined and all HII combined), up to an overview of bottlenecks and facilitating factors per specific delivery platform per country. The study contributes to improving our understanding of the most significant supply- and demand-side factors hampering or facilitating the implementation of HII - and this in different contexts. The results reiterate, not surprisingly, that for service delivery to be effective, basic health care infrastructure and equipment needs to be in place; health facilities must be staffed by a workforce of skilled and motivated health workers; supply systems need to function in a reliable way; sufficient financial resources must be available. The study further points to the need for professionals to better acknowledge and tap the potential of households and communities themselves, to enter into a genuine two-way dialogue with

people to appreciate what they do themselves, to create demand and awareness where it is needed and to orient people towards behavioural change. To the extent possible, results are discussed in terms of what needs to be done first in a given context. A top priority in Guinea-Bissau is not necessarily a top priority in Ghana, and vice-versa. *One-size-fits-all* scenarios do not exist.

Successful implementation of HII also requires consideration of the different *interfaces* between the main players in the health system that affect whether the introduction of HII will be effective. In the model we constructed in our analysis, we distinguished between five interfaces: the interface between policymakers and managers (of health care delivery systems and vertical programmes), a second one between the managers and the health care providers, a third one between the managers and the community, a fourth one between the providers and the users, and a fifth one between the providers and the community. We then formulated a number of priority recommendations that go from the national to the community level. Firstly, the provision of institutional capacity-building support at the central policymaking level; secondly, the need to improve the management capacity of district teams with an emphasis on coordination of activities and supportive supervision of health facilities; thirdly, the need for managers to invest in a comprehensive and continuous dialogue with the community; fourthly, the need for health care providers to improve the patient-centred character of the care they offer to their patients; and finally, the need to invest in the design and development of community-based structures staffed by paid health workers.

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Acronyms

ACT	Artemisin Combination Therapy
ANC	Antenatal care
ARI	Acute Respiratory Infection
ARV	Antiretroviral
AZT	Azidothymidine (zidovudine)
BCG	Bacillus Calmette-Guérin
BEOC	Basic Emergency Obstetric Care
CEOC	Comprehensive Emergency Obstetric Care
CHO	Community Health Officer
CHPS	Community-based health planning and services
CHW	Community Health Worker
CSPS	Centre de Santé et de Promotion Sociale
DPT	Diphtheria, Pertussis, Tetanus
EPI	Expanded Programme of Immunisation
FMG	Fraternité Médicale Guinée
FP	Family Planning
GDP	Gross Domestic Product
GHS	Ghana Health Service
GNI	Gross National Income
HHA	Harmonization for Health in Africa
HII	High Impact Intervention
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IMT, A	Institut de Médecine Tropicale, Anvers

INEP	Instituto Nacional de Estudos e Pesquisa
IPT	Intermittent Preventive Treatment (malaria)
IRSS	Institut de Recherche en Sciences de la Santé
ITM,A	Institute of Tropical Medicine, Antwerp
ITN	Insecticide Treated bed Nets
IUD	Intrauterine Device
MDG	Millennium Development Goals
MOH	Ministry of Health
NVP	Nevirapine
OOP	Out-of-pocket
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission of HIV
PPP US\$	Purchasing power parity Dollars
RE	Realist Evaluation
SHSOP	Studies in Health Services Organisation and Policy
TBA	Traditional Birth Attendant
THE	Total Health Expenditure
UNICEF	United Nations Children's Fund
WAHO	West Africa Health Organisation
WCAR	West and Central Africa Region
WCARO	West and Central Africa Regional Office
WHO	World Health Organisation

Introduction

The West and Central African Region (WCAR) is the poorest region in the world and has a total population of 395 million inhabitants spread over 24 countries. A complex mixture of socio-political, economical and epidemiological contexts characterises the region. Over the past decades considerable effort has been made to reduce maternal and child mortality. In spite of this, the overall situation for maternal and child health remains precarious and worrisome. Numerous mothers and children continue to suffer from preventable and treatable conditions and illnesses, and die untimely notwithstanding the introduction of high impact interventions (HII), whose effectiveness to reduce mortality, morbidity and malnutrition among mothers and children has been proven, *i.e.* in “pilot circumstances”, and well documented (appendix 1). HII hold the potential to improve the health status of the beneficiaries and provide the key on what needs to be done in order to prevent premature deaths.

UNICEF, the World Bank, and WHO distinguish three main perspectives - or *service delivery platforms* - to take HII to the target population groups. The first platform refers to *family-oriented, community-based* services that can be delivered on a daily basis by trained community health or nutrition promoters with periodic supervision from skilled health staff. It also includes all actions that families and communities undertake themselves to maintain and improve their health and nutrition status and in which the notions of self-care and lay-knowledge play an important role. Secondly, there is the platform of *population-oriented, schedulable* services that require health workers with basic skills (e.g. auxiliary nurses/midwives and other paramedical staff) and that can be delivered by outreach, campaigns, mobile teams or in health facilities in a scheduled way. And thirdly, there is the platform of *individually oriented clinical services* that require health workers with advanced skills (such as registered nurses, midwives or physicians) available on a continuous basis, usually based in health centres or hospitals.

The effective coverage of those interventions however remains low; hence the risk of not achieving the health related Millennium Development Goals (MDG) in this region is not illusory. Scaling up the implementation of the interventions, therefore, requires major demand- and supply-side barriers and bottlenecks in the health service organisation to be overcome.

Harmonisation for Health in Africa (HHA) is conceived as a regional mechanism through which collaborating partners agree to focus on providing support to the countries in the African region for reaching Health MDG. Modalities of collaboration involve joint analytical work as well as planning and implementation support which partners would normally undertake as individual agencies. As member of HHA, UNICEF West and Central African Regional Office (WCARO) commissioned the Institute of Tropical Medicine (ITM) in Antwerp, Belgium, to conduct a study on health services delivery in four representative countries of WCAR, *i.e.* Burkina Faso, Ghana, Guinea-Bissau, and Guinea-Conakry. Purposely, an Anglophone, a Lusophone and two Francophone countries were selected in order to try and cover the variety of situations in West Africa. Moreover, the overall context of these four countries is also quite variable, thereby enhancing the scope for context-specific analysis and recommendations.

The overall aim of the study is to better understand the organisational features of effective and efficient primary health care delivery, including the identification and analysis of i) the contextual variables as contributing factors for successful service delivery; and ii) key health system bottlenecks to the delivery and scaling up of HII for reaching health related MDG 1, 4, 5, 6 and 7 (see appendix 3).

For the implementation of this study, ITM-A has teamed up with local partner institutions who have been actively involved in the various stages of the research and leading the research activities in their respective countries. These institutions are:

1. *Institut de Recherche en Sciences de la Santé* (IRSS) from Burkina Faso
2. Ghana Health Service (GHS) from Ghana
3. *Fraternité Médicale Guinée* (FMG) from Guinea
4. *Instituto Nacional de Estudos e Pesquisa* (INEP) from Guinea-Bissau

These institutions have been contracted by the West African Health Organisation (WAHO), UNICEF's strategic partner in the region. Their institutional identity is of a variable nature: IRSS and INEP are formal research institutions. GHS is a parastatal body mainly involved in the planning and organisation of health care delivery in the Ghana public health sector. FMG is a Guinean non-governmental organisation. Other partners involved in this research were the Ministries of Health and the country offices of UNICEF and WAHO from the four selected countries. Due attention was given to a broad involvement of local stakeholders in the overall process. Also the regional WHO office was particularly helpful in their support to this study.

The institutional capacity-building dimension of the entire exercise is an important aspect for WCARO, WAHO and ITM. This study has been a powerful opportunity to carry out collaborative research on the field, it provided occasions for fruitful mutual exchange, and constituted a solid basis for further collaboration in the future.

Research questions and methodology

Through this study, researchers generate insights in how to organise health systems in order to achieve the desired outputs and outcomes in terms of maternal and child health. The research is expected to distinguish a set of conditions in terms of health systems organisation that needs to be in place for HII to be implemented in an effective and sustainable way, without weakening or “instrumentalising” the host health system. The fact that these issues are addressed in different contexts enables us to make recommendations tailored to the different contexts.

The study design of this research is influenced by the theory-driven methodological approach (Chen & Rossi 1983; Chen 1989; Pawson & Tilley 1997). It is an evaluation approach that does not merely address the conventional question of “does an intervention work?” but rather indicates “what intervention works, why, in which conditions, and for whom”. This methodological approach, therefore, seems suited to inspire the assessment of an intervention’s effect in a particular and complex setting (Van Belle *et al.* 2010; Marchal *et al.* 2010). It is in line with the increasing recognition of the critical role of implementation science (Damschroder *et al.* 2009). The cross-cutting analysis of similar interventions implemented in different contexts may eventually lead to a plausible explanation of which health system’s organisational features appear to favour effective implementation of the intervention in different contexts. Hence the need in such a methodological perspective to carry out detailed context descriptions. Context matters; understanding the nature and role of contextual factors may improve the validity of study results, as well as help predict programme impact across sites (Victora *et al.* 2005).

The design most suitable for the implementation of this study itself was the case study. This research design is very befitting as it focuses on apprehending the dynamics present within single settings, allows multiple levels of analysis, combines different data collection methods - qualitative as well as quantitative - and serves various purposes such as theory testing among others (Eisenhardt 1989). In our study, each of the four countries is considered a case in itself. Analysing the findings from those four cases creates insights in how to organise healthcare in the most appropriate way from a national point of view for the

effective implementation of HII considering the opportunities and limitations of a country's specific health system.

In short, the methodology constituted of the following steps: we first ranked the countries of study within the WCAR in order to situate them - even if relatively - in terms of development and responsiveness to the health needs of their populations. This ranking helped to situate the findings within the broad context of each study country. During a preparatory seminar in Ouagadougou, the HII to be studied in each study country were selected and theories were drafted. After that, field studies were conducted in each country, with extensive documentary analysis, interviews and observations. Details of this step are presented further in Table 1. Results of the field studies were each presented in a case study country report, material then used to pursue the cross-country analysis. A second seminar was organised in Antwerp to discuss the results of the studies and the continuation of the research. The cross-country analysis was done in four levels of data analysis as it is shown in Figure 2. The last step was an analysis of the interfaces of the health systems as explained in Figure 3.

Table 1. Data collection in the four countries

	Ghana	Guinea-Bissau	Guinea	Burkina Faso
Documentary analysis	Activity reports and policy documents	Activity reports and policy documents	Activity reports and policy documents	Activity reports and policy documents
Individual interviews	Health systems managers: 16 Health workers: 19 Patients: 9	Policy makers at central level: 5 Health systems managers: 9 Health workers: 19 Patients: 4	Policy makers at central level: 5 Various actors at district level: 55 in Fria district and 62 in Kindia district Patients: 70	Policy makers at central level: 5 Health system managers: 18 Health workers: 23 CHW and health committee members: 10 Patients: 5; NGOs: 2
Group discussions	N=20	With CHWs: 8 With community members at their home: 4	N=9 (involving 60 people in total)	N=11
Observation analysis	Individual observations: 22	Nurses and midwives: 5	15	Individual observations: 11 Health talks: 3
Health facility inspections (incl. records checking)	N=6	N = 6	N=15	N=6

We conducted an analysis in order to determine the current “state of the state” of the four countries under study. To do this, we used key variables that are easily accessible and that allowed us to make a reasonably objective, even if relative, ranking and classification, in terms of their development and their contributions to improve the health status of their populations. We compared the four surveyed countries with the other 20 countries of the WCAR. The key variables used are related to 1) demographic and socio-economic situation, 2) health expenditure, 3) donor dependency, 4) health service availability and 5) governance. The data for

the 24 countries were obtained from WHO's World Health Statistics 2010 (WHO 2010) and World Bank's Worldwide Governance Indicators (World Bank 2010). More in particular, details on the following variables¹ were collected (see Box 1).

Box 1. Variables used for the country ranking

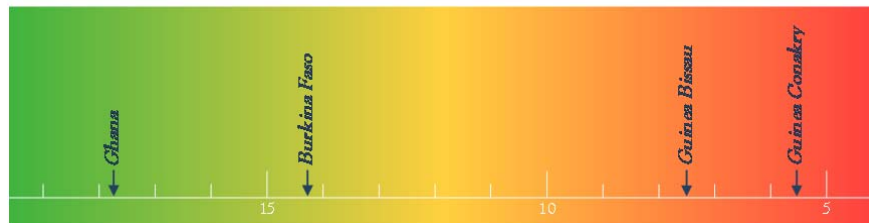
1. Demographic and socio-economic situation
 - Population living on <1 US\$ PPP a day (%)
 - Net primary school enrolment rate (% female)
 - GNI (PPP US\$)
2. Health expenditure
 - THE per capita (PPP int. \$)
 - GGE on health as % of total government expenditures
 - OOP as % of private expenditure
 - Per capita government expenditure on health (PPP int. \$)
3. Donor dependency
 - External resources for health as % of THE
4. Health service availability
 - Physicians (per 10,000 pop)
 - Nurses & midwives (per 10,000 pop)
 - CHW (per 10,000 pop)
5. Governance
 - Voice and accountability
 - Political stability
 - Government effectiveness
 - Regulatory quality
 - Rule of law
 - Control of corruption

The details for each of the above variables per country were entered in an Excel[®] file (see appendix 4). Per variable, the countries were then ranked from country with the best result to country with worst result. This was followed by giving a score to the countries for their position in the ranking for each of the

¹ In the ranking of the countries, "equity" was not considered as a variable.

variables. The country with the worst result for a specific variable received the minimum score of 1 for that particular variable. The country with the one but worst result received a score of 2, and so on... The country with the best result for a given variable received a maximum score ranging from 12 to 24, depending on the availability of data for that particular variable. In a following step, the scores per variable were alphabetically ordered according to the names of the countries. The next step consisted in adding the scores for all variables per country to obtain a *total score per country*. For each country, the *number of variables with a score* was counted and the *total score for a particular country* was then divided by the *number of variables with a score* of that particular country. This resulted in an *average score per country*. The countries were then ranked according to their average scores. The average scores range from 4.3 (the poorest score) to 19.2 (the best score). These details were processed and led to a classification of the four country studies within the overall WCAR. The ranking for all countries within WCAR is available in appendix 5. Within the scale that was established, the scores of the four study countries were plotted to visualise the relative location of the four study countries. Figure 1 gives a visual representation of this ranking.

Figure 1. Study Countries ranking



Based on the results provided by this analysis, the four study countries can be ranked in three groups:

1. Ghana
2. Burkina Faso
3. Guinea-Bissau and Guinea

This classification will help to analyse the findings by categorising the broad setting in which the interventions took place.

Additionally, in each of the four countries two districts were purposively selected for the field investigations. The idea was to “oppose” the analysis of HII implementation in a relatively well-functioning district with the analysis of the situation in a less well-performing district. The expectation was that such a contrast would provide more fine-tuned knowledge on why given interventions achieve better results in one particular context than they do in another one - i.e. going for “polar” types illustrating high and low performance (Pettigrew 1990). The following criteria were used for the identification of the study districts (no order of priority): i) availability of a district health team, ii) presence of a functional hospital (more specifically, the presence of a functional operating theatre), iii) relative similarity in terms of socio-economic development; iv) accessibility from the capital to facilitate the field visit; and v) the implementation of a substantial amount of HII.

The level of performance of the districts (“good” *versus* “less good” districts) was then assessed along the lines of the outputs achieved in terms of coverage of immunisation (DPT3), antenatal care, family planning, and institutional deliveries.

In the preparatory phase of the field visits, in order to adequately frame, structure and guide the processes of data collection and of data analysis, a set of hypotheses was developed (also called *theories* in this study, faithful to the terminology used in theory-driven evaluation) concerning the managerial and organisational conditions for the health system to successfully implement HII. A distinction was made between a first set of *theories* dealing with broad systems conditions for a health care system (at macro, meso and micro levels²) to be able to implement a range of HII effectively (i.e. *horizontal* or *health systems’ theories*), and a second set of *theories* that are much more specific and that relate to the features of the local health system for specific singled-out HII to be effectively implemented (i.e. *vertical* or *specific intervention theories*). The formulation of these *theories*, both *vertical* and *horizontal*, is based upon a number of assumptions on the capacities and organisational features of a health system required for it to be effective in adequately implementing HII. These theories are not defined on an arbitrary basis, but rooted in the collective experience and cumulative knowledge of the different health professionals involved in the process. The study approach, however, has not been exclusively deductive; during the analysis phase, there was also room for inductive thinking, for instance, in identifying patterns in the

² This is at national, district and clinic/local level.

comparison of cases (what is described as the “balancing between act of deduction and induction”, Pettigrew 1997).

During a preparatory seminar in Ouagadougou, the research partners made the distinction between HII in the field of preventive, curative and delivery care, and selected the HII to be studied in each country (appendix 2). The majority of the selected HII were constant for all of the four countries and a smaller number was specific to each country. On the whole, some 15-20 different HII were investigated in each country. Adequate coverage of the three *perspectives* of HII in terms of preferential delivery platform was covered in as much as possible.

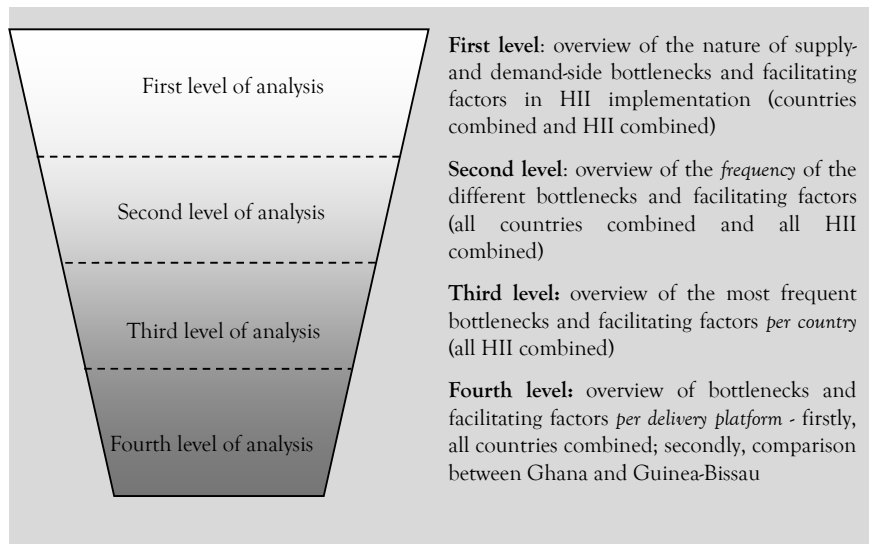
The intra-country and cross-country analysis was a step-wise process that can be succinctly described as follows. The process started with the systematic reading of all four case studies by the ITM-A research team leading to an exhaustive listing of all bottlenecks and potential facilitating factors for success, as indicated by the national research teams in their respective reports. Bottlenecks were then divided into two groups - related to either demand or supply side of care - and both bottlenecks and facilitating factors (in total over 100) were arranged by HII delivery platform: i.e. family oriented/community based services, population oriented/schedulable services, and individual oriented/clinical services (Tanahashi 1978; Soucat *et al.* 2002; Chopra *et al.* 2012). This material was entered into Excel[®] spread sheets allowing for a first broad view at the various obstacles and potential success factors for HII implementation.

In a subsequent phase, individual bottlenecks and facilitating factors were grouped and ordered in more generic themes, thereby bundling factors of a roughly similar nature. Whenever available, output data (originating from international statistics and/or from country studies) of HII implementation were incorporated in the dataset. Eventually, these data were rearranged so as to allow crossing the different variables per theme and per country. Further analysis consisted of summing up and ranking bottlenecks within each theme, for each study country, according to the number of times they were cited. To increase validity, these tables were cross-checked by a peer not involved in their construction. This led to a revised grouping of bottlenecks and facilitating factors by thematic similarities. In a peer working meeting, these newly constituted thematic groups were discussed, including clarification and common understanding of concepts and terms used, and this resulted in a new validated table summarizing all data.

Final results are now presented in semi-quantified tables (appendix 6), relating the most frequently cited bottlenecks and facilitating factors to the delivery platform and to the country: community based HII, population based HII, and individual clinical HII (further split into curative care interventions and interventions in the realm of delivery care).

In the results section, we distinguished four levels of analysis of the above-mentioned data (Figure 2) going from a broad overview to increasingly specific data analysis.

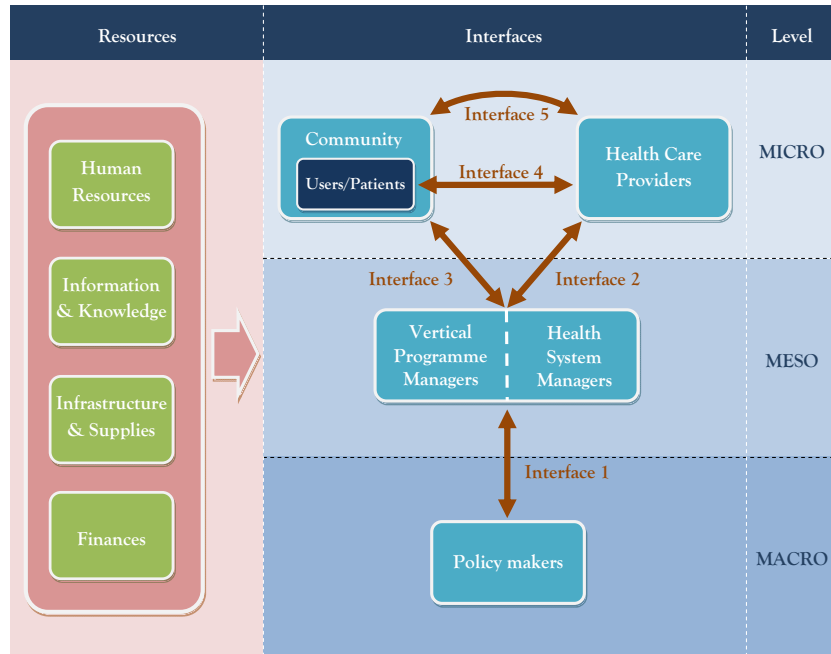
Figure 2. Four levels of data analysis



The final way of analysing the results - and formulate recommendations - is by addressing the different interfaces between the players in the system. The model developed by Pattinson *et al.* (2011) was a source of inspiration. Successful implementation of HII within health-system packages requires consideration of many interfaces between individual agents that affect whether the introduction of the packages will be effective. Every interface contributes to reduction of morbidity and mortality of mothers and their babies. The specification of the various resources needed for services to be productive, as proposed by Van Olmen *et al.* (2010) were further integrated in the adapted Pattinson model. Consistently with

the distinction between micro, meso and macro levels used in the country studies, a third dimension was integrated in the model, showing where the interface is situated in the system (Figure 3).

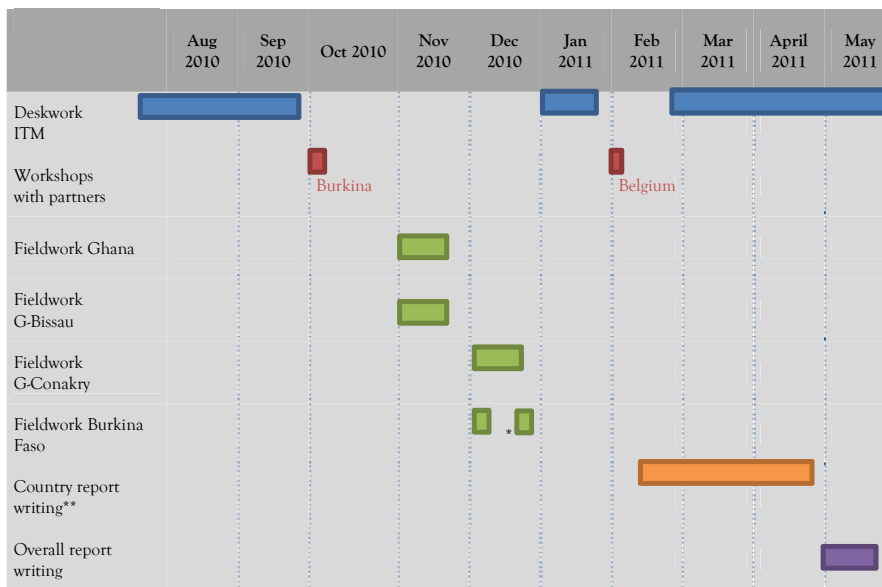
Figure 3. Key interfaces at the different levels of the health system



Study timeline and workload

Table 2 presents the chronology of key activities of the study.

Table 2. Timeline of the study



*Because of national immunisation days in Burkina Faso, the fieldwork was done in two phases.

**By local research teams, with support from ITM staff via deskwork and field visits.

Data collection tools used during the fieldwork, which took 2 weeks in each study country, are presented in Table 1.

The estimated workload for this study was of 2.0 man-months for fieldwork and 5.5 man-months for deskwork in each of the study countries, and a total of 15 man-months approximately from the side of ITM.

Results

Executive summaries of each country report, as written by the local country research teams are presented in appendix 7. Extensive context descriptions (national, district and local levels) are available in appendix 8. A short general context description per country is presented here. This is followed with the core of the results section, i.e. a systematic overview of the main bottlenecks in the implementation of HII, at both supply- and demand-side of care, but also the most important facilitating factors, as identified by the research teams during their field work. Inasmuch as possible, results are presented per type of delivery platform and per country. From thereon, a number of recommendations will be proposed.

Context descriptions

We start the discussion with a short general description of each case study. The complete case studies, meaning each study country report, are available at www.itg.be/itg/dl/Study-Country-Report-Guinea-Bissau.pdf
www.itg.be/itg/dl/Study-Country-Report-Burkina-Faso.pdf
www.itg.be/itg/dl/Study-Country-Report-Ghana.pdf
www.itg.be/itg/dl/Study-Country-Report-Guinea-Conakry.pdf

Ghana is a constitutional democracy progressing steadily towards the status of a middle-income country, providing the country with additional financial resources for funding its health system. Donor dependency is on the whole decreasing even if there still is little flexibility in operating funding arrangements at district level where reliance upon funding by vertical programmes remains high. The country has introduced a National Health Insurance Scheme in 2005 leading to steadily reduction of out-of-pocket by households. Ghana's health system - with the Ghana Health Service (GHS) as main provider - has been doing well in terms of performance over the last years with improved outputs and outcomes. The capacities of the health system as a whole and the degree of professionalism in the GHS are striking features. The Ministry of Health (MOH) has developed a reasonably effective regulatory framework and has adopted a sound strategic long-term vision for its health system - with the wish not to have vertical programmes driving the system. The MOH has embraced a culture of innovation via well-thought experimentation and subsequent scaling-up: good illustrations are the case

of the Community-based Health Planning and Services (CHPS) initiative which is now steadily spreading over the country, and the case of the Human Resources policies that have succeeded in increasing and retaining the health workforce. Problems however remain at the operational levels of the system with management problems at district level and with insufficient involvement of local communities in the planning and management of local health services.

Burkina Faso is a country with a GDP of 300 US\$/capita that situates it in between (richer) Ghana and the 2 (poorer) Guineas. A mix of health care financing arrangements exists, with policies of free health care introduced in 2004 for women and under-fives. Health care expenditure has increased over the last years and out-of-pocket has gone down from 50% to 38% in the period 2003-2008. The Burkina Faso health system is built around the conventional health pyramid with *Centres de Santé et de Promotion Sociale* (CSPS) at the level of the first line. Not all districts have a functioning operating theatre at district hospital level (*Centre Médical avec Antenne chirurgicale*). In many rural districts, distances remain high even if the number of CSPS is increasing. Many CSPS do not have a trained midwife, pointing to the ill-distribution of health personnel. Attempts are made to integrate private health care providers into health planning via contracting policies. Traditional medicine remains an important source of health care for people. Many Community Health Workers (CHW) exist at village level but they generally tend to operate in a “vertical” way, only addressing specific single-purposed activities as proposed by vertical programmes. These CHW are subject to differing systems of financial “motivation”. Utilisation rates at the level of first line (CSPS) remain generally low pointing to problems in accessing general facility-based health care, but, strikingly, coverage of some high impact interventions, like for instance child immunisation, is very high. Outreach campaigns and national immunisation days are integral part of the Burkina Faso health system landscape. In 2009 and 2010, 9 and 8 national immunisation campaigns were organised respectively, with major disruptive effects on the routine functioning of general health services as described in the study report. A national policy of devolution of local health services to the municipal level was decided in 2009.

The health system in **Guinea** has been largely shaped by the Bamako Initiative dynamics, but has suffered strongly the last years from the deteriorating political situation. A new government has been put in place, following the December 2010 elections, hereby putting an end to the political and institutional standstill, and

creating hopes for a new start. Guinea's health system, however, is facing huge problems and challenges. One of the most critical factors is the situation in terms of human resources for health. There currently is an uncontrolled overproduction of health workers by public and private training institutions. Staffs are ill-distributed over the country. At health centre level, there is a plethora of staff, mismatching the workload at facility level. In many instances, "non-contractual" or "trainee" or "volunteer" staffs - a range of terms that covers a group of unpaid but trained health workers - are as numerous at health centre level as are the government regular health workers. Private practice is widely spread but is hardly regulated by public health authorities. The infrastructure has run down in many instances and basic equipment is often lacking at facility level (but is found back and used in the private practices). Another major problem is the crisis in the supply and distribution of generic essential drugs. Like in Burkina Faso, the utilisation rates of curative care at health centre are low, but coverage of child immunisation is high. National immunisation days are also a regular feature of the Guinea health system and lead to prolonged absences of regular staff from their workplace. At community level, NGOs and volunteers are often the main motor of community dynamics in the field of health care.

Guinea-Bissau is one of the poorest countries in the world ranking 164 among 169 on the human development index. The civil war in 1998/99, followed by an important economic downfall, and continued slow economic growth that is lower than the national population growth, contributed to a high level of poverty: 69% of its population live with less than US\$ 2 per day and 33% with half that amount. Guinea-Bissau is characterised by political and institutional instability, coupled with recurrent violence as reflected by the repeated putsches and armed conflicts. Since 1998 no government has ever completed its mandate. Health expenditure reaches 6.1% of GDP and 4% of the national budget is allocated for the health sector. Malaria, respiratory infections, and diarrhoeal diseases are still the major causes of morbidity in all class ages; maternal and under five child mortality remain very high. Most health care is provided by public services, organised in a hierarchical pyramidal structure with a national hospital at the top, followed by regional hospitals, health centres and community health units. The entire public health system is poorly funded, with degraded infrastructures, insufficient equipment, materials, and frequent out-of-stocks of essential medicines, blood and blood products. There is a governmental centre for procurement and distribution of medicines which coexists with parallel systems of

provision of medicines and supplies for HIV/AIDS, malaria, EPI, and other vertical programmes. A large informal street drug market exists. The health information system is poorly functioning. Access to health care is inequitable with huge differences between urban and rural, and poor and rich. The majority of health care delivery is concentrated in Bissau and the regional capitals. Public private partnerships are almost inexistent. At village level, community health units constitute the largest health infrastructure network. A significant part of health care is also delivered by Community Health Workers who complain about the lack of financial incentives, support supervision and medicines. Health centres deliver promotional, preventive, curative and delivery services - inclusive those linked to HII which in some regions started only in April 2010 as a test phase. Health staff generally operates under difficult working conditions and are poorly paid. Cost recovery policies are in place, along the lines of the Bamako Initiative. Regional hospitals are the first referral level and suffer from the same ills as the lower levels of care: i.e. insufficient personnel, broken down infrastructure, lack or inadequacy of materials and equipment, regular drug stock-outs... Free health care for deliveries is a virtual reality as patients are compelled to purchase materials and medicines in private pharmacies. Transport of patients is problematic at all levels of provision of services. On the whole, the Guinea-Bissau health system suffers from a chronic insufficiency of resources, in conjunction with weak leadership from the Ministry of Health.

Overview of bottlenecks and facilitating factors in the implementation of the selected HII

This overview starts with a broad view on the bottlenecks and facilitating factors of the implementation of HII and progressively evolves into the presentation of more specific information.

First level of analysis

First level of analysis: general overview on the nature of the supply-side and demand-side bottlenecks³ and the facilitating factors of HII implementation (all countries combined and all HII combined).

A thorough reading of the results sections of the four country reports has led to the identification of a number of recurrent “factors” that pertain to bottlenecks situated at supply-side (N=48) and at demand-side of care (N=20), and to factors (N=33) that are seen as facilitating the smooth implementation of HII (see right columns in tables 4, 5 and 6). Discussions within the ITM research team allowed to regroup these various factors in a smaller number of broader - and more generic - themes listed in the left columns of Tables 4, 5, and 6.

Table 4. Supply-side bottlenecks

Inadequate infrastructure and supplies	<ul style="list-style-type: none">- Inadequate/problems with equipment- Inadequate infrastructure- Irregular supplies/blood- Non-availability
Limited involvement of non-public actors	<ul style="list-style-type: none">- Non-involvement others (private)- No collaboration with others- Non-involvement community level
Poor dialogue with users	<ul style="list-style-type: none">- Inadequate message (not adapted)- Low awareness of lay knowledge- No respect of the autonomy of clients- Non-participatory communication- Offered only on demand of users- Poor attitude towards users- Poor information provision- Poor reception patients- Weak dialogue and negotiation

³ The distinction between demand and supply side bottlenecks is sometimes blurred.

Lack of financial resources (for the health service)	- High selling price/different pricing - Restrictions in insurance system - Little financial means/delay reimbursements
Inefficient implementation strategies of HII	- Poor integration with other services - Single strategy
Geographical barriers and transport problems	- Geographical accessibility - Lack of transport - Limited decentralisation - Slow expansion CHPS zone
Poorly skilled staff	- Dependent on qualification of provider - Inadequate training - Insufficient qualified staff - No delegation of tasks - Non-utilisation of skills - Poor utilisation of tools
High administrative workload	- Administrative workload
Weak supervision	- Inadequate supervision
Poor emergency readiness	- Lack of emergency readiness
Inadequate financial motivation	- Incentive for providing incorrect prescriptions - Low salary - Poor motivation/incentive of providers
Selective targeting	- Focus on target group only - Only concerns mothers
Fragmentation of care	- Fragmentation - Incomplete subsidisation; not with referrals
Poorly trained CHW	- Untrained community agents
Plethora of staff	- Plethora of staff
Weak M&E system	- Lack of follow up & monitoring - No Health Management and Information System (HMIS)
Excessive donor dependency	- Dependency on donors
Disruptive effects of campaigns	- Disruptive nature of campaigns
“Verticalisation” of CHWs	- “Verticalisation” of community services

Table 5. Demand-side bottlenecks

Limited awareness and demand (according to providers)	<ul style="list-style-type: none"> - Inadequate knowledge on use/advantages - Misconception & rumours about services provided - No communication with providers - Not responding to planned clinics/referrals - No demand - Low perception of urgency - No recognition signs
Problems in financial access	<ul style="list-style-type: none"> - Financial barriers - No insurance registration
Geographical barriers and transport problems	<ul style="list-style-type: none"> - Poor geographical access - Lack of (organised) transport - High transport charges
Poorly perceived quality of care	<ul style="list-style-type: none"> - Lack of trust - Lack of confidentiality
Socio-cultural barriers to HII	<ul style="list-style-type: none"> - Psychological non acceptance - Socio-cultural obstacles - Resistance from relatives - Fear to be abandoned - Stigmatisation and discrimination

Table 6. Facilitating factors

Adequate infrastructure and supplies	<ul style="list-style-type: none"> - Sustainable supplies and inputs - Adequate equipment - Adequate infrastructure
Involvement of non-public actors	<ul style="list-style-type: none"> - Involvement partners, local organisations - Collaboration District Health Management Team (DHMT)/partners - Various distribution channels - Local communes involved in planning - Media to promote service
Genuine dialogue	<ul style="list-style-type: none"> - Good relation provider-user - Education of beneficiaries - Accept effective lay knowledge - Knowledge by users on intervention
Appropriate financial access	<ul style="list-style-type: none"> - Free service or subsidised/cost-sharing
Optimal implementation strategy of HII	<ul style="list-style-type: none"> - Integration - Multiple strategies - Good planning - Long term vision

Good geographical access and transport	- Decentralisation (i.e. CHPS) - Availability (emergency) transport
Appropriate mix of skilled staff	- Trained health workers - Polyvalent staff - Multidisciplinary teams
Supportive supervision of health workers	- Supervision and training - Presence of guidelines
High emergency preparedness	- Recognition of emergency need - Recognition danger signs
Balanced mix of staff motivators	- Opportunity to further education - Staff welfare
Trust in health services	- Confidentiality - Psychological acceptance - Beneficiaries convinced of usefulness
Permanence of care	- Continuous availability/permanence
Active involvement of CHW/TBA	- Involvement CHWs/TBAs

Discussion:

- This first overview indicates that the nature of the bottlenecks is very broad: HII are interventions in a complex system, hence the wide range in factors hampering or facilitating, and the need to handle a systems perspective. Single solutions and/or magic bullets will not do: the solution lies in an “and/and” approach, rather than an “or/or” approach. It is thus likely that multi-pronged approaches are due - even if further analysis may/will point to priority areas depending on the context and on the nature of the HII.
- The distinction between supply-side bottlenecks and demand-side bottlenecks is a useful one. It provides the necessary “colour” and nuance to guide interventions aiming to improve the implementation of HII.

Second level of analysis

Second level of analysis: overview of the *frequency* of the different bottlenecks and facilitating factors (all countries combined and all HII combined).

A slightly more detailed way of presenting results in terms of bottle-necks and facilitating factors for all HII combined is to indicate how often they were mentioned. Table 7 shows the factors belonging to the generic categories for all countries, and the number of times they were mentioned (limited to factors mentioned at least 10 times).

Table 7. Frequency of bottlenecks and facilitating factors (all countries)

Supply-side bottlenecks	<ul style="list-style-type: none"> - Inadequate infrastructure and equipment: 64 times - Lack of skilled staff: 37 times - Poor dialogue: 25 times - Inadequate financial motivation of staff: 21 times - Limited involvement of non-public actors: 16 times - Lack of financial resources: 10 times
Demand-side bottlenecks	<ul style="list-style-type: none"> - Geographical barriers and transport problems: 24 times - Limited awareness and demand: 23 times - Problems in financial access: 13 times - Socio-cultural barriers: 13 times
Facilitating factors	<ul style="list-style-type: none"> - Adequate infrastructure and supplies: 33 times - Optimal implementation strategies: 25times - Appropriate mix of skilled staff: 21 times - Permanence of care: 19 times - Good geographical access and transport: 18 times - Appropriate financial access: 16 times - Involvement of non-public actors: 12 times - Genuine dialogue: 11 times

Discussion:

- In terms of supply-side bottlenecks the usually expected (but nevertheless very valid) factors appear: problems in infrastructure and equipment, problems in the domain of human resources, lack of financial resources,... But also a number of less obvious factors do appear: the poor dialogue between the health professionals and the community and the patients, the limited involvement of non-public actors in the process of HII implementation (private providers, media, civil society organizations,...).

- In terms of demand-side bottlenecks, the high frequency of problems in geographical access and transport are not unexpected. What emerge are problems in the domain of community awareness and demand, and in the existence of socio-cultural barriers in the uptake of HII by patients/households/communities. This can be related to the poor quality of dialogue mentioned under supply-side bottlenecks. Health workers and patients/communities do not communicate properly.
- In terms of facilitating factors, the reference to the need for a genuine dialogue and more involvement of non-public actors is consistent with the two above-mentioned points.
- “Optimal implementation strategies” in the list of facilitating factors is about integrating interventions in various other services and about diversifying implementation channels.

Third level of analysis

Third level of analysis: overview of the most frequent bottlenecks and facilitating factors per country (all HII combined).

A further detailed scope is a listing of most frequently cited bottlenecks and facilitating factors per country for all HII together. See following tables 8, 9, 10, and 11. As mentioned before, it is a tricky exercise to compare the countries because of differences in teams having identified and notified the various bottlenecks and facilitating factors.

Table 8. Bottlenecks and facilitating factors of HII implementation in Burkina Faso

Burkina Faso	Supply-side bottlenecks	- Inadequate infrastructure and equipment: 15 times Lack of skilled staff: 14 times
	Demand-side bottlenecks	- Limited awareness and demand: 2 times - Problems in financial access: 2 times
	Facilitating factors	- Appropriate financial access: 5 times - Good geographical access and transport: 2 times - Involvement of non-public actors: 2 times

Table 9. Bottlenecks and facilitating factors of HII implementation in Ghana

Ghana	Supply-side bottlenecks	<ul style="list-style-type: none"> - Inadequate infrastructure and equipment: 13 times - Lack of skilled staff: 10 times
	Demand-side bottlenecks	<ul style="list-style-type: none"> - Geographical barriers and transport problems: 13 times - Limited awareness and demand: 11 times - Problems in financial access: 4 times
	Facilitating factors	<ul style="list-style-type: none"> - Optimal implementation strategy: 9 times - Good access and transport: 9 times - Adequate infrastructure and supplies: 8 times - Appropriate mix of skilled staff: 6 times

Table 10. Bottlenecks and facilitating factors of HII implementation in Guinea-Bissau

Guinea-Bissau	Supply-side bottlenecks	<ul style="list-style-type: none"> - Inadequate infrastructure and equipment: 24 times - Inadequate financial motivation: 15 times - Lack of skilled staff: 9 times
	Demand-side bottlenecks	<ul style="list-style-type: none"> - Geographical barriers and transport problems: 10 times - Social-cultural barriers: 9 times - Limited awareness and demand: 7 times - Problems in financial access: 5 times
	Facilitating factors	<ul style="list-style-type: none"> - Appropriate infrastructure and supplies: 17 times - Appropriate mix of skilled staff: 11 times - Optimal implementation strategies: 10 times - Permanence of care: 8 times - Appropriate financial access: 8 times

Table 11. Bottlenecks and facilitating factors of HII implementation in Guinea

Guinea-Conakry	Supply-side bottlenecks	- Inadequate infrastructure and equipment: 12 times - Poor dialogue: 7 times
	Demand-side bottlenecks	- Limited awareness and demand: 3 times - Problems in financial access: 2 times
	Facilitating factors	- Involvement of non-public actors: 10 times - Adequate infrastructure and supplies: 6 times - Genuine dialogue: 6 times

Discussion:

- This analysis indicates that several factors emerge for *all* the four countries, although there are large variations in context. For instance, in all four countries “inadequate infrastructure and equipment” is the most frequently mentioned supply-side bottleneck. However, two nuances are due. First, the fact that this factor was mentioned 24 times in the Guinea-Bissau report (twice as much as in the other reports) is not surprising given the poor state of the Guinea-Bissau health system. The second nuance is that a given bottleneck - in this case the problems in infrastructure and equipment - *means different things in different contexts*. The needs (and the solutions) in terms of infrastructure and equipment in Ghana (a relatively well-functioning system) and the needs (and the solutions) in Guinea-Bissau (a relatively poorly functioning system) are different. Blanket standardised approaches have thus their limitations⁴.
- The relatively high frequency of some “less obvious” bottlenecks and facilitating factors is worth mentioning: the involvement of non-public actors (Burkina Faso and Guinea-Conakry), but also the (basic) need for permanence of care at facility level (Guinea-Bissau).

⁴ As an example, in Ghana it would be more appropriate to acquire sphygmomanometers or other more sophisticated equipment sporadically, while in Guinea-Bissau a massive distribution of basic delivery kits would be required.

Fourth level of analysis

Fourth level of analysis: overview of bottlenecks and facilitating factors per delivery platform - firstly, all countries combined; secondly, comparison Ghana with Guinea-Bissau.

The next tables cross the information on bottlenecks with the nature of the delivery platform. Tables 12 and 13 present the picture for all 4 countries combined. The most frequently cited bottlenecks are listed. In brackets, the denominator indicates the total number of bottlenecks cited for a delivery platform and the numerator expresses how many times bottlenecks belonging to a generic theme were cited⁵. We have also considered “significant” factors. These factors are significant in the sense that they have clearly emerged as important factors in the many (face-to-face) exchanges held between researchers from South and North (phone conversations, joint presence during field visits, the 2 workshops organised in Ouagadougou and Antwerp in the course of the research), even if they do not necessarily appear (very) frequently in the written report.

Table 12. Most frequently cited bottlenecks per delivery platform (all countries combined)

Community based / family oriented services	
Supply-side bottlenecks	Demand-side bottlenecks
1 Poor dialogue (10/47) <i>main factor: poor information provision (4/10)</i>	1 Limited awareness & demand (4/8) <i>main factor: inadequate knowledge on use / advantages (2/4)</i>
2 Inadequate supplies, equipment & infrastructure (9/47) <i>main factor: unavailability (5/9)</i>	2 Problems in financial accessibility (2/8) <i>main factor: financial barriers (2/2)</i>
3 Limited involvement of non-public actors (7/47) <i>main factor: non-involvement of others (private) (4/7)</i> Significant: <i>Verticalisation of community services (1/47)</i>	

⁵ For example, in table 12, bottlenecks belonging to the theme “poor dialogue” were mentioned 10 times out of the 47 times for supply side bottlenecks of the community based services. Within this theme (denominator = 10), the bottleneck “poor information provision” was cited 4 times.

Population based / schedulable services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate supplies, equipment & infrastructure (21/79) main factor: irregular supplies (10/21)</p> <p>2 Inadequate financial motivation (11/79) main factor: poor motivation / incentive (7/11)</p> <p>3 Lack of skilled staff (10/79) main factor: insufficient qualified staff (8/10)</p> <p>Significant: Plethora of staff (1/79) Disruptive effects of campaigns (1/79)</p>	<p>1 Limited awareness & demand (7/22) main factor: not responding to planned clinics (2/7) misconceptions & rumours (2/7) inadequate knowledge on use / advantages (2/7)</p> <p>2 Problems in financial accessibility (6/22) main factor: financial barriers (5/6)</p> <p>3 Socio-cultural barriers (6/22) main factor: socio-cultural obstacles (3/6)</p>
Individual oriented / clinical services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>Delivery care</p> <p>1 Inadequate supplies, equipment & infrastructure (29/68) main factor: inadequate / problems with equipment (13/29)</p> <p>2 Lack of skilled staff (17/68) main factor: insufficient qualified staff (10/17)</p> <p>3 Inadequate financial motivation (4/68) main factor: low salary (3/4)</p> <p>3 Lack of financial resources (4/68) main factor: high selling price / different tariffs (3/4)</p>	<p>Delivery care</p> <p>1 Geographical barriers & transport problems (20/39) main factor: high transport charges (8/20)</p> <p>2 Limited awareness & demand (9/39) main factor: low perception of urgency (5/9)</p> <p>3 Socio-cultural barriers (6/39) main factor: inacceptance psychologically (3/6) resistance from relatives (3/6)</p>
<p>Curative care</p> <p>1 Lack of skilled staff (7/25) main factor: insufficient qualified staff (4/7)</p> <p>2 Inadequate supplies, equipment & infrastructure (5/25) main factor: irregular supplies (2/5)</p> <p>3 Poor dialogue (4/25) main factor: poor information provision (2/4) non-participatory communication (2/4)</p>	<p>Curative care</p> <p>1 Limited awareness & demand (3/6) main factor: no recognition signs (1/3) inadequate knowledge on use / advantages (1/3) not responding to planned clinics / referrals (1/3)</p> <p>2 Geographical barriers & transport problems (2/6) main factor: poor geographical access (2/2)</p>

Table 13. Most frequently cited facilitating factors per delivery platform (all countries combined)

Community based / family oriented services	Individual oriented / clinical services
<p>1 Optimal implementation strategy (6/30) <i>main factors: integration (3/6)</i> <i>multiple strategies (3/6)</i></p> <p>1 Appropriate mix of skilled staff (6/30) <i>main factor: trained health workers (5/6)</i></p> <p>3 Involvement of non-public actors (5/30) <i>main factor: media to promote service (2/5)</i></p> <p>Significant: <i>decentralisation (4/30)</i></p>	<p>Delivery care</p> <p>1 Adequate infrastructure & supplies (16/62) <i>main factor: adequate equipment (6/16)</i></p> <p>2 Good geographical access & transport (9/62) <i>main factor: availability (emergency) transport (8/9)</i></p> <p>3 Permanence of care (8/62) <i>main factor: continuous availability / permanence (8/8)</i></p> <p>3 Appropriate financial accessibility (8/62) <i>main factor: free or subsidised service / cost-sharing (8/8)</i></p>
Population based / schedulable services	Curative care
<p>1 Optimal implementation strategy (16/67) <i>main factors: multiple strategies (7/16)</i> <i>integration (7/16)</i></p> <p>Significant: <i>long term vision (1/11)</i></p> <p>2 Adequate infrastructure & supplies (8/67) <i>main factor: sustainable supplies (8/8)</i></p> <p>3 Permanence of care (7/67) <i>main factor: continuous availability (7/7)</i></p> <p>3 Appropriate mix of skilled staff (7/67) <i>main factor: polyvalent staff (4/7)</i></p>	<p>1 Adequate infrastructure & supplies (7/22) <i>main factor: sustainable supplies (7/7)</i></p> <p>2 Permanence of care (4/22) <i>main factor: continuous availability / permanence (4/4)</i></p> <p>3 Optimal implementation strategy (3/22) <i>main factor: integration (3/3)</i></p>

Tables 14, 15 and 16 present a comparison of the different bottlenecks and facilitating factors in Ghana and Guinea-Bissau. These two countries were purposely selected because they are situated at the 2 “extremes” of the scale ranking the study countries presented earlier. On the basis of all the information we have gathered and presented in this paper and in the many annexes, it makes sense to consider Ghana as a relatively well functioning health system with relatively good outputs and outcomes, and to consider Guinea-Bissau as a relatively poorly functioning health system with relatively poor outputs and outcomes (the situation of Burkina Faso and Guinea-Conakry being somewhere in-between; the list of bottlenecks and facilitating factors for these two countries is presented in appendix 9).

Table 14. Most frequently cited bottlenecks per delivery platform - Ghana

Community based / family oriented services	
Supply-side bottlenecks	Demand-side bottlenecks
1 Poor dialogue (5/17) <i>main factors: poor information provision (2/5)</i> <i>non-participatory communication (2/5)</i>	1 Limited awareness & demand (3/6) <i>main factor: inadequate knowledge on use / advantages (2/3)</i>
2 Limited involvement of non-public actors (3/17) <i>main factor: non-involvement of others (private) (2/3)</i>	2 Problems in financial accessibility (2/6) <i>main factor: financial barriers (2/2)</i>
Population based / schedulable services	
Supply-side bottlenecks	Demand-side bottlenecks
1 Inadequate supplies, equipment & infrastructure (5/19) <i>main factors: irregular supplies (2/5)</i> <i>inadequate / problems with equipment (2/5)</i>	1 Limited awareness & demand (2/5) <i>main factors: not responding to planned clinics (1/2)</i> <i>misconceptions & rumours (1/2)</i>
2 Poor dialogue (4/19) <i>main factor:</i>	1 Problems in financial accessibility (2/5) <i>main factors: no insurance registration (1/2)</i> <i>financial barriers (1/2)</i>
3 Lack of skilled staff (3/19) <i>main factor: insufficient qualified staff (3/3)</i>	
3 Geographical barriers & transport problems (3/19) <i>main factor: geographical accessibility (2/3)</i>	
Individual oriented / clinical services	
Supply-side bottlenecks	Demand-side bottlenecks
Delivery care	Delivery care
1 Inadequate supplies, equipment & infrastructure (6/12) <i>main factors: inadequate / problems with equipment (3/6)</i> <i>irregular supplies (3/6)</i>	1 Geographical barriers & transport problems (10/15) <i>main factor: high transport charges (4/10)</i>
2 Lack of skilled staff (3/12) <i>main factor: insufficient qualified staff (2/3)</i>	2 Limited awareness & demand (5/15) <i>main factor: low perception of urgency (3/5)</i>
Curative care	Curative care
1 Lack of skilled staff (2/6) <i>main factors: inadequate training (1/2)</i> <i>non-utilisation of skills (1/2)</i>	1 Geographical barriers & transport problems (2/3) <i>main factor: poor geographical access (2/2)</i>
1 Poor dialogue (2/6) <i>main factor: non-participatory communication (2/2)</i>	

Table 15. Most frequently cited bottlenecks per delivery platform - Guinea Bissau

Community based / family oriented services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate supplies, equipment & infrastructure (4/14) <i>main factors: unavailability (2/4)</i> <i>irregular supplies (2/4)</i></p> <p>2 Inadequate financial motivation (3/14) <i>main factor: poor motivation / incentive (2/3)</i></p> <p>3 Poor dialogue (2/14) <i>main factors: inadequate message (1/2)</i> <i>low awareness of lay knowledge (1/2)</i></p> <p>3 Weak M&E system (2/14) <i>main factor: lack follow up / monitoring (2/2)</i></p>	<p>1 Limited awareness & demand (1/2) <i>main factor: no demand (1/1)</i></p> <p>1 Poorly perceived quality of care (1/2) <i>main factor: lack of trust (1/1)</i></p>
Population based / schedulable services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate financial motivation (8/22) <i>main factors: poor motivation / incentive (4/8)</i> <i>low salary (4/8)</i></p> <p>2 Inadequate supplies, equipment & infrastructure (5/22) <i>main factor: inadequate infrastructure (3/5)</i></p> <p>3 Lack of skilled staff (3/22) <i>main factor: insufficient qualified staff (3/3)</i></p>	<p>1 Socio-cultural barriers (3/7)</p> <p>2 Limited awareness & demand (2/7)</p>
Individual oriented / clinical services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>Delivery care</p> <p>1 Inadequate supplies, equipment & infrastructure (11/25) <i>main factors: irregular supplies / blood (4/11)</i> <i>inadequate infrastructure (4/11)</i></p> <p>2 Lack of skilled staff (4/25) <i>main factor: insufficient qualified staff (4/4)</i></p> <p>3 Inadequate financial motivation (4/25) <i>main factor: low salary (3/4)</i></p>	<p>Delivery care</p> <p>1 Geographical barriers & transport problems (9/22) <i>main factors: high transport charges (4/9)</i> <i>lack of (organised) transport (4/9)</i></p> <p>2 Socio-cultural barriers (6/22) <i>main factors: inacceptance psychologically (3/6)</i> <i>resistance from relatives (3/6)</i></p> <p>3 Limited awareness & demand (4/22) <i>main factor: low perception of urgency (2/4)</i></p>
<p>Curative care</p> <p>1 Inadequate supplies, equipment & infrastructure (4/7) <i>main factor: irregular supplies (2/4)</i></p> <p>2 Lack of skilled staff (2/7) <i>main factor: insufficient qualified staff (2/2)</i></p>	<p>Curative care</p> <p>1 Problems in financial accessibility (1/1) <i>main factor: financial barriers (1/1)</i></p>

Table 16. Most frequently cited facilitating factors per delivery platform - Ghana vs. Guinea Bissau

Ghana	Guinea Bissau
Community based / family oriented services	Community based / family oriented services
1 Good geographical access & transport (3/9) <i>main factor: decentralisation (3/3)</i> 2 Appropriate mix of skilled staff (2/9) <i>main factor: trained health workers (2/2)</i> 2 Optimal implementation strategy (2/9) <i>main factors: multiple strategies (1/2)</i> <i>integration (1/2)</i> 2 Genuine dialogue (2/9) <i>main factor: accept effective lay knowledge (2/2)</i>	1 Appropriate mix of skilled staff (3/10) <i>main factor: trained health workers (2/3)</i> 2 Optimal implementation strategy (2/10) <i>main factors: integration (1/2)</i> <i>multiple strategies (1/2)</i> 3 Active involvement of CHW/TBA (2/10) <i>main factor: involvement CHW / TBA (2/2)</i>
Population based / schedulable services	Population based / schedulable services
1 Optimal implementation strategy (5/24) <i>main factor: integration (3/5)</i> 1 Adequate infrastructure & supplies (3/24) <i>main factor: sustainable supplies (3/3)</i> 1 Permanence of care (3/24) <i>main factor: continuous availability (3/3)</i>	1 Optimal implementation strategy (7/22) <i>main factor: integration (4/7)</i> Significant: <i>long term vision (1/11)</i> 2 Appropriate mix of skilled staff (4/22) <i>main factor: polyvalent staff (3/4)</i> 3 Permanence of care (3/22) <i>main factor: continuous availability (3/3)</i>
Individual oriented / clinical services	Individual oriented / clinical services
Delivery care	Delivery care
1 Adequate infrastructure & supplies (3/17) <i>main factor: supplies, equipment, infrastructure (3/3)</i> 1 Good geographical access & transport (3/17) <i>main factor: availability (emergency) transport (2/3)</i> 1 Permanence of care (3/17) <i>main factor: continuous availability / permanence (3/3)</i>	1 Adequate infrastructure & supplies (11/29) <i>main factors: adequate equipment (4/11)</i> <i>adequate infrastructure (4/11)</i> 2 Appropriate financial accessibility (4/29) <i>main factor: free or subsidised service / cost-sharing (4/4)</i> 3 Appropriate mix of skilled staff (4/29) <i>main factor: trained health workers (3/4)</i>
Curative care	Curative care
1 Adequate infrastructure & supplies (2/8) <i>main factor: sustainable supplies (2/2)</i> 2 Permanence of care (2/8) <i>main factor: continuous availability / permanence (2/2)</i> 3 Optimal implementation strategy (2/8) <i>main factor: integration (2/2)</i>	1 Adequate infrastructure & supplies (3/7) <i>main factor: sustainable supplies (3/3)</i> 2 Permanence of care (2/7) <i>main factor: continuous availability / permanence (2/2)</i>

Discussion:

- Community-based/family-oriented services require, probably more than in the case of the two other delivery platforms, a good *interface* between professionals and patients/communities. HII channelled via this delivery platform need good explanations from the side of the professionals and

can only succeed if there is some level of behavioural change from the side of the patients/communities. It is therefore not astonishing (see table 12) that “poor dialogue” is the major supply-side bottleneck and “limited awareness and demand” is the most important at the level of the demand-side.

- “Verticalisation of community services”, although not very often explicitly mentioned in the different reports⁶, is a finding considered as “significant” because it clearly came forward in the many face-to-face interactions between the researchers. It refers to the growing tendency to create a single-purposed Community Health Workers (CHW) workforce that addresses one particular activity, often in the field of disease control, and that receives a financial “motivation” just to carry out that particular activity. Eventually, this leads to a juxtaposition of single-purposed CHWs.
- In the group of population-based/schedulable services, a “significant” finding is the disruptive effects of campaigns. The Burkina Faso story is in this respect quite illustrative. On a yearly basis (in 2009 and in 2010), almost 10 campaigns per year were organized, each of them taking roughly 10 days of work and largely drawing resources from the general health services - with all the detrimental consequences in terms of permanence of care. The huge efforts engaged in immunization contribute to high outputs (coverage) but sometimes sharply contrast with the relatively poor utilization rates for curative services at health centre level (not exceeding an average of 0.3 contacts/inhabitant/year in the case of the two Guineas). This dissociation between actively promoted, programme-driven and relatively well-funded immunization campaigns on the one hand, and utilization of curative care upon the initiative of the patient on the other hand, can be considered as an indicator of the distortion in the funding and functioning of health care service delivery systems.
- In the same group of population-based/schedulable services, reference is made to the situation of plethora of staff alluding to the situation in Guinea where non-contractual poorly paid staff is actually running the service.

⁶ “Integration” is also part of “Optimal implementation strategies” and, on the other hand, is also quite often mentioned as facilitating factor.

- In the group of individual-oriented clinical services the distinction between delivery care and curative care was purposely made. Although the nature of the bottlenecks is relatively similar, the relative weight of “inadequate supplies, equipment and infrastructure” and “geographical barriers and transport problems” are much more prominent in the case of delivery care, due to the harmful consequences.
- The contrasting analysis between Ghana and Guinea-Bissau indicates that the priority needs in the latter are to invest in infrastructure and trustworthy supply channels for drugs and equipment - whatever the type of delivery platform. In the case of Ghana, however, with its infrastructure basically being in place, the needs are more fine-tuned; for instance, improve the relational quality between health system and patients/communities (see “poor dialogue”).

Analysis of the key health system’s interfaces

Interface 1: Between policy makers and managers (health care systems/vertical programmes)

The interface between the central level, (or macro level in this study) and the management at district level (or meso level), obviously impacts the implementation of HII at the operational levels of the health system. The detailed context descriptions that were established in the four country reports allow us to identify some of the most striking features of the macro context in which HII implementation takes place. These features may either be facilitating the smooth implementation of HII or, on the contrary, constitute obstacles. In the case of Ghana it is striking the strong stewardship capacity at central level; they manage to streamline the design of policies that seem to stimulate integration of disease-specific programmes into the operational service delivery level. And this is so even if policy intentions are not always supported by flexible operating fund arrangements at district level, where implementation leadership resides. Performance reviews are set up at all levels of the system, which creates a dynamic of engaging actors at the meso-level. Donor dependency is reducing, which could increase decision spaces at macro-level. The Guinea situation at macro level is one of recent recovery of a dramatic political and institutional crisis. The challenges ahead are great. One of the most critical factors is the over-production of human

resources over the last 10 years. These staff, however, are not hired by the public administration. This situation is further compounded by the proliferation of training institutions of nurses, midwives, laboratory staff, etc. These health workers operate in central, regional and district hospitals, and even in urban and rural health centres. The absence of a rational human resource policy is a major reason of the poor functioning of the Guinea health system. Another major problem is that the financing of the health sector relies strongly on donors and on household contributions; only salaries of government health workers and a few commodities are being financed by the government of Guinea. In terms of supply systems, the problem of essential drugs is particularly serious and dramatically affecting the credibility of the public system for the provision of curative care. Burkina Faso is less successful than Ghana in streamlining the interventions of programmes. This leads to a multiplication of CHWs at community level and to frequent outreach campaigns with major disruptive effects on the routine functioning of the health services. The Guinea-Bissau health system is characterised by poor governance and vision at central (macro) level, leading to limited abilities to properly steer the system.

Institutional support to the central (macro) policy-making level is obviously relevant to the extent that it will help the government to fulfil its basic functions.

Interface 2: Between managers (health care systems/vertical programmes) and health care providers

A major - and basic - responsibility for the systems managers, be it the ones running the general health services or the ones running the programmes, is to provide the care providers with the necessary resources to allow them to offer quality health care to the people for which they are responsible. Van Olmen *et al.* (2010) distinguish financial resources, human resources, infrastructure and supplies, and information and knowledge. The study results have pointed to the problem of inadequate infrastructure and equipment, including drugs. This was actually the most frequently voiced bottleneck in all four country reports. Problems with staff, more specifically the lack of skilled staff, was also repeatedly mentioned in three out of the four countries. The case of Guinea is particular with an unplanned plethora of staff working at health centre level, many of them having received training of doubtful quality in newly created training institutions with little or no government regulation. A substantial part of this additional workforce is not on the health centre's payroll and survives on fees paid by

patients. Ghana, on the other hand, has succeeded in developing a policy of human resources that has dramatically reduced the extent of the brain drain.

Another responsibility of the district managers is to provide their health workers with the necessary support supervision and training. In the case of Guinea, supervision of government facilities is more centred on checking the revenues generated in the facility than on the quality of the care offered to patients. Moreover, the private sector escapes the control of the district health management teams. The Guinea-Bissau report points to the total lack of supervision and monitoring of community health services by the health authorities. The Ghana study, on the other hand, illustrates how vital integrated and systemic district management is for a satisfactory implementation of HIL. Ghana has succeeded, more than in the three other countries studied, to streamline the coordination and information sharing between the different players in the local health system, in line with the policy established at central level not to have vertical programmes drive the system. Structural steps are taken by the MOH and the Ghana Health Service to ensure district team leadership of the planning process within districts so as to achieve coherence and system wide perspectives on planning, but also in order to facilitate inputs from all stakeholders, including the community, in the district-based plans.

Yet another scope for the interface between managers and health care providers is to approach the private practitioners that operate in the area and, beyond the need for regulation and control on their activities, try to engage into a dialogue in order to explore avenues for collaboration. Private practitioners may serve a public purpose in some of the things they do; they therefore deserve a place in the overall district planning processes (Giusti *et al.* 1997). The district management teams in Guinea do currently not succeed in getting grip on the proliferating private practitioners - many of them also working in the public sector a couple of hours per day - and to transform this capital in a true resource. In Ghana, the strong Ghana Health Service is the major health care provider, with a relatively small private health care delivery sector in rural areas, except for faith-based non-profit organisations. In Guinea-Bissau private practice is mainly concentrated in the central and regional capitals.

The support of district management teams for management performance⁷, in order to enable them, amongst other things, to mobilise the necessary inputs for the health care delivery process, within the limits of the resources available in the

⁷ See Sicotte et al (1988) for a comprehensive framework of performance.

country is essential. It is also relevant a good coordination, by district management teams, of health care activities carried out by different players operating in the pluralistic health systems that *de facto* exist in all four countries (i.e. a mix of public and private facilities, and with specific activities organised by vertical programmes). The role of regular support supervision by district managers of all health care delivery processes taking place in the district, with good coordination between health systems' managers and programme managers, is particularly important.

Interface 3: Between managers and community

Systems managers are obviously meant to interact with the community at large, beyond specific clinical contacts in the frame of curative, preventive or promotional care. District health management teams have to actively build a relationship with the community, its organisations both formal and informal, and with its leadership. In the field of health and health care such a dialogue is necessary for the mobilisation of community resources, like for instance the organisation of community transport, the maintenance of health facilities, or the services of trusted and committed volunteers. Health care delivery and vertical programmes can and should build on the local social fabric and tap the potential of the multitude of social organisations that exist in the community (associative movements, self-help groups, etc.). These organisations are an opportunity for the district management teams to better understand people's priorities and their constraints, and to discuss with them messages and advices concerning their health situation, possibly even with the use of modern media communication tools (radio, television, internet, mobile phones). This process is very much in line with the concept of community diagnosis, perhaps a bit out-dated these days, although it definitely remains a very relevant process. The on-going administrative institutional reforms in some of the countries surveyed (decentralisation and devolution of local health services to municipal authorities in Burkina Faso and Guinea) are an opportunity to engage with local authorities as potential allies in the endeavour for better health care. Contacts with local authorities are also a relevant channel to address social determinants of health requiring structural transformative measures. In the light of this interface between managers and community at large, the positive role in health and in health care played in Guinea by CHWs, members of health committees, NGOs and local municipal authorities was highlighted repeatedly.

District management teams, in close collaboration with programme managers, would progress in the implementation of HII, and in the health domain in general, if they invest in a comprehensive dialogue with the community in order to engage into a process of community diagnosis and identification of opportunities to tap the potential of community resources.

Interface 4: Between health care providers and users/patients

This interface is problematic in all four countries investigated, witness the many bottlenecks identified that pertain to the mediocre quality of the interaction between health workers and their patients. This problem is not surprising, nor is it new. The poor relational quality between health workers and patients, especially in public facilities, has often been mentioned as a reason for people not to use the public sector. This contributes to explain the low utilisation rates of curative care observed in the countries surveyed in this study, especially in the two Guineas. Lack of patient-centeredness is often invoked as one of the important challenges for modern health services in many sub-Saharan African countries. The diagnosis has been eloquently established in the survey looking at people's perception of the care provided in modern public facilities in five West-African capital cities by a joint team of African and French socio-anthropologists (Jaffré & Olivier-de Sardan 2003). There are several, not mutually exclusive, explanatory hypotheses for this state of affairs: excessively standardised decision-making trees leading to a mechanical clinical interaction between health workers and patients during curative care consultations with little flexibility and responsiveness; a problem of organisation of health care delivery with high staff turnover, lack of privacy during the consultation, lack of resources and equipment, omnipresence of vertical programmes concentrating on outputs rather than on processes; and a problem of medical culture where health workers who socialised in a bureaucratic and hierarchic environment - with all the implications in terms of role-models - operate in a context where patients are poorly empowered and where is lack of effective counter-powers to the health workforce (e.g. via patient organisations).

Solutions for this complex and multi-dimensional problem are obviously not straightforward. Some of them require fundamental changes as, for instance, gradually transforming the prevailing paradigm of biomedical medicine into a more bio-psycho-social perspective in the education provided at faculties of medicine and in nurse training schools. On the more short term, avenues for solutions are the introduction and promotion of more flexible decision-making

trees to be used during curative care, the valuing by supervisors of dialogue and respectful attitudes from the side of the providers during the clinical interaction with patients (implying that clinical encounters are supervised), but also in organising exchange visits where health workers can have the opportunity to observe the delivery of patient-centred care processes.

Interface 5: Between health care providers and community

Professional health workers are generally not very good in their interaction with the community and rarely succeed in properly *listening* to what people have to say. This leads to poor understanding of the potential of lay knowledge or self-care, but also in missing opportunities to transmit messages to the community. The relationship with the community is obviously shaped by the prevailing unequal power relationship between the professional health system and people and patients - certainly in bureaucratically structured health systems. When the different country studies report that there is “limited awareness and demand” from the side of the community for a number of HII, then this is only half the story; often demand is there but it is not properly listened to, or poor coverage is interpreted as poor demand and awareness whereas it may very well result from a poor and user-unfriendly supply (Bossyns *et al.* 2002). The prevailing view of the first line health services in local health systems is that they are supposed to be the entity in the system where curative, preventive and promotional care is being offered. Reality teaches us that health workers are not very good at providing promotional care; they lack interest for it and they do not always have the time or the necessary skills to carry this out in a proper way⁸ (De Ronne 2001; Roberfroid *et al.* 2005; Roberfroid *et al.* 2007). CHW policies have been designed in order to try and fill this gap. As members of the community, they are close to people and are seen as important agents in health education and behavioural change. In reality, however, as illustrated in the case of Burkina Faso and to a lesser extent in the two Guineas, their position is often ambiguous because of their “instrumentalisation” by single-purposed programmes, confining them to a role of executing tasks and the most peripheral extension of a programme, rather than as agents of change in the community that understand people’s problems, speak their language, and are trying to empower people. Guinea-Bissau and Guinea reports

⁸ See the Belgian experience early 20th century with the national programme for child welfare.

are at times very positive on the exceptional work done by some of the volunteer health workers who often are, in conjunction with local NGOs, the main motor of community dynamics in the field of health care.

In that respect, the Ghana experience with Community-based Health Planning and Services (CHPS) is very interesting and appealing. The option was taken, in response to the criticism of the volunteer approach of CHWs, to create a new professional cadre as community *resident* health care providers. These health staffs, known as Community Health Officers (CHOs), provide mobile doorstep services to the community (Nyanator *et al.* 2005). CHO services include immunisations, family planning, supervising delivery, antenatal/postnatal care, treatment of minor ailments and health education. CHOs are supported by community volunteers who assist them with community mobilisation, the maintenance of community registers and other essential activities.

The interface between health care providers and community would improve if a reflection is made on local designs and development of community-based structures staffed by paid health workers. These cadres would not serve the agendas of particular programmes during a limited period of time, but would be more versatile and stable and address a wider variety of tasks in the domain of general health promotion and prevention.

Benefits of the study

The benefits of this study for the different partners involved are situated at different levels (see Table 17).

Table 17. Benefits of the study for the different partners

At local (district) level	At national (country) level	At level of UNICEF/ WAHO/WHO/HHA consortium	At level of ITM and research partners in the 4 countries surveyed
-wealth of information on (dys)functioning of local implementation of HII collected in two districts: relevant for local decision-making	-wealth of information on (dys)functioning of local implementation of HII in 2 different local health systems (districts): relevant for decision-making at national level and for organisation of central support to the districts	-insight in main bottlenecks & facilitating factors for successful implementation of HII -evidence for contextualised country-specific action to be taken to improve outcomes of HII	-enhance knowledge in the field of management and organisation of health systems -acquire more hands-on experience in evaluation methods of complex interventions

Limitations of the study and difficulties encountered

Theory-driven evaluation was not applied as such, but its paradigm profoundly inspired the general way of conceiving the study and of collecting and analysing data. *A posteriori*, it is clear that probably too great a number of HII were selected for further investigation, with often more than 15-20 specific HII implementation “theories” developed by each research country team. This has probably weakened the focus of the study. It would have been useful to focus on one single or on a very limited number of HII per delivery platform, as a sort of tracer(s) representing a specific group of HII, and to establish then a programme theory addressing the implementation of this specific platform of HII. The large array of HII selected by all the partners involved in the research, however, proved very useful for the country teams because it contributed to have a comprehensive view on the organisation of local health care delivery. The investigation of this large number of HII provides the country teams with a wealth of relevant detailed information on the performance of their system.

The horizontal or health systems theories related to the overall functioning of the health system, and specifically to the interaction between programme and general health services concerned the programme/health services interface at the macro (national), meso (district) and micro (clinic and community) levels of the system. Specific attention for these issues was definitely instrumental in better understanding the general context in which HII interventions are being implemented in the different countries. But more in depth discussions with policy-makers and programme managers at the various levels of the system in order to make explicit their views on the mechanisms shaping the interface between the general health system and the specific HII would have been helpful in developing less parsimonious programme *theories*.

The expected potential of studying HII in two contrasting districts in each country did not really materialise. Except for the case of the two districts in Ghana, where the difference in performance was immediately apparent to the team that visited the two settings shortly (especially the quality of the district management teams was strikingly different), the situation in the three other countries was that the supposedly “good” district did sometimes less well for some items than the supposedly “poor” district, and vice-versa. Possible reasons may lie in the insufficiently discriminate criteria that were chosen to distinguish “good”

from “less good” districts; but also in the limited time for country teams to study the two districts in greater detail and to look for explanations for differences observed.

It was tried to streamline and standardise the methodology for the field work in the four countries inasmuch as possible. However, the field studies were carried out by different teams and handling sometimes different levels of precision in the fieldwork. This investigator variability requires the necessary caution when engaging into a mechanical inter-country comparison of study findings.

Conclusions

This study is in the first place, a study conducted in four different West African countries on the problems encountered in the implementation of HII. Detailed country reports have been written; they constitute the very basis of this overall study. They offer understanding of and insight in the health care situation and present a broad range of proposals to improve service delivery at the peripheral level. The study process has been participatory from the start on, with wide involvement of national and local health authorities, so as to boost local ownership of the study and its results. The study provides a wealth of information on the functioning of service delivery in Burkina Faso, Ghana, Guinea-Bissau and Guinea. For many of the researchers and institutional stakeholders involved at country level, the field investigations have been a real eye and a major learning opportunity. The study was also an opportunity for collaborative research between South and North, creating a basis for possible further collaboration. Institutional capacity building in the South has been an important dimension throughout the study process. It constituted an opportunity for researchers to acquire hands-on experience on methodologies for comparative evaluation of complex health interventions in multiple settings. It has helped to better understand some of the methodological difficulties and challenges of programme evaluation.

The study has contributed to improve understanding on the bottlenecks at both supply-side and demand-side of care perceived to be most significant in the implementation of HII. However, the precise meaning of these obstacles needs to be analysed and interpreted in the light of the local situation; by doing so, it becomes possible to better tailor action. There are no *one-size-fits-all* solution; a proper understanding of context is crucial for analysis and action to be valid and appropriate. The conduct of this study in four different countries, with health systems situated at different levels of their development, contributed to enhance this insight. Policy-makers and programme managers, especially those who are active at a supra-national level, need to integrate this dimension in the design and planning of their activities. The analysis of success stories or best practices developed in one given setting should be contextualised; *copy and paste* of operational strategies from setting A - where they have shown to work - to setting B - where it is expected that they will also work - is therefore to be approached with great caution. The case of the CHPS initiative developed in Ghana is an excellent

example. How much tempting it may be to introduce the initiative in other countries, it is necessary to first come to a sound understanding of the complex interplay of conditions (social, cultural, economic, managerial, technical) on the one hand, and the timeline on the other, under which this initiative could gradually thrive. CHPS in Ghana are a most relevant enrichment of the traditional two-tiered health district model. They were progressively developed in a context where the health district model *has already reached a reasonably high level of performance*. Introduce CHPS in health systems that have not yet reached such a level of development, and that do not have the same level of resources, would not make much sense.

Establish conclusions cross-cutting the four country studies is not an easy task. The challenge is to arrive at evidence-based lessons that go beyond generalities and commonplaces, how true as these may be. The results of this study reiterate, not surprisingly, that for service delivery to be effective, basic health care infrastructure and equipment needs to be in place (knowing that this means different things in different contexts); health facilities must be staffed by a workforce of skilled and motivated health workers (again, meaning different things in different environments); supply systems need to function in a reliable way; sufficient financial resources must be available, etc. The study results also reiterate the need for professionals to better acknowledge and tap the potential of households and communities themselves, to enter in a genuine two-way dialogue with people in order to better appreciate what they do themselves, to create demand and awareness there where it is needed, to orient people towards behavioural change. This study attempted to establish some level of priority in terms of what would need to be done first in a given context. The contrasting analysis between Ghana and Guinea-Bissau illustrates this point: in the latter, it is a priority to invest in infrastructure and trustworthy supply channels for drugs and equipment, more than in other dimensions of health system development. In the case of Ghana, however, relatively less emphasis needs to be put on infrastructure development and relatively more attention could be put on more sophisticated improvements as the enhancement of the relational quality between health system and patients/communities. Such a differentiated analysis has brought some relief to the otherwise usual recommendations listing all possible things to be done.

Successful implementation of HII requires consideration on the different interfaces between the players that affect whether the introduction of these interventions will be effective. In the model we constructed, we distinguished between five interfaces: the first one between policy makers and managers (of

health care systems and of vertical programmes); the second between managers and health care providers; the third between managers and community; the fourth between health care providers and patients; and finally the fifth between health care providers and community. From thereon, a number of broad priority actions that go from the national/macro level to the community/micro level was formulated. They are as follows: 1. provide institutional support to the policy-making level; 2. improve management performance of district teams with an emphasis on coordination of activities and supportive supervision of health facilities; 3. managers to invest in a comprehensive and continuous dialogue with the community; 4. health care providers to improve the patient-centred character of the care offered to patients; and 5. invest in the design and development of community-based structures staffed by paid health workers.

This study highlighted factors impeding the implementation of HII and others which might facilitate success. Potential for future research would be to pursue and fine-tune this exercise and to progress in identifying and describing with more precision the underlying generative mechanisms and essential context conditions for successful interventions.

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Appendixes

Appendix 1 : General features on High Impact Interventions

1. Service Delivery Modes

Three main channels or *service delivery modes* are used to take high impact interventions to the target population groups:

1. *Family-oriented, community-based services* that can be delivered on a daily basis by trained community health or nutrition promoters with periodic supervision from skilled health staff. It also includes all actions that families and communities undertake themselves to maintain and improve their health and nutrition status and in which the notions of “*self-care*” and “*lay-knowledge*” play an important role.
2. *Population-oriented, schedulable services* that require health workers with basic skills (e.g. auxiliary nurses/midwives and other paramedical staff) and that can be delivered by outreach, campaigns, mobile teams or in health facilities in a scheduled way.
3. *Individually oriented clinical services* that require health workers with advanced skills (such as registered nurses, midwives or physicians) available on a continuous basis, usually based in clinics or hospitals.

2. Prioritisation

The World Bank (WB), World Health Organization (WHO) and UNICEF (2009) have prioritised these high impact interventions on the basis of three essential criteria:

1. their *potential contribution* to reduce the overall burden of maternal, newborn and child deaths, malnutrition and communicable diseases;
2. the existence of a *solid evidence base* for their effectiveness;
3. their *costs* and the feasibility of achieving high equitable, effective coverage by removing systems wide supply and demand bottlenecks in the service delivery modes able to take them to scale.

Using these criteria, each country can define and implement an essential package of interventions. Over time and with increasing coverage, this essential package can be expanded to reach an optimal or maximum package of interventions. A phased approach with three scenarios thus allows countries to implement and

scale up the minimum package. These scenarios are (WB & WHO 2009; WB/UNICEF/UNFPA/Partnership for Maternal, New-born and Child Health 2009):

a. *Minimum scenario or Minimum Package of Interventions*

The minimum scenario⁹ proposes to “jumpstart at scale” and to strengthen those interventions with the highest impact on MDG 4, 5 and 6 at the lowest cost by delivering them through family, outreach services as well as through primary health clinics. The focus lies on reducing system-wide supply and demand bottlenecks¹⁰ for family/community level care and population oriented schedulable services. It builds on existing national plans through increased efficiency of health systems by using less ambitious levels of staffing and reduced investments in infrastructure.

b. *Medium scenario or Expanded Package of Interventions*

The medium scenario focuses on the implementation of an expanded package through a further reduction of bottlenecks in family/community care and population oriented schedulable services. Additionally, it promotes a reduction of availability, accessibility and quality bottlenecks of clinical care at primary and first referral level. The expanded package of interventions includes the scale up of additional highly effective evidence-based neonatal and maternal interventions in addition to interventions that positively contribute to the health MDGs, such as improved water supply and quality as well as sanitation.

⁹ Within this minimum package of interventions WB and WHO (2009) further distinguish three complementary approaches to scaling up the Minimum Intervention Package starting with a “jumpstart at scale”, followed by “going incrementally to scale” and “exponential scaling up” of new and expensive interventions.

¹⁰ The precise nature of these bottlenecks first needs to be identified in a range of different contexts.

c. *Maximum scenario or Maximum Package of Interventions*

The maximum package aims at expanding all interventions at all levels and dramatically strengthening the health system in order to develop a comprehensive health system in line with WHO standards to reach universal coverage with basic health services and improving health outcomes (beyond those contributing to the health-related MDGs). It involves a further reduction of all bottlenecks in family/community care and population oriented schedulable services, an additional strengthening of availability of and accessibility to clinical care at all levels as well as the introduction of new interventions that are still in the pipeline.

Even though there is a clear distinction between the three levels of packages, in most, if not all, countries the three packages are more or less implemented at the same time. The implementation of the different packages of interventions depends upon the typology of the country and the specific bottlenecks identified.

A comprehensive list of the various high impact interventions by service delivery mode and by priority can be found in the lists here below. These lists are complemented by evidence from the Lancet and the British Medical Journal.

Evidence Based Interventions with High Impact by Service Delivery Mode and by Priority from 'A Strategic Framework and Investment Case for Reaching the Health Related Millennium Development Goals in Africa by Strengthening Primary Health Care Systems for Outcomes' © UNICEF, World Bank, UNFPA, PSMCH, UNAIDS, 2009
 complemented by evidence from Lancet (USMR & NSMR) and BMJ/Cochrane (MMR)

1. Family oriented community based services			
1. Family Preventive / WASH Services			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Insecticide treated mosquito net for under five children	4. Quality of drinking water	7. Indoor Residual Spraying (IRS)	
2. Insecticide treated mosquito net for pregnant women	5. Supply of safe drinking water	8. Reduce indoor air pollution	
3. Hand washing by mothers	6. Use of sanitary latrines		
2. Family, Neonatal Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Early breastfeeding and temperature management		3. Clean delivery and cord care	
2. Universal extra community-based care of LEW infants			
3. Infant & Child Feeding			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Breastfeeding for children 0-5 months		5. Continue to feed and offer more fluids, including breast milk, to children when they are sick	
2. Breastfeeding for children 6-11 months		6. Care for orphans	
3. Complementary infant feeding			
4. Therapeutic feeding for severely malnourished children			
4. Community Illness Management			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Oral Rehydration Therapy		9. Community based management of neonatal sepsis	
2. Zinc supplementation for diarrhea management			
3. Vitamin A - treatment for measles			
4. Antibiotics at community level for pneumonia			
5. Antibiotics at community level for shistosoma			
6. Community based management of neonatal pneumonia			
7. Community based malaria treatment of children with			
8. Community based malaria treatment of pregnant women with ACT			

2. Population oriented schedulable services

1. Preventive Care for Adolescents & Adults			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Family Planning - Birth Spacing			2. HPV vaccination 3. Preconceptional folate supplementation
2. Preventive Pregnancy Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Antenatal Care 2. Tetanus immunisation 3. ITN for pregnant women through ANC 4. Intermittent Presumptive Treatment (IPT) for pregnant women 5. Deworming in pregnancy			6. Calcium supplementation in pregnancy 7. Detection and treatment of asymptomatic bacteriuria 8. Detection and management of syphilis in pregnancy 9. Prevention and treatment of iron deficiency anemia in pregnancy 10. Balanced protein energy supplements for pregnant women 11. Supplementation with micronutrients in pregnancy
3. HIV / AIDS Prevention & Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. VCT and IMCI (overripe and infant feeding) 2. Contraceptive prophylaxis for children of HIV + mothers			3. Contraceptive prophylaxis for HIV + mothers 4. Condom Use
4. Preventive Infant & Child Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Measles immunisation 2. BCG immunisation 3. OPV immunisation 4. DTP immunisation 5. Pentavalent (DTP-HiB/Hepatitis) immunisation 6. Yellow fever immunisation 7. ITN for under five through EPI 8. Post partum Vitamin A - supplementation 9. Neonatal Vitamin A - supplementation 10. Hib immunisation 11. Hepatitis B immunisation		12. Pneumococcal immunisation 13. Rotavirus immunisation 14. Intermittent Presumptive Treatment (IPT) for children 15. Zinc preventive	16. Meningitis immunisation

3. Individually oriented clinical services			
1. Maternal & Neonatal Care at Primary Clinical Level			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Skilled delivery care / Normal delivery by skilled			
2. Management of neonatal infections at PHC level			
3. Basic emergency obstetric care (B-EOC)			
2. Management of Illnesses at Primary Clinical Level			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Antihistors for pneumonia at PHC level			9. Chloroquine for malaria (P.vivax)
2. Antihistors for dysentery at PHC level			10. Male circumcision
3. Vitamin A - Treatment for measles			11. DOTS for TB
4. Zinc for diarrhea management			12. MDR treatment with second line drugs
5. Artemisinin-based Combination Therapy for children			13. Re-treatment of TB with first line drugs (category 2)
6. Artemisinin-based Combination Therapy for pregnant women			14. Detection and treatment of TB with first line drugs (category 1 & 3)
7. First line ART for children with AIDS			15. Management of complicated malaria (2nd line drug)
8. First line ART for pregnant women with AIDS			16. Detection and management of STI
			17. Management of / Antibiotics for opportunistic infections
3. Clinical First Referral Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Skilled delivery care / Normal delivery by skilled	14. Comprehensive emergency obstetric care (CEOC)		16. Chloroquine for malaria (P.vivax)
2. Management of neonatal infections at primary referral	15. Additional neonatal care		17. Clinical management of neonatal jaundice
3. Antihistors for pneumonia at PHC level			18. Management of complicated malaria (2nd line drug)
4. Antihistors for dysentery at PHC level			19. Management of severe malaria
5. Vitamin A - Treatment for measles			20. Detection and management of STI
6. Zinc for diarrhea management			21. Male circumcision
7. Basic emergency obstetric care (B-EOC)			22. Management of first line ART failures
8. Artemisinin-based Combination Therapy for children			23. Children second line ART
9. Artemisinin-based Combination Therapy for pregnant women			24. DOTS for TB
10. First line ART for children with AIDS			25. Management of TB isoxanone toxicities
11. First line ART for pregnant women with AIDS			26. Detection and treatment of TB with first line drugs
12. Management of severely sick children (referral IMCI)			27. Re-treatment of TB with first line drugs (category 2)
13. Universal emergency neonatal care (ophthalmia, sepsis, etc)			
14. management of serious infections, management of the VLBW infant			28. MDR treatment with second line drugs
			29. Management of / Antibiotics for opportunistic infections

4. Clinical Second Referral Care			
A. Minimum Package	B. Extended Package	C. Maximum Package	D. Additional
1. Skilled delivery care / Normal delivery by skilled	9. Comprehensive emergency obstetric care (CEOC)		11. Management of neonatal infections at second referral
2. Basic emergency obstetric care (B-EOC)	10. Additional neonatal care		12. Clinical management of neonatal jaundice
3. Universal Emergency neonatal care (asphyxia aftercare, management of serious infections, management of the VLBW infant)			13. Management of complicated malaria (2nd line drug)
4. Artemisinin-based Combination Therapy for children			14. Management of severe malaria
5. Artemisinin-based Combination Therapy for pregnant			15. Detection and management of STI
6. First line ART for children with AIDS			16. Management of / Antibiotics for opportunistic infections
7. First line ART for pregnant women with AIDS			17. Male circumcision
8. Management of severely sick children (febrile IMCI)			18. Children second line ART
			19. DOTS for TB
			20. Management of first line ART failures
			21. Management of TB moderate toxicities
			22. Detection and treatment of TB with first line drugs
			23. Retreatment of TB with first line drugs (category 2)
			24. Other emergency acute care
			25. Management of 2nd line ART failures
			26. Management of multidrug resistant TB (MDR) with second line drugs

Appendix 2 : High Impact Interventions - Selection study

Family oriented/community based services

1. Insecticide treated bed nets for children below the age of 5 years and pregnant women (through community, ANC, EPI)

Definition: Children below the age of 5 years and pregnant women are protected at night through insecticide-treated bed nets

Description: Children below the age of 5 years and pregnant women sleep each night under insecticide-treated bed nets in malaria-endemic areas

Source: Malaria Technical Note, Series #1, United Nations Children's Fund, 2003,

http://www.unicef.org/health/index_documents.html

Family and community practices that promote child survival, growth and development - A review of the evidence, World Health Organization, 2004,

<http://whqlibdoc.who.int/publications/2004/9241591501.pdf>

2. ORT at community level

Definition: Children with diarrhoea receive Oral Rehydration Therapy (ORT) at community level

Description: A child having three or more loose stools in a day is given Oral Rehydration Salts (ORS). The child is encouraged to drink as much as possible.

A child under the age of 2 years needs at least 1/4 to 1/2 of a large (250-millilitre) cup of the ORS drink after each watery stool.

Source: Facts for Life, UNICEF, 2010,

http://www.unicef.org/lac/Facts_for_LifeBrochure_LoRes_PDF_EN_01082010.pdf

3. Encouragement to continuously feed and offer more fluids, including breast milk to sick children

4. Community based treatment of children and pregnant women with ACT

Definition: Children and pregnant women suffering from malaria receive a treatment with first-line ACTs in their community

Description: Children suffering from malaria receive a treatment with first-line Artemisinin-based Combination Therapy (ACT), as well as guidance on referral criteria, at community level through trained community-based providers, such as community health workers, mother coordinators and private vendors. ACTs are used as first-line treatment for infants and young children with uncomplicated malaria, and careful attention is paid to accurate dosing and ensuring the administered dose is retained. ACTs include at least 3 days of treatment with an artemisinin derivative.

Pregnant women suffering from malaria receive a treatment with first-line Artemisinin-based Combination Therapy (ACT), as well as guidance on referral criteria are provided at the community level through trained community-based providers, such as community health workers, mother coordinators and private vendors. ACTs should include at least 3 days of treatment with an artemisinin derivative.

Source: Guidelines for the treatment of malaria, World Health Organization, 2010,
http://whqlibdoc.who.int/publications/2010/9789241547925_eng.pdf

Population oriented/schedulable services

1. Family Planning - birth spacing

Definition: Women are able to space and limit their pregnancies.

Description: Family planning allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. It is achieved through use of contraceptive methods and the treatment of involuntary infertility. A woman's ability to space and limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy.

Source: Family Planning - A Global Handbook for Providers, World Health Organization and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs, 2007, <http://info.k4health.org/globalhandbook/handbook.pdf> , http://www.who.int/topics/family_planning/en/ Packages of Interventions for Family Planning, Safe Abortion care, Maternal, New-born and Child Health, World Health Organization 2010, http://whqlibdoc.who.int/hq/2010/WHO_FCH_10.06_eng.pdf

2. ANC (tetanus immunisation & iron deficiency)

Definition: Pregnant women are assessed during four antenatal care visits.

Description: All pregnant women should have 4 routine antenatal visits. The first antenatal contact should be as early in pregnancy as possible, before 4 months; the 2nd visit at 6 months; the 3rd visit at 8 months and the 4th visit at 9 months. During the last visit, women are informed to return if she does not deliver within 2 weeks after the expected date of delivery. More frequent visits or different schedules may be required according to national malaria or HIV policies.

The essential services of an ANC visit include: confirmation of pregnancy; monitoring of progress of pregnancy and assessment of maternal and foetal well-being; detection of problems complicating pregnancy (e.g. anaemia, hypertensive disorders, bleeding, mal-presentations, multiple pregnancy); respond to other reported complaints, tetanus immunization, anaemia prevention and control (iron and folic acid supplementation); information and counselling on self-care at home, nutrition, safer sex, breastfeeding, family planning, healthy lifestyle; birth planning, advice on danger signs and emergency preparedness; recording and reporting; syphilis testing: test all pregnant women at first visit and check status at every visit.

Situational services include: HIV testing and counselling: test and counsel all pregnant women for HIV at the first antenatal visit (see below). Check status at every visit; anti-malarial

Intermittent Preventive Treatment (IPT) and promotion of insecticide treated nets (ITN): see below; deworming; assessment of female genital mutilation (FGM)

Source: WHO Recommended Interventions for Improving Maternal and New-born Health, World Health Organization, 2009, http://whqlibdoc.who.int/hq/2007/WHO_MPS_07.05_eng.pdf

Integrated Management of Pregnancy and Childbirth - Pregnancy, Childbirth, Postpartum and New-born Care: A guide for essential practice, World Health Organization, 2006, http://www.who.int/making_pregnancy_safer/publications/PCPNC_2006_03b.pdf

3. Immunisation measles, BCG, OPV, DPT

Definition: Children receive vaccination against measles, tuberculosis, polio and Diphtheria, Pertussis and Tetanus.

Description: Take children as scheduled to complete a full course of immunisation with measles vaccine at nine months of age; second dose is administered between 15 months and 6 years; a minimum gap of one month between both doses is required.

Take children as scheduled to complete a full course of immunisation with bacilli Chalmette-Guerin (BCG) vaccine at birth

Take children as scheduled to complete a full course of immunisation with oral polio vaccine (OPV) at birth, 6, 10 and 14 weeks of age

Take children as scheduled to complete a full course of immunisation with diphtheria-tetanus-pertussis (DTP) vaccine at 6, 10 and 14 weeks of age

Source: Family and community practices that promote child survival, growth and development - A review of the evidence, World Health Organization, 2004, <http://whqlibdoc.who.int/publications/2004/9241591501.pdf>
Facts for Life, UNICEF, 2010, http://www.unicef.org/lac/Facts_for_Life_Brochure_LoRes_PDF_EN_01082010.pdf

4. PMTCT

Definition: Pregnant women are given VCT and PMTCT

Description: Voluntary Counselling and HIV testing (VCT) is used to determine if the woman is infected with HIV. It includes blood testing and counselling. The test is offered routinely to every woman at every pregnancy to help protect her and her baby's health. She may decline the test. Discuss the HIV results when the woman is alone or with the person of her choice and state test results in a neutral tone. Measures to prevent HIV transmission from mother to her child include (PMTCT):

For all HIV-infected pregnant women who are not in need of ART for their own health, ARV prophylaxis is given; in breastfeeding infants, maternal ARV prophylaxis should be coupled with daily administration of NVP to the infant from birth until one week after all exposure to breast milk has ended; In non-breastfeeding infants, maternal ARV prophylaxis should be coupled with daily administration of AZT or NVP from birth until 6 weeks of age.

For all HIV-infected pregnant women who are not eligible for ART, ARV prophylaxis consists of triple ARV drugs provided to pregnant women starting from as early as 14 weeks of gestation until one week after all exposure to breast milk has ended; in breastfeeding infants, the maternal triple ARV prophylaxis should be coupled with the daily administration of NVP to the infant from birth until 6 weeks of age; In non-breastfeeding infants, the maternal triple ARV prophylaxis should be coupled with the daily administration of AZT or NVP to the infant from birth until 6 weeks of age.

Source: Rapid advice - Use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants, World Health Organization, 2009,
http://whqlibdoc.who.int/publications/2009/9789241598934_eng.pdf

Integrated Management of Pregnancy and Childbirth - Pregnancy, Childbirth, Postpartum and New-born Care: A guide for essential practice, World Health Organization, 2006,

http://www.who.int/making_pregnancy_safer/publications/PCPNC_2006_03b.pdf

5. IPT pregnant women

Definition: Pregnant women receive Intermittent Preventive Treatment (IPT) for malaria

Description: Provide Intermittent Preventive Treatment (IPT) for malaria in pregnant women in malaria endemic areas by administration of treatment doses of Sulfadoxine-Pyrimethamine (3 tablets of 500/25 mg SP) at the beginning of the second and third trimester to all women according to national policy.

Source: Malaria Technical Note, Series #1, United Nations Children's Fund, 2003,
http://www.unicef.org/health/index_documents.html
Integrated Management of Pregnancy and Childbirth - Pregnancy, Childbirth, Postpartum and New-born Care: A guide for essential practice, World Health Organization, 2006,
http://www.who.int/making_pregnancy_safer/publications/PCPNC_2006_03b.pdf

Individual oriented/clinical services

1. Normal delivery by skilled attendant at PHC level

Definition: Pregnant woman are assisted by skilled attendants during delivery

Description: Skilled childbirth care at first level facility involves: care during labour and delivery: diagnosis of labour, monitoring progress of labour, maternal and foetal well-being with partograph, companion of choice to support the woman, infection prevention, supportive care and pain relief, detection of problems and treatment of complications (e.g. mal-presentations, prolonged and/or obstructed labour, hypertension, bleeding, and infection), delivery and immediate care of the new-born baby, initiation of breastfeeding, new-born resuscitation, active management of third stage of labour; immediate postpartum care of mother: monitoring and assessment of maternal well-being, prevention and detection of

complications (e.g. hypertension, infections, bleeding, anaemia); treatment of abnormalities and complications (e.g. prolonged labour, vacuum extraction; breech presentation, episiotomy, repair of genital tears, manual removal of placenta); pre-referral management of serious complications (e.g. obstructed labour, foetal distress, preterm labour, severe peri- and postpartum haemorrhage); support for the family if maternal or perinatal death; counselling for family planning including insertion of IUDs; situational: Vitamin A administration for mother, HIV testing and counselling, prevention of mother-to-child transmission of HIV by mode of delivery, guidance and support for chosen infant feeding option, care for HIV positive women/ART

Source: Packages of Interventions for Family Planning, Safe Abortion care, Maternal, New-born and Child Health, World Health Organization 2010, http://whqlibdoc.who.int/hq/2010/WHO_FCH_10.06_eng.pdf

2. Management of neonatal infections at PHC level

Definition: see below BEOC

3. BEOC at PHC level

Definition: Perform basic emergency obstetric care at primary health care level

Description: Basic emergency obstetric care includes the provision of the following seven basic services: administer parenteral antibiotics; administer uterotonic drugs (i.e. parenteral oxytocin); administer parenteral anticonvulsants for preeclampsia and eclampsia (i.e. magnesium sulfate); manually remove the placenta; remove retained products (e.g. manual vacuum extraction, dilation and curettage); perform assisted vaginal delivery (e.g. vacuum extraction, forceps delivery); perform basic neonatal resuscitation (e.g. with bag and mask). A basic emergency obstetric care facility is one in which all seven functions are performed.

Source: Monitoring emergency obstetric care - a handbook, World Health Organization 2009,
http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf

4. CEOC at first referral level

Definition: Perform comprehensive emergency obstetric care at first referral level

Description: A comprehensive emergency obstetric care facility is one in which the seven functions of B-EOC are performed in addition to perform surgery (e.g. caesarean section) and perform blood transfusion

Source: Monitoring emergency obstetric care - a handbook, World Health Organization 2009,
http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf

5. Antibiotics for pneumonia and dysentery at PHC level

Definition: Children suffering from severe pneumonia and children suffering from bloody diarrhoea are treated with antibiotics

Description: Children between 2 and 59 months of age suffering from severe pneumonia are treated with oral amoxicillin in 45 mg/kg/dose twice daily for 5 days.

Children between 2 and 59 months of age suffering from very severe pneumonia are treated with injectable ampicillin (50 mg/kg) plus an injection with gentamicin (7.5 mg/kg) intramuscular before referring.

Treat children suffering from bloody diarrhoea with ciprofloxacin given in a dose of 15 mg/kg two times per day for three days by mouth.

Source: Technical updates of the guidelines on the Integrated Management of Childhood Illness (IMCI): evidence and recommendations for further adaptations, World Health Organization 2005,
<http://whqlibdoc.who.int/publications/2005/9241593482.pdf>

6. Vitamin A treatment for measles at PHC level

Definition: Children suffering from measles are treated with vitamin A

Description: Children with measles are treated with high-dose supplements vitamin A (2 doses of 200,000 IU over two days) during the course of a measles episode to reduce measles-related deaths.

Source: Vitamin A Supplementation: A decade of progress, United Nations Children's Fund, 2007,

http://www.unicef.org/publications/files/Vitamin_A_Supplementation.pdf

Vitamin A for the treatment of measles in children - A systematic review, Journal of Tropical Paediatrics, 2002, Vol. 48, pp 323-327,

<http://tropej.oxfordjournals.org/cgi/reprint/48/6/323>

7. Zinc for diarrhoea management at PHC level

Definition: Children suffering from diarrhoea receive zinc supplement

Description: Provide zinc as an adjunct to oral hydration salts in treating diarrhoea in young children. During 10 to 14 days: children over 6 months of age can take 20 milligrams per day of zinc (tablet or syrup), for children under 6 months, 10 milligrams per day (tablet or syrup) is an appropriate amount.

Source: Disease Control Priorities in Developing Countries, 2nd Edition, Chapter 28, World Bank, 2006, <http://www.dcp2.org/pubs/DCP>

Facts for Life, UNICEF, 2010,

http://www.unicef.org/lac/Facts_for_Life_Brochure_LoRes_PDF_EN_01082010.pdf

8. ACT at PHC level

Definition: Children with malaria and pregnant women with malaria are treated with ACT at primary health care level

Description: ACTs should be used as first-line treatment for infants and young children and pregnant women with uncomplicated malaria, and careful attention should be paid to accurate dosing and ensuring the administered dose is retained. Referral to a health centre or hospital is indicated for young children who cannot swallow antimalarial medicines reliably.

ACTs should include at least 3 days of treatment with an artemisinin derivative.

Source: Guidelines for the treatment of malaria, World Health Organization, 2010,
http://whqlibdoc.who.int/publications/2010/9789241547925_eng.pdf

Appendix 3 : Millennium Development Goals

Goal 1 - Eradicating extreme poverty and hunger

This goal includes as a target the halving between 1990 and 2015 of the proportion of people who suffer from hunger, with progress to be measured in terms of the prevalence of underweight children under five years of age. The target implies an average annual rate of reduction of 2.7 per cent.

Goal 4 - Reducing child mortality

The target is to reduce by two-thirds between 1990 and 2015 the under-five mortality rate, equivalent to an annual rate of reduction of 4.3 per cent.

Goal 5 - Improving maternal health

The target is to reduce by three-quarters between 1990 and 2015 the maternal mortality ratio, equivalent to an annual rate of reduction of 5.4 per cent.

Goal 6 - Combating HIV/AIDS, malaria and other diseases

The target is to halt and begin to reverse the spread of the diseases by 2015.

Goal 7 - Ensuring environmental sustainability

This goal includes as a target the halving by 2015 of the proportion of people without sustainable access to safe drinking water.

Source: United Nations Millennium Declaration, the United Nations Millennium Summit 2000.

Appendix 4 : Variables

Available at : www.itg.be/itg/dl/appendix4.xlsx

Appendix 5 : Ranking of countries within WCAR according to variables

	Benin	Burkina Faso	Cameroon	Cape Verde	Central Afr. Republic	Chad	Congo	Cote d'Ivoire	Dem. Republi. of Congo	Equatorial Guinea	Gabon	Gambia
1. Population living on <1 us\$ PPP a day (%)	13	8	17	21	5	6	9	19	7	7	22	15
2. Net primary school enrollment rate (% female)	21	8	20	22	4	4	16	4	1	7	18	12
3. GNI (PPP US\$)	15	9	20	22	5	9	21	16	1	24	23	12
4. THE per capita (PPP int \$)	12	14	18	22	2	14	16	9	1	23	24	13
5. GGE on health as % of total government expenditures	13	21	11	12	15	22	4	3	6	8	21	16
6. OOP as % of private expenditure	11	13	12	4	10	8	1	14	23	18	1	24
7. Per capita government expenditure on health (PPP int \$)	15	16	10	22	4	16	20	7	1	24	21	13
8. External resources for health as % of THE	10	6	20	12	7	14	19	21	3	22	24	8
9. Physicians (per 10,000 pop)	7	7	19	24	7	1	7	7	7	21	20	1
10. Nurses & midwives (per 10,000 pop)	17	15	21	20	8	5	17	10	10	10	24	13
11. CHW (per 10,000 pop)	5	5	5	5	1	1	1	1	1	10	5	5
12. Voice and accountability	22	19	10	24	12	4	8	5	2	1	6	6
13. Political stability	23	17	11	24	2	5	11	6	1	18	19	22
14. Government Effectiveness	21	20	14	23	4	3	7	9	1	2	16	19
15. Regulatory Quality	19	22	14	23	7	8	3	9	1	2	16	20
16. Rule-of-Law	16	22	11	24	6	3	9	5	1	7	18	19
17. Control of Corruption	17	21	11	24	13	3	5	6	2	1	11	18
Total scores	352	243	219	326	112	126	173	180	68	198	288	236
Number of variables with a score	16	17	15	17	17	17	16	16	16	16	16	17
Average score	15.8	14.3	14.6	19.2	6.6	7.4	10.8	9.4	4.3	12.4	18.0	11.9

	Guinea	Guinea Bissau	Guinea Conakry	Liberia	Mali	Mauritania	Niger	Nigeria	Senegal	Sierra Leone	Togo
1. Population living on <1 us\$ PPP a day (%)	18	12	2	1	11	20	3	4	16	10	14
2. Net primary school enrollment rate (% female)	14	2	10	10	12	19	2	9	22	14	17
3. GNI (PPP US\$)	13	3	11	2	8	13	4	19	18	17	6
4. THE per capita (PPP int \$)	19	4	8	6	9	5	7	20	21	17	3
5. GGE on health as % of total government expenditures	13	1	2	24	17	5	19	7	20	18	10
6. OOP as % of private expenditure	16	21	5	22	5	1	7	9	19	17	20
7. Per capita government expenditure on health (PPP int \$)	19	3	2	4	13	11	9	12	21	18	4
8. External resources for health as % of THE	7	1	7	1	7	7	7	7	23	9	5
9. Physicians (per 10,000 pop)	19	13	1	5	3	15	2	21	23	8	3
10. Nurses & midwives (per 10,000 pop)	9	12	1	5	1	1	5	5	11	1	1
11. CHW (per 10,000 pop)	23	14	3	16	20	11	15	13	21	17	18
12. Voice and accountability	20	10	4	9	14	7	7	3	21	16	13
13. Political stability	24	12	6	11	15	13	16	7	18	22	10
14. Government Effectiveness	24	5	6	4	18	15	17	11	21	11	10
15. Regulatory Quality	23	4	2	10	20	14	17	8	15	21	12
16. Rule-of-Law	23	7	4	18	24	15	15	9	22	20	10
17. Control of Corruption	23	7	4	18	24	15	15	9	22	20	10
Total scores	300	128	88	145	198	184	142	204	295	265	117
Number of variables with a score	17	17	16	16	17	16	16	17	16	16	16
Average score	17.6	7.5	5.5	9.1	11.6	11.5	8.9	12.0	18.4	16.7	8.6

	Senegal	Sierra Leone	Guinea Bissau	Guinea Conakry	Guinea	Sierra Leone	Guinea Bissau	Guinea Conakry	Guinea	Sierra Leone	Guinea Bissau	Guinea Conakry
1. Population living on <1 us\$ PPP a day (%)	19.2	18.4	18.0	17.6	16.7	15.8	14.3	13.9	12.4	12.0	11.6	11.6
Number of variables with a score	17.6	17.5	15.5	9.1	11.6	11.5	8.9	12.0	18.4	16.7	8.6	10.9

Ranking of countries according to average score

Country	Score	Country	Score
Senegal	11.5	Sierra Leone	10.8
Guinea Bissau	10.6	Guinea Conakry	10.6
Sierra Leone	9.4	Guinea	9.1
Guinea	8.9	Sierra Leone	8.6
Guinea Bissau	7.5	Guinea Conakry	7.4
Guinea Conakry	6.6	Sierra Leone	6.6
Sierra Leone	5.3	Guinea Bissau	4.3

Appendix 6 : Bottlenecks and facilitating factors

Available at : www.itg.be/itg/dl/appendix-6.xlsx

Appendix 7 : Executive summaries of country reports

7.1 Résumé Exécutif Guinée Conakry

par Abdoulaye Sow et équipe, *Fraternité Médicale Guinée*

Les « interventions à impact élevé », sont des interventions qui ont prouvé leur efficacité pour la réduction de la mortalité, la morbidité et la malnutrition chez les mères et les enfants. Dans la région d'Afrique de l'Ouest et Centrale avec une population totale estimée à 395 millions d'habitants répartis sur 24 pays, ces interventions ont été introduites depuis plusieurs années. Néanmoins, leur couverture effective reste faible, ce qui constitue un important problème pour l'atteinte des Objectifs du Millénaire pour le Développement liés à la santé. L'expansion de ces interventions nécessite que les goulots d'étranglement et obstacles, tant du côté de l'offre que du côté de la demande de soins, soient identifiés et surmontés. C'est pour contribuer à résoudre ce problème, que le bureau UNICEF pour la Région d'Afrique de l'Ouest et Centrale et l'Organisation Ouest Africaine de Santé ont chargé l'Institut de Médecine Tropicale (IMT) d'Anvers (Belgique) de procéder à une analyse systématique de l'offre de services. Pour mener à bien cette tâche, l'IMT a collaboré en Guinée avec l'ONG Fraternité Médicale Guinée.

L'étude est basée sur des observations et des analyses menées dans deux districts sanitaires à trois niveaux distincts mais complémentaires: i) les services orientés vers la communauté/famille, ii) les stratégies avancées planifiables et iii) les services individuels non planifiables.

Une équipe de chercheurs composée des cadres des ministères de la santé et de l'hygiène publique et de la décentralisation, de l'UNICEF Guinée et de Fraternité Médicale Guinée ont réalisé l'étude.

Dans le cadre de l'étude, l'équipe de recherche a choisi deux districts contrastants selon trois critères:

- Les critères techniques ont concerné le niveau de couverture de la consultation prénatale (CPN), du programme élargi de vaccination (PEV) et de la planification familiale (PF).
- Les critères organisationnels étaient axés sur le niveau de fonctionnement du district sanitaire (système local de santé).

- D'autres critères moins techniques ont également sous tendus le choix, notamment la proximité des districts sanitaires à la ville de Conakry du fait de la durée très brève accordée aux activités de terrain et leur appartenance à des régions sanitaires différentes.

Ainsi, les districts sanitaires de Fria situé à 160 km et de Kindia à 135 Km de Conakry ont été retenus.

Pour la mise en œuvre de l'étude, une revue documentaire a permis de décrire et d'analyser le système national de santé et les deux systèmes locaux de santé des districts sélectionnés.

La méthodologie a consisté à i) l'élaboration des théories générales et spécifiques de l'étude, la construction des théories à tester par types d'intervention à haut impact, et la définition d'éléments de vérification des théories, en particulier les informations à collecter, sources (lieux et où on peut obtenir ces informations) et comment les collecter. Ensuite, une série d'outils composée de questionnaires, de guides d'entretien et de grilles d'observation par catégorie de personnes ou de structures à rencontrer ont été produits et administrés au cours des interviews semi structurées, des groupes d'entretiens et confortés par des observations directes en temps réel.

Avant de se rendre sur le terrain, le ministère de la santé et de l'hygiène publique a envoyé des notes d'explication succinctes de la mission à chaque équipe cadre de district. Des ordres de mission ont facilité la circulation des enquêteurs et ont permis de donner un caractère officiel à l'étude.

Huit (8) formations sanitaires à Kindia et 7 à Fria ont constitué la cadre de l'étude. Il s'agissait des centres de santé publics et associatifs, des cliniques et cabinets privés et des hôpitaux de référence du secteur public et privé. Dans chaque localité, les infrastructures et équipements ont été répertoriés, les fournisseurs de soins interviewés et leur pratique observée. Les bénéficiaires de soins ont été interviewés individuellement et rencontrés au cours des entretiens de groupe. Des entrevues organisées avec les élus locaux, les membres d'ONG, les agents de santé communautaire, les membres des comités de santé et autorités sanitaires et administratives de chaque localité.

Pour le traitement des données récoltées, un masque de dépouillement par questionnaire a permis d'analyser les fiches, de recouper les informations et de les regrouper par catégories de cibles. Pour le cas spécifique des bénéficiaires (70 personnes interviewées), l'EPI-Info a permis d'analyser et de croiser les informations.

A l'analyse des résultats au niveau **macro**, nous avons confirmé que, parmi les programmes qui améliorent la santé maternelle et infantile, figure le programme national de prise en charge intégrée des maladies du nouveau-né et de l'enfant. L'analyse montre que le système de santé est confronté à une surproduction des ressources humaines. En effet, depuis une dizaine d'années, la faculté de médecine produit des médecins mais la fonction publique ne les emploie pas et malgré cela, d'année en année, le nombre d'étudiants ne cesse d'augmenter. A cela, s'ajoute la prolifération des institutions d'enseignement privé et le nombre sans cesse croissant d'écoles nationales publiques d'infirmiers d'état, de sages-femmes, d'agents techniques de santé et de techniciens de labo. Le manque d'emploi amène tous ces sortants à se sédentariser comme contractuels non-statutaires dans les hôpitaux nationaux préfectoraux et même dans les centres de santé ruraux et urbains. *Plusieurs dysfonctionnements du système sont dus à la mauvaise gestion de ces ressources humaines.* Hormis le paiement des salaires des fonctionnaires et quelques apports ponctuels, le financement du secteur de la santé est presque entièrement assuré par les partenaires et les patients, donnant l'impression que le ministère de la santé gère les problèmes de santé de la population guinéenne par «*procuration*». Les formations sanitaires ne bénéficient plus ou peu de subventions du budget national de développement, les salaires du personnel sont stationnaires, le système d'approvisionnement en médicaments et autres intrants ne répond plus aux besoins, les infrastructures se dégradent et le système de suivi est défaillant.

Au niveau **méso**, nous avons constaté dans les deux systèmes locaux de santé étudiés, que le taux d'utilisation des centres de santé est contrastant 0,23 contact/habitant/an à Kindia et 0,4 contact/habitant/an à Fria Des taux très bas (0,1 contact/habitant/an) sont constatés dans plusieurs centres de santé ruraux de Kindia. Toutes les formations sanitaires visitées fonctionnent avec deux types de personnel : le personnel statutaire (fonctionnaires payés par l'État) et le personnel non statutaire (non-salariés). La proportion est de 27 statutaires/20 non statutaires à Fria et à Kindia, c'est l'inverse 188 hors statuts/110 statutaires. Le contraste est important à souligner : *Sur le papier, il existe une insuffisance du personnel de santé dans les formations sanitaires mais le terrain montre le contraire.* Au niveau de l'hôpital régional qui fait office d'hôpital de district à Kindia, nous avons constaté une confusion de rôle entre la Direction Régionale de la Santé et la

Direction Préfectorale de la Santé. *La limite de responsabilités de ces deux institutions sur la gestion de l'hôpital n'est pas suffisamment claire.* Le fonctionnement du secteur privé et para public qui draine une bonne partie des patients, échappe au contrôle et au suivi des équipes cadre de district. Dans les deux systèmes locaux de santé, l'argent « les recettes » est devenu un élément d'appréciation du bon fonctionnement des centres de santé par les équipes cadre de district. Le secteur informel de soins est très développé dans les deux districts « *même les vétérinaires offrent des soins aux humains* ». Dans ces sites de prestations, la nature des soins offerts échappe à l'appréciation des autorités du district. Le secteur pharmaceutique est florissant dans l'informel et occupe une grande partie de l'offre en médicaments. Dans les deux districts, nous avons constaté qu'en plus des Direction Préfectorale de la Santé, les Médecins Chargés de Maladies sont des interlocuteurs incontournables pour apprécier le fonctionnement du système local de santé.

Au niveau **micro**, les activités à base communautaire sont menées dans les quartiers et villages, notamment dans le domaine de la lutte contre les maladies intégrées de l'enfant, la malnutrition et la santé de la reproduction. Les agents de santé communautaires, les membres de comité de santé et d'hygiène publique et les autorités locales sont les piliers de ces actions. En plus des activités de prévention et de promotion, les agents de santé communautaires fournissent des soins primaires dans certains postes de santé. Ils ont acquis un background très important en matière de promotion de la santé. Ceux ruraux semblent donner les meilleurs résultats.

Pour le cas spécifique **des interventions à haut impact**, la distribution des MII se fait dans les deux districts au travers d'un système mis en place au niveau national. Les 2/3 des bénéficiaires déclarent avoir une moustiquaire imprégnée d'insecticide et la grande majorité l'ont reçue gratuitement. Environ 50% des bénéficiaires interrogés déclarent avoir utilisé la moustiquaire imprégnée d'insecticide la veille, cependant, lors de visites domiciliaires faites en soirée, les constatations étaient moins favorables. Les résultats sont meilleurs à Fria qu'à Kindia.

La planification familiale est une intervention offerte dans tous les centres de santé des deux districts sanitaires étudiés. Le système d'approvisionnement en produit contraceptif est assuré par la Direction Préfectorale de la Santé et les partenaires Fonds des Nations Unis pour a Population, la Coopération Technique Américaine, l'organisation non-gouvernementale Population Santé Internationale et l'Association

Guinéenne pour le Bien être Familiale. La disponibilité des contraceptifs est très bonne dans la majorité des centres de santé visités mais l'utilisation des services de planification familiale reste très faible à cause des pesanteurs socioculturelles et la mauvaise perception des communautés.

L'intégration de la Prévention de la Transmission du VIH Mère et Enfant dans les structures sanitaire du pays (hôpitaux et centres de santé) est récente et n'a pas encore couvert tout le territoire national. L'approvisionnement en produits pharmaceutiques (antirétroviraux et anti infections opportunistes) et autres consommables connaît des ruptures dans les deux districts sanitaires.

A Kindia, seulement 2/14 centres de santé offrent le soins de prévention mère-enfant. L'hôpital régional n'offre pas ce service. A Fria, l'hôpital préfectoral et 1/6 des centres de santé l'offrent. Dans les deux districts, les femmes enceintes dépistées sont mises sous anti-rétro-viraux suivant les critères cliniques de l'Organisation Mondiale de la Santé. Parmi les bénéficiaires interrogés, on constate qu'à Kindia, 65,6% des femmes déclarent avoir reçu des conseils sur le VIH, mais seules 25% reçoivent la proposition de se faire dépister, alors qu'à Fria le rapport est respectivement de 48,4% et 35,5%.

La consultation prénatale recentrée est une activité préventive, intégrée dans tous les centres de santé des deux districts. A Fria, le centre de santé le plus fréquenté est en rupture de fer/acide folique depuis un mois, mettant en doute la qualité de la prise en charge des femmes. Les hôpitaux et les structures privées des deux districts ne font pas de Consultation prénatale recentrée. Au niveau des bénéficiaires les femmes interrogées témoignent de l'utilisation du vaccin anti tétanique et du fer/acide folique de façon presque similaire dans les 2 districts (90,6% vaccinés contre le tétanos à Kindia contre 90,3% à Fria) ; pour le fer/acide folique (75% à Kindia et 77,4% à Fria) mais, le niveau de connaissance sur les raisons de cette vaccination est marginal.

La gratuité de la césarienne a été inscrite parmi les meilleures décisions du ministère de la santé en 2008 mais sa mise en pratique rencontre des difficultés. A Kindia, la gratuité concerne l'acte chirurgical et couvre les médicaments durant les 12 à 24 heures après l'intervention chirurgicale. A Fria, le manque de ressources au niveau de l'hôpital (disponibilité des kits) ne permet pas de prendre en charge le post opératoire. Dans les deux

districts, les blocs opératoires sont vétustes et sous équipés et ne répondent ni aux besoins des cibles, ni aux attentes des médecins.

Pour la mise en œuvre des Soins Obstétricaux d'Urgence de Base le coût élevé des accouchements dans les formations sanitaires constitue un handicap majeur à l'accessibilité des services. A Kindia, le programme de prise en charge intégrée des maladies du nouveau-né et de l'enfant communautaire est effectif autour de certains centres de santé ruraux et les agents communautaires participent à l'organisation du dispositif de transport des urgences avec le soutien des systèmes traditionnels de solidarité existants.

La vaccination des enfants est intégrée dans toutes les structures de 1^{ère} ligne du pays à travers le programme élargi de vaccination/soins de santé primaires/médicaments essentiels. Bien que la gratuité soit reconnue, le paiement est dénoncé dans plusieurs centres de santé des deux districts sanitaires.

Les soins de réhydratation sont considérés comme une activité curative et préventive fournie par le personnel de santé et les agents communautaires. La solution de réhydratation orale est disponible dans les deux districts et à divers endroits (centres de santé, communauté, kiosques, boutiques...). Le niveau de connaissance des bénéficiaires, dans les deux districts est bonne quant-àux indications du produit au cours de la diarrhée, son mode de préparation et d'utilisation.

La directive nationale voudrait que l'accouchement soit assisté par un personnel qualifié. Le manque de sages-femmes au niveau des structures de première ligne fait que les accouchements sont dirigés par les agents techniques de santé formés sur le tas. Dans toutes les formations sanitaires visitées, les accouchements sont dirigés par un personnel qualifié. Seuls à Baguinet (Fria) et Molota (Kindia), les accoucheuses villageoises formées réalisent les accouchements au centre de santé.

Dans les centres de santé de première ligne, le traitement des infections respiratoires aiguës et de la dysenterie font partie des paquets d'activités de routine. Il existe au niveau national un document sur la prise en charge de ces pathologies. La quasi-totalité du personnel (responsable des consultations primaires curatives) des Centres de Santé de Kindia ont reçu cette formation, contrairement à ceux de Fria.

Dans les districts sanitaires, la prise en charge des fractures se fait dans une certaine mesure au niveau des hôpitaux de référence. Les centres de santé n'ont aucune capacité technique car le personnel n'est pas formé et le

matériel et équipement disponibles ne permettent que de faire le pansement en cas de plaies. Dans les 2 districts visités, les tradi-thérapeutes constituent le premier recours.

Au niveau de la première ligne, le traitement de l'hypertension est pris en compte par le programme de soins de santé primaires. Les bénéficiaires connaissent la maladie, mais ne savent pas si les centres de santé sont en mesure de prendre en charge les cas.

L'allaitement maternel exclusif est un message promu dans les centres de santé et l'hôpital (salle d'accouchement, consultations prénatale et primaire curative de l'enfant). Le nouveau-né est mis au sein maternel les premières minutes après l'accouchement. Toutefois, même si l'allaitement au sein est pratiqué par l'ensemble des mères, il n'est pas exclusif. Les mamans donnent au nourrisson de l'eau.

Le système de santé promeut l'utilisation des latrines au travers de ses approches d'intervention, notamment la stratégie de l'assainissement total piloté par les communautés. Au niveau des deux systèmes locaux de santé ce sont les Organisations Non Gouvernementales qui impulsent la réalisation des actions comme la construction des latrines collectives et l'appui à l'aménagement des latrines familiales.

Il existe dans les stratégies de l'hygiène publique du ministère de la santé l'installation dans toutes les régions sanitaires des unités de production du chlore. Ces unités ont pour mandat d'approvisionner les districts de leur ressort. Dans les deux districts de l'étude, l'approvisionnement est régulièrement assuré et un stock important existe auprès des Directions Préfectorales de la Santé. Même si le lavage des mains est reconnu par toutes les cibles de l'étude comme une intervention pratiquée à large spectre, l'observation des agents de santé au cours des consultations des patients et celle des populations dans la vie quotidienne ne confirment pas cette déclaration.

La reconnaissance des signes généraux de danger chez l'enfant et la femme enceinte permet de réduire la mortalité. Les agents communautaires savent reconnaître les signes généraux de danger chez ces groupes cibles même si ceux de Fria n'ont pas reçu de formation spécifique.

Si la combinaison thérapeutique à base d'artésimine est disponible et bien connue des prestataires des formations sanitaires publiques, les autorités locales et les membres des comités de santé, il n'en est pas de même pour les bénéficiaires. La quasi-totalité des bénéficiaires interviewés (7-8/10)

ne reconnaissent pas avoir reçu la médication quand ils sont venus au centre de santé pour un paludisme.

Au terme de l'étude, nous suggérons pour le niveau national de faire de la relance des soins de santé primaire une relance du système de santé afin que les interventions à haut impact soient effectives. L'amélioration de la gestion des ressources humaines (formation continue du personnel actuellement en activité et régularisation du personnel contractuel, bénévole et stagiaire dans les structures sanitaires, redéploiement du personnel dans les préfectures de l'intérieur du pays en y améliorant les conditions de travail, la réglementation de la production des ressources humaines sur la base d'une planification rigoureuse au niveau des institutions de formation publiques et privées), la restauration des formations sanitaires, leur équipement et leur approvisionnement en médicaments et autres intrants sont des préalables majeurs.

Au niveau du système local de santé, il convient de faire une cartographie de l'offre de soins sans exclusion. Répertoire tous les sites de prestations (publics, privés et informels) et analyser la qualité des services et soins offerts afin d'impliquer tous les acteurs au développement des activités préventives et promotionnelles dans les districts. Nous recommandons également de déléguer certaines activités préventives aux agents de santé communautaire en particulier lors des Journées Nationales de Vaccination en particulier l'administration de la vitamine A et du vaccin anti poliomyélite, la distribution de solution de réhydratation orale, des préservatifs et du mebendazol, de rendre disponible au niveau du district, tous les intrants susceptibles d'améliorer les services et l'offre de soins et de redéfinir les rôles et les responsabilités des équipes cadre de district et les directions régionales de la santé sur la gestion de l'hôpital régional.

Au niveau communautaire, rendre effective les nouvelles directives de la relance de soins de santé primaires en améliorant la responsabilité des communautés dans la gestion des centres de santé par la mise en place des comités de santé formation et suivi) et des agents communautaires (formation, supervisions, motivation...).

7.2 Executive Summary Ghana

by Dr Atsu Seake-Kwawu and team, Ghana Health Service

BACKGROUND

The World Bank and its partners have proposed that the implementation of the so-called high impact interventions (HII) to scale can reduce child and maternal mortality rates substantially in the West and Central Africa Region, and accelerate the progress towards achieving the Millennium Development Goals. The West and Central Africa Region is the poorest region in the world and home to 395 million people of very diverse backgrounds located in 24 countries. Experience over the years has shown that in spite of the implementation of these interventions, the region remains an area of unacceptably high mortality and morbidity, especially among women and children under five. The reasons for this are not always clear through the usual approaches by which such programmes are evaluated.

In view of this and the urgency to achieve the MDGs, UNICEF's West and Central African Regional Office, as lead of the Community of Practice on Service Delivery under the Harmonisation for Health in Africa Initiative, and its strategic partner, the West African Health Organisation, commissioned the Institute of Tropical Medicine ITM from Antwerp, Belgium and the Ghana Health Service to undertake a study in Ghana. The overall aim of this study is to better understand the organisational features of effective and efficient primary health care delivery including the identification and analysis of:

1. contextual variables as underlying causes and factors for successful service delivery,
2. key health system bottlenecks to the delivery and scaling up of high impact interventions for reaching the health related MDG 1, 4, 5, 6 and 7.

Burkina Faso, Guinea and Guinea Bissau have also been involved, making this a multi-country study. The present report is the output of the research activities in Ghana.

METHODOLOGY

The methodological framework adopted for this study is inspired by the theory-driven approach and seeks to unravel “what works, why, in which conditions and for whom”. In essence, it addresses what happens in the “black box” of service delivery. We applied this to an adapted health systems framework developed at ITM to derive understanding which mechanisms work in which contexts to produce which outcomes.

In our approach we formulated two sets of theories to identify and test the existence of conditions for satisfactory implementation of HII in order to produce desirable outcomes. The first set of theories looked at prevalent general conditions and functioning modalities of a health system at three different levels, *i.e.* national, district and peripheral health facility level. These theories were referred to as health systems’ theories. The second set comprised theories relating to three groups of carefully selected core HII, to a selection of interventions of interest to the Ghana Health Service (GHS) research team (*i.e.* country-specific HII), and to a selection of interventions not to be known as high impact (*i.e.* non-HII). The group of core HII further contained three bundles depending on the type of care: preventive care, delivery care and curative care. Each intervention was characterised by intrinsic features providing answers to what kind of intervention it is, where it is offered at, who offers it, and how the offer is made. In addition, each feature implied a certain set of modalities in terms of health service organisation. The specific configuration of those modalities for each intervention constituted the basis for the development of so-called intervention specific theories. These theories enabled us to develop field tools that were subsequently used for the research field activities.

In all, time invested by the Ghana research time is estimated at 5.0 man months, with additional 2.5 man months invested by the ITM team. We chose the case study approach, selecting two districts whose performances on some of these interventions place them as doing well or not doing well. The case study approach not only offers opportunities for learning, but is also a flexible methodology, incorporating different research methods. In our case, we used 1) record reviews, 2) semi-structured interviews of key informants and groups, 3) discussions, 4) observations of service delivery processes, and 5) physical inspections. In as much as possible, triangulation of data was done. Using carefully reasoned selection criteria, we chose Akwapim North

district and Hohoe municipal district as comparable settings to test our theories. The case study approach makes careful context description imperative.

CONTEXTS

Ghana has a population of 24.22 million people, a population growth rate of 2.4% and more than 100 ethnic groups (Ghana Statistical Service 2010). Located only a few degrees north of the equator, it spans some 238,500 km², and shares boundaries with Burkina Faso to the north, Cote d'Ivoire to the west, Togo to the east and the Gulf of Guinea to the south. Since 1992, Ghana has been practising constitutional democracy, based on multiparty parliamentary system. At the district level, assemblies exist with locally elected and appointed members who constitute a planning authority.

Ghana is endowed with rich human and natural resources, the latest being oil in commercial quantities. Previous estimates put the Gross Domestic Product (GDP) per capita at US\$ 650 in 2007, but recent re-basing of the GDP now puts Ghana in middle income category. With GDP per capita above US\$ 1000, Ghana is now a middle income economy. In spite of this, a quarter of the population lives below the poverty line.

Ghana's health system is organised such that the Ministry of Health (MOH) provides policy directions and oversees the functions of 16 agencies, including the GHS, the Teaching Hospitals, the faith based health sector, and the private sector. The GHS is the dominant primary care provider, organising and providing such services at community level through Community Health Planning and Services (CHPS) and outreaches, at sub-district level through health centres, and at district level through district hospitals. CHPS represents an innovative strategy in Ghana to place trained health workers permanently at the community level to work with health volunteers and deliver services. Administratively, the GHS is organised at district, regional and national levels.

Health care spending has increased, averaging US\$ 54 per capita in 2007. The introduction of the National Health Insurance Scheme (NHIS) in 2005 and increased government spending has increased public health expenditures in relation to total health expenditure, reaching 51.6% in 2007. Free maternal delivery services have been introduced. Very innovative approaches adopted by the MOH have increased the level of the health

workforce, which is currently estimated for all sectors at 80,000. Health worker-population ratios have improved although shortage of midwives is still a problem (Ministry of Health 2009). In spite of these investments, health outcomes only show modest improvements, with Infant Mortality Rate (IMR) still at 51 per 1000 live births and the risk that the country may not attain its MDG goal 5. The Maternal Mortality Ratio (MMR) in 2015 is projected to reach 340 per 100,000 live births as against an MDG target of 185 (Ministry of Health 2010).

Although the health system has been evaluated and graded as highly performing (Ministry of Health 2009), it is faced with issues of inequitable access, weak stewardship and coordination, inadequate access to quality maternal and child health services, a double disease burden and weak management of clinical services (Ministry of Health 2010).

Government has therefore formulated a medium term health strategy, spanning 2011-2013 to accelerate progress towards the MDGs by addressing inequalities, governance and efficiency of the system, improving access to quality health services for mothers and children, improving prevention and control of communicable and non-communicable diseases, as well as improving institutional care (Ministry of Health 2010). Government is also addressing institutional reforms to improve accountability and regulation of the sector.

The district with less good HII outputs, Hohoe municipal, is located in the Volta region of Ghana, with projected population of 181,297 inhabitants, and surface area of 1,172 km². It is linked to the rest of the country through access roads and telecommunication networks, including mobile telephones and the internet. Most residents are Ghanaians by birth and Ewes, Guans and Akans by ethnicity (Ghana Statistical Service 2005). The population is 77% rural, with literacy rate at 78.9%. Total Fertility Rate (TFR) and household size are 3.7 and 4.4 respectively. Agriculture is the predominant occupation while the private sector is the largest employer. Over 60% of the population lives within a 5-kilometre radius from a clinic. The GHS is the major supplier of health care; the private sector being underdeveloped. Services are supplied from a network of 35 first line facilities, supported by the district hospital. Of the 487 staff of GHS in the district by close of 2009, half (50.3%) were located in the district hospital. The hospital has facilities for ambulant and hospitalised services, including specialised diagnostic and therapeutic services. There is in place a local health

management team officially employed, with official premises, under the direction of a District Director of Health Services and mandated to oversee the provision of local health services.

Akwapim North, the district with better HII outcomes, has a projected population of 118,717 and is located in the Eastern region. There is a good access road linking the district to both the national and regional capitals, with presence of communication network. The surface area is 610 km² (Ghana Statistical Service 2005). Most residents are Ghanaians by birth, and Akans, Guans and Ewes by ethnicity. Of the population, 69.6% is rural with literacy rate being 67.6%. TFR is 3.6 and the household size 4.4. Most of the economically active population are involved in agriculture. The private informal sector is the largest, employing 78% of the economically active. Almost half of the population live within 5 kilometres of a clinic. The GHS is the single largest provider of health services. There are 25 health facilities offering first line health services, including the district hospital and three small private maternity homes. The district hospital also has facilities for ambulant and hospitalised services, covering diagnostic and therapeutic services. GHS staff workforce is 355, with 60% located in the district hospital. There is a local health system team, the District Health Management Team in place whose members are official employees of the GHS. They operate from an official building put up for the team. They exercise oversight over all health matters in the district.

RESULTS - TEST OF SYSTEM THEORIES

At the **national or macro level**, we looked for evidence of balancing between vertical programmes and general health services as a condition for optimum¹¹ implementation of HII. It was noted that while Ghana has a policy for streamlining and optimising the interface between vertical specialised programmes and general health services, policy intentions are not supported by flexible operating fund arrangements at district level where implementation leadership resides.

¹¹ The optimum implementation of HII is not merely determined by the output indicators of the interventions in terms of coverage. It equally includes sustainability of the interventions, the scope for scaling up the interventions and not in the least the ability to strengthen the health system or at least not to weaken or disrupt it.

At the **meso or district level**, we looked for evidence of integrated and systemic management which is vital for satisfactory implementation of the HII. Critical factors present at district level for achieving good results, as could be deduced from findings from the “better” district, appear to be related to the ability of district teams to achieve systemic and integrated management through effective leadership, cooperation of key actors in the local health system, re-prioritization of available resources and sharing of information on the performance of the system. The major bottlenecks identified, as per the findings from the “weaker” district, are the lack of a common vision of the system, excessive earmarking of resources to district teams, low levels of cooperation among actors, and a lack of system for coordinating and sharing information.

At the level of the **peripheral health facilities**, *i.e.* the **micro-level**, we sought evidence to support the existence of a dynamic planning of local health care provision which respects the felt needs of the people, their values and promotes their own competences. In both districts we found that generally there is a poor involvement of communities in the planning and management of local health services. We observed through our interviews and interactions that there is a change in the motivation of health “volunteers” for their participation in health programmes from purely voluntary or unpaid assistance to one that is requiring payment for services rendered. The lack of recognition of this change can be detrimental to the health system in a situation of inadequate funding. We also observed the lack of appreciation and use of the body of lay knowledge existing in communities as an important resource for achieving desired outcomes.

RESULTS - TEST OF INTERVENTION THEORIES

Preventive Care Bundle

The specific findings for the high impact interventions from the preventive care bundle are as follows:

- Relative scarcity of **Insecticide Treated Bed nets (ITN)** has undermined the implementation of this intervention. Adequate information provision at the point of receiving ITNs is likely to

promote correct use and maintenance and contribute to behaviour change and effective utilisation.

- **Family Planning (FP)** services also face significant bottlenecks which include over-reliance by eligible persons on non-professional advice, poor integration into curative care, inadequate linkages between the service and community level providers who can promote family planning, lack of innovative communication strategy to overcome misconceptions and build trust between providers and clients, and inadequate handling of client complaints and device shortages.
- **Antenatal care (ANC)**, for iron supplementation and anti-tetanus vaccination, has been well promoted and widely accepted -it is available on continuous basis at virtually no direct costs to pregnant woman, and staffs receive supervision and training. Bottlenecks include poor geographical access, equipment challenges, disproportionate amounts of time spent by midwives on recording during encounters, and limited space for dialogue and negotiation of care.
- **Immunisation** is well established and works relatively well because it is integrated into curative care, attracts good work planning and communication, and outreach clinics are well executed. Decentralised service delivery by polyvalent staff, good supply systems, regular supervision and staff training also appear to be positive contributory factors. In one district, availability of funding from the district team, supplemented by internally generated funds at health centre level for fuel and transport costs, is a key success factor in attaining the better coverage achieved there. Supply side bottlenecks, including irregular and inadequate provision of funds to meet transport costs and inability to reach remote locations contribute to lower coverage in the other district. On the demand side, some mothers fail for economic reasons to planned outreaches.
- In one district where **Prevention of Mother to Child Transmission (PMTCT)** of HIV works better, we identified the success factors as the very decentralised offer with linkages to the hospital, constant availability, high level of acceptance of the test, regular supply of test kits and Anti-Retrovirals (ARV), presence of multi-disciplinary Anti-Retroviral Therapy (ART) teams, regular supervision and training. In the other district, the service has not been well decentralised

because too few health centre level providers have been trained, limiting access. Coupled with this is the problem of irregular supplies of test kits and ARVs.

- For **Intermittent Preventive Treatment (IPT)** against malaria, using Sulphadoxine-Pyrimethamine (SP), integration into ANC, continuous offer, information provision and sustainable supply are key success factors. Inadequate education, stock outs and poor geographical access are the main bottlenecks.

In conclusion, we could say that good communication, a constant availability of commodities, and a decentralised accessibility to the interventions are key factors for a successful implementation of interventions from the preventive care bundle.

Delivery Care Bundle

The delivery care bundle investigates the implementation of high impact interventions that ensure proper management and care of pregnant women during childbirth, and of new-born babies. The flow and the continuity of this care process were also probed into. The findings were as follows:

- Factors enhancing **normal deliveries** assisted by health professionals include decentralisation whereby Community Health Officers (CHO) in CHPS zones complement the services of midwives, presence of trained midwives at health centre level, permanence of services, and training opportunity for health centre midwives in the district hospital. Supply side bottlenecks include lack of midwives, poor staff attitudes including alleged collection of unauthorised items from mothers by staff, supply system deficits and lack of waiting homes. On the demand side, lack of organised transport coupled with high charges, and poor recognition of labour in early stages, and low perception of need for emergency care have been identified.
- **Management of neonatal infections** suffers probably from “relative invisibility” of the condition; demand side obstacles are high transport costs, delayed response, poor perception of need for emergency care and poor geographical access. On the supply side is inadequate training of providers in Integrated Management of

Neonatal and Childhood Illnesses (IMNCI) and inadequate supervision to ensure actual use of the guidelines.

- Success factors for **Basic Emergency Obstetric Care** (BEOC) include its constant offer, early detection by families and speedy response, availability of infrastructure, flow charts, and equipment set, and readiness of midwives to intermediate referral transportation and to accompany patients. Supervision and training are also important. Supply side bottlenecks include lack of emergency readiness at health centre level, fear to utilise skills acquired, and non-deployment of critical lifesaving equipment and stock outs. Demand side bottlenecks include poor geographical access, lack of organised transport system, high transport charges and delayed response to certain complications.
- Key success factors identified for **Comprehensive Emergency Obstetric Care** (CEOC) at first referral level include permanent offer of the service, early recognition of signs of difficult delivery by Traditional Birth Attendants (TBA), referral and communication between health centres and hospital, initiative of midwives to arrange transport support, the presence of skilled doctors and other skilled health staff, and availability of basic inputs, including safe blood. Supply side bottlenecks include equipment breakdown and lack of adequate blood supply. Demand side bottlenecks include poor geographical access, lack of organised transport at community level and high transport charges.

Specific conclusions regarding the implementation of interventions belonging to the delivery care bundle seem to point to the importance of a decentralised and permanent offer of the interventions, the presence of skilled health workers, support by TBAs, the constant availability of reliable and affordable transportation for pregnant women to reach the appropriate health institutions in a timely manner, and the ability of health workers to detect cases of neonatal infections early.

Curative Care Bundle

This bundle covers (1) Oral Rehydration Therapy (ORT) at community level, (2) community based treatment with Artemisinin Combination Therapy (ACT), (3) encouragement to feed and offer more fluids, including breast

milk to children when they are sick, (4) antibiotics for pneumonia and dysentery at Primary Health Care (PHC) level, (5) Vitamin A treatment for measles at PHC level, (6) Zinc for diarrhoea management at PHC level, and (7) ACT at PHC level including at community

- A key and potentially facilitating factor in the CHPS zone for the implementation of **community based care with ORS and ACTs** is the presence of a trained health worker who can supervise and support the work of health volunteers. The offer of these interventions by the CHOs themselves on a versatile platform is also a potential success factor as well as the willingness of the CHOs to accept effective lay knowledge. On the supply side, bottlenecks noted include stock outs of Oral Rehydration Salts (ORS) in the CHPS zones, inequitable follow up of under-fives treated by CHOs, slow expansion of CHPS and incentives for sale of anti-malaria monotherapies by licensed chemical sellers (LCS). There are deficiencies in supervision and training. For ACTs, demand side bottlenecks include its high costs and low level of knowledge on need to use only combination therapies.
- On the **feeding recommendation**, key success factors to succeed are the decentralised delivery, openness of providers and their promotion of existing lay knowledge in this area. Supply side bottlenecks include poor awareness of health workers about this intervention as a high impact one, delivery by highly technical health workers, insufficient communication or passing of potentially harmful messages and intimidation of caretakers. Demand side bottlenecks include lack of feeling of empowerment to engage health workers. Demand-supply interaction bottlenecks include the constrained space for genuine dialogue to find common solutions to a particular situation.
- For the use of **antibiotics for pneumonia and dysentery**, and **ACTs** at PHC level, key success factors include the permanence and the continuity of the offer, decentralised offer, integration with other curative interventions, availability of supplies and presence of standard dosing regimen for ACTs. Supply side bottlenecks include non-adherence to policy guidelines for dysentery management,

inadequate awareness of need to dialogue and negotiate care to achieve mutually agreed care outcomes, failure to consistently link ACT treatment with need for ITNs, and inadequate training and supervision. Demand side bottlenecks include poor geographic access, and inadequate response to referral.

- Interventions **Vitamin A for measles** and **Zinc for diarrhoea** management at PHC level have not been tested due to substantial reduction in measles cases and non-implementation of zinc use for diarrhoea cases at the time of the fieldwork respectively.

Specific conclusions regarding interventions implemented and tested within the curative care bundle indicate the importance of a decentralised and permanent offer with continuity of care, the presence of skilled health workers, reliable supply of affordable medicines, adequate training of health workers on the interventions, supervision and dialogue during service delivery. The conclusions also point to the fact that, for diarrhoeal diseases which are still prevalent, the anticipated impact of zinc can be realised only when the intervention is implemented.

Non High Impact Interventions

This covers the interventions for traumatology (broken leg) and chronic disease (hypertension).

- The intervention for **broken leg** has no clear guidelines for its implementation in the two districts. Some patients find their way to the health centre, others to the hospital, and a considerable number are treated by bonesetters. The district hospital is able to handle less complicated cases. Health centres lack the facilities to stabilise fractures before referring. The type and levels of care appropriate for fractures management do not appear to be defined. There is lack of a system to make the care accessible, affordable and safe. There is no linkage between the formal health system and the bonesetters, reflecting a lack of interest in this body of knowledge within the community. It also represents a missed opportunity to organise care, utilising all resources available, for all those who in need and ensure its safety.

- **Hypertension** (a chronic disease recognised nationally) has guidelines for managing it but these are not focussed on the health system. They are focussed on individual clinical treatment. The district hospital has facilities and drugs to handle this disease. There are no community and outreach - based programmes in place. Furthermore, there are no guidelines for rationalising the care offered at various levels of the health care system. There are no efforts to find cases, and those who know their conditions have to find their own way in the health care system and manage their own counter-referral. In the care for hypertension, we found that the space for communication about the condition is constrained by perceptions of poor staff attitude and heavy workload of doctors in the hospitals.

We found a geriatric care programme for chronic diseases in Akwapim North, which is a model, local, collaborative initiative of the district team and the Presbyterian Church of Akropong, with the potential to impact positively on the health of the elderly.

Specific conclusions regarding the implementation of interventions belonging to the non-high impact interventions bundle reflect the importance of a strong health system with an organised care system for trauma and chronic conditions, involving communities and including adequate patient education, adequate facilities, and emergency transport, when needed.

Ghana-Specific Interventions

The Ghana-specific interventions include (1) first line ART for pregnant women and children with AIDS, (2) appropriate referral during emergency, and (3) provision of transport arrangements for referrals.

- First line ART for pregnant women and children with AIDS, as a relatively new intervention, has been generally well implemented with highly dedicated teams. Key success factors include the availability of infrastructure, equipment, committed multidisciplinary human resource, presence of training opportunities and supervision. Supply side bottlenecks include the

relative centralisation of recruitment of affected pregnant women and children, centralisation of ARV prescription re-fills, and inadequate supply of ARVs and cotrimoxazole, non-availability of low dose capsule formulation of stavudine for heavier children and lack of funding for follow-ups of patients. Demand side bottlenecks include poor geographical access and poor compliance.

- Appropriate referral during emergency as an intervention is not working optimally. Key success factors include the permanence of the service, indications of fast community response to some perceived emergency situations, decentralisation to community level, use of prior communication and accompanying referrals, and delivery by versatile staff. Supply side bottlenecks include non-involvement of community volunteers, non-exploration of the contributions of lay knowledge, and poor and insulting staff attitudes, unwillingness to negotiate care and lack of training and supervision. Demand side bottlenecks include delayed recognition, delayed response, poor geographical access, lack of support by the male partners, competing role of prayer camps, and financial barriers.
- The intervention to provide transport arrangements for referrals brought to light some significant personal initiatives on the part of midwives, especially those in Akwapim North. We found two positive models of community action in this area. At the sub district and community levels, the impact of the National Ambulance Service has been minimal. A key potential success factor identified is the evidence of community mobilisation of transport with its potential to achieve a substantial change in the affordability of such a service. The main bottlenecks are the relative “invisibility” of the National Ambulance Service, the high costs charged by private transporters, scarcity of community based mobilisation in this effort, and the non-involvement of local transport unions.

Specific conclusions regarding the implementation of interventions belonging to the Ghana-specific bundle point to the importance of a decentralised offer of ARV services and reliable supply system for test kits and appropriately formulated medicines; the importance of decentralised offer of emergency referrals at community levels, including use of lay skills

and adequate communication, and that of the availability of accessible, timely, affordable transportation for referrals.

CONCLUSIONS AND RECOMMENDATIONS

We found inspiration in a theory-driven approach to study the implementation of high impact and non-high impact interventions in two districts in Ghana. This has allowed us to re-formulate some of our a priori theories to reflect our best understanding of how these interventions are offered. We offer below three sets of recommendations based on the above findings: (1) Recommendations for stronger national and district health systems, (2) HII cross-cutting recommendations, and (3) Recommendations related to specific HII and non HII.

Recommendations for Stronger National and District Health Systems

1. The Ministry of Health takes keen interest in the nature of *funding arriving at the district level*, with a view to foster systemic and integrated management at this level and ensure that the application of existing guidelines on financial management continue to favour system strengthening initiatives in programme design, implementation and evaluation. The implementation capacity of all district leaders as they manage available resources needs to be enhanced for policy purposes for achieving a stronger health system with effective and efficient governance. A monitoring system needs to be in place to enhance compliance and assure the Ministry in this regard.
2. The Ministry and the Ghana Health Service take all necessary steps to *ensure district team leadership* of the planning process within districts so as to achieve coherence and system wide perspectives on planning. The national annual health planning process is therefore recommended to be made district-based, rather than Budget and Management Centre-based, for all health delivery facilities within the District Health System. A model of this recommendation has already been used by the Ghana Health Service during the planning process for the High Impact Rapid Delivery interventions for districts in Ghana. This brought the sub district, hospital, district team and the district assembly together to develop a common plan and budget. Annual health planning in this

manner at district level offers the opportunity for a more participatory process in which civil society and communities can participate. Inputs from health facilities, communities, and other stakeholders then feed into district based plans and budget to be captured eventually by the Ministry.

3. The Ministry and the Ghana Health Service leadership *provide strong incentives*, for the leaders in the district health system to synergise their efforts and health system resources under their control towards mutually agreed health system strengthening priorities. For example, such incentives may take the form of common MDG4, 5 and 6 -related planning and implementation platforms, and recognition for district team leadership and achievement.

HII cross-cutting recommendations

4. *Communication*: It is recommended that resources dedicated for communication under various programme interventions existing be used for sustained multi-channel communication and promotional activities to create demand. Staff training in communication skills is necessary for successful offer of interventions and needs to give more attention.
5. *Supply of essential public health commodities*: Public health commodities are critical to satisfactory implementation of many high impact interventions. Sustainable supply chains with adequate financing mechanisms and logistics management are critical. We recommend therefore, that the Ministry of Health defines a rational, efficient, sustainable and integrated supply system for ITNs, FP commodities and subsidized SP and other such public health commodities. A supply system which captures total needs and aggregates orders from health volunteers within communities through CHOs in CHPS zones, through the health centres to the district may prove to be more effective and efficient.
6. *Staff attitude*: The issues of poor staff attitude associated with delivery of proven cost-effective interventions intended to achieve time bound goal-driven targets require serious and innovative strategies to address them. It is recommended that innovative approaches like Performance-Based Financing (currently being piloted in the Eastern and Northern regions), support for communities and civil society groups to give public

recognition to friendly and patient-centred and capable health workers at community level be explored by the Ministry and its stakeholders. Professional counselling services to support staff under stress may be introduced or scaled up to help restore staff morale. Similarly, existing disciplinary codes need to be rigorously enforced.

7. *Decentralisation*: We recommend that interventions like PMTCT and ARVs for pregnant women and children be decentralised to the level of CHPS zones and health centres to improve access to services and reduce transportation costs for patients on HAART who need to fill in their prescriptions.
8. There is a lot of *potential in health volunteers*, developed over the years, to contribute to the achievement of health goals. Currently, volunteers are used in a fragmented manner and the health system has no responsibility towards them. We recommend a paradigm shift in the way the work of volunteers is organised. We recommend that a standardised norm of training be defined for such cadres to undergo before their deployment. This is foreseen to harmonise and integrate volunteer-related activities from different vertical programmes and interventions into a standardised package of training to equip all volunteers with more or less the same skills set to perform the same task, unless local epidemiology requires otherwise. These functions of these volunteers should cover all communities. We recommend reasonable monthly allowances closely related to the daily minimum wage, funded by district assemblies and possibly vertical programmes, to be paid to the “volunteers” to motivate them. The “volunteers” then become some sort of “professionals”.
9. Closely related to the above recommendation is the *need to expand CHPS* as the vehicle for mobilising and supervising volunteers. Investment in CHPS by vertical programmes may prove to be a strategic investment. Placement of trained health workers at the community level within the context of CHPS promises to assure the provision of quality services within the community. Re-oriented health volunteers will be involved in scheduling and giving out ITN at household level, short term family planning methods, encouraging caretakers to more fluids to children when they are sick, community based treatment with ACT, ORS and acute respiratory infections (ARI), provision of emergency referrals, community level surveillance, and community drug distribution, among others.

Recommendations related to specific HII and non HII

10. *Antenatal Care and Skilled attendance at delivery*: Midwives need to be encouraged to engage couples meaningfully in birth preparedness planning. It appears the current levels of documentation required of midwives will need to be rationalised to enable midwives to have more time to deliver focused antenatal care satisfactorily. We urge more action to improve skilled attendance at deliveries and reduce maternal deaths by training and deploying more midwives. Traditional birth attendants need to be given incentives to support skilled attendance at birth in health centres where basic emergency obstetric care is available .
11. *Provision of transport arrangements during emergency*: We recommend for district authorities to mobilise transport owners as part of community ambulance system to support emergency referrals especially of obstetric and childhood emergencies. A rapid implementation of this proven strategy can do a lot for reducing maternal deaths.
12. *Encouragement to feed and offer more fluids, including breast milk to children when they are sick*: We recommend for health workers to be re-oriented to deliver the encouragement to feed sick children as part of preventive and curative child care. Health worker awareness on infant and young child feeding practices should be improved.
13. *Management of Neonatal Infection*: We recommend more awareness creation among health workers on the possible presentations of neonatal infections to improve case detection and early treatment.
14. *Zinc for diarrhoea management at PHC level*: The intervention needs to be implemented at all PHC settings as soon as possible to enhance diarrhoea outcomes.
15. *Non-High Impact Interventions*: We recommend the strengthening of the health care delivery system at community, health centre and district hospital levels to address and offer optimal care for chronic diseases, trauma, and other interventions not specified as high impact. There is need for clearly defined care system for what to do at each level. The Standard Treatment Guidelines need to incorporate a health system perspective on the management of these conditions.

7.3 Résumé Exécutif - Burkina Faso

par Dr Seni Kouanda et équipe, Institut de Recherche en Sciences de la Santé

L'atteinte des Objectifs du Millénaire demeure un grand défi pour de nombreux pays Africains. Les tendances actuelles laissent penser que l'OMD 4 pourrait ne pas être atteint en 2015, malgré les progrès accomplis dans la réduction de la mortalité des enfants de moins de 5 ans. La situation globale en santé maternelle et infantile reste inquiétante et de nombreuses mères et enfants souffrent et meurent encore de maladies évitables et curables. Les « Interventions à Haut Impact » (IHI), sont des interventions qui ont prouvé leur efficacité pour la réduction de la mortalité, la morbidité et la malnutrition chez les mères et les enfants. Néanmoins, la couverture effective de ces interventions reste faible, ce qui constitue un important problème pour l'atteinte des Objectifs du Millénaire liés à la santé. L'expansion de ces interventions nécessite que les goulots d'étranglement et obstacles, tant du côté de l'offre que du côté de la demande de soins, soient identifiés et surmontés.

Pour contribuer à résoudre ce problème, le bureau UNICEF pour la Région d'Afrique de l'Ouest et Centrale a, en sa qualité de facilitateur de la Communauté de Pratique de l'Initiative Harmonisation pour la Santé en Afrique sur l'Offre de Services a chargé l'Institut de Médecine Tropicale (IMT) d'Anvers en Belgique de procéder à une analyse systématique de l'offre de services en interventions à haut impact pour réduire la mortalité maternelle et infantile. Pour mener à bien cette étude, l'IMT collabore avec des institutions de recherche des 4 pays sélectionnés, engagées par l'Organisation Ouest Africaine de la Santé; et avec l'appui technique de l'Equipe d'appui Inter Pays de l'Organisation Mondiale de Santé pour l'Afrique de l'Ouest.

Objectif

L'objectif global de l'étude est de mieux comprendre les caractéristiques organisationnelles de l'offre de services de soins de santé primaires efficaces et efficaces, y compris l'identification et l'analyse:

- des variables contextuelles qui sont des causes sous-jacentes et des facteurs de succès des prestations de services,

- les principaux goulots d'étranglement au niveau du système de santé qui agissent sur les prestations et sur les possibilités d'expansion des interventions à impact élevé nécessaires à l'atteinte des OMD liés à la santé (1,4,5,6,7).

Conception et méthodologie

L'étude est basée sur des observations et des analyses menées dans quatre pays représentatifs du RAOC aux contextes différents, à savoir le Burkina Faso, le Ghana, la Guinée-Bissau et la Guinée Conakry.

Au niveau du Burkina Faso, cette étude a été réalisée dans deux districts sanitaires (Zorgho et Yako) dont l'un était considéré comme performant selon des critères bien définis, et l'autre moins performant. Ces deux districts, situés chacun à environ 100 km de Ouagadougou, la capitale du pays possèdent chacun un centre médical avec antenne chirurgicale (hôpital général de district) et ont approximativement le même nombre de centres de santé et de promotion sociale (CSPS). Ils sont tous deux situés dans la même aire linguistique et socio culturelle.

Nous avons procédé à une analyse des données de routine, des rapports d'activités et d'études. Nous avons aussi collecté des données primaires via des entrevues avec des informateurs clés que sont les responsables au niveau central (directeur général de la santé, directeur de la santé de la famille, directeur des études et de la planification), au niveau régional (directeurs régionaux de la santé), et du district sanitaire (médecins chef du district, responsable des statistiques sanitaires, médecins, pharmaciens, infirmiers chef de poste) ainsi que les leaders communautaires (responsables des comités de gestion, chefs de villages, notables, agents de santé communautaires). Nous avons aussi procédé à des groupes de discussion au niveau des formations sanitaires avec les mères d'enfants de moins de 5 ans, les femmes enceintes. Enfin, nous avons réalisé des observations non participantes dans les formations sanitaires visitées.

Résultats

Au niveau des deux districts, on observe une différence de fonctionnement des formations sanitaires de premier niveau à l'intérieur d'un même district (hétérogénéité intra district). Cependant, il y a globalement, une homogénéité de fonctionnement des CSPS entre les deux districts. La différence majeure entre les deux districts est liée au fonctionnement de

l'équipe cadre de district et du Centre médical avec antenne chirurgicale qui est la structure de référence au niveau du district. Dans l'un des districts, il existe une meilleure organisation de l'équipe médicale permettant de prendre en charge les urgences médicales et chirurgicales et d'assurer les consultations médicales quotidiennement tandis que dans le second district, les urgences sont souvent assurées par le personnel infirmier car tous les médecins ne sont pas disponibles régulièrement. L'équipe cadre de l'un des districts fonctionne en équipe, est dynamique, et chacun essaie de jouer son rôle. Cela semble le contraire dans le second district.

Sur le plan de l'offre des services préventifs, la distribution des moustiquaires imprégnées d'insecticides est effective au niveau des deux districts et des mécanismes communautaires ont été mis en œuvre pour contrôler leur utilisation par les populations. Cependant, les populations ignorent le processus de renouvellement de ces moustiquaires. Quant aux méthodes contraceptives, elles sont elles aussi disponibles au niveau des formations sanitaires des deux districts. Les contraceptifs oraux, injectables, le condom masculin et féminin et le collier existent au CSPS. En plus de ces méthodes, les implants et le dispositif intra-utérin sont disponibles au Centre médical avec antenne chirurgicale et dans quelques CSPS qui disposent de sages-femmes/Maïeuticien d'état. Mais l'offre est faite sur demande des femmes et de fait la prévalence contraceptive est faible dans les deux districts, aidés par les pesanteurs socio culturelles.

Les consultations prénatales comme les accouchements souffrent du manque de disponibilité des agents de santé comme les sages-femmes d'Etat au niveau des formations sanitaires périphériques dans les districts sanitaires pour assurer des services de qualité. En effet, ce personnel ne figure pas encore dans les normes en personnel des CSPS ruraux. Bien que la consultation prénatale soit disponible intégrée et gratuite, l'insuffisance de la subvention de l'Etat entraîne la rupture des intrants tels que les carnets consultation prénatale, le fer et l'acide folique. Les entretiens avec les femmes enceintes et les mères des moins de 5 ans ont montré que les femmes ne perçoivent pas bien les avantages de la CPN et l'intérêt de faire 4 CPN.

L'absence de sages femmes en périphérie fait que toutes les fonctions « Soins Obstétricaux et néonataux d'urgence » ne peuvent pas être offertes notamment l'accouchement assisté instrumentalisé et la réanimation

néonatale (se référer au rapport de l'étude sur les besoins en SONU couplée à la cartographie des services SR, non encore publié).

L'accessibilité géographique surtout en période hivernale rend très difficile le transport des femmes en travail vers les services de santé.

La césarienne est effectuée dans les centres médicaux avec antenne chirurgicale des deux districts. Les insuffisances du laboratoire d'un Centre médical avec antenne chirurgicale entravent la transfusion sanguine, réalisée par dons familiaux. Les problèmes électriques de ce CMA particulièrement du bloc opératoire n'ont pas permis un fonctionnement continu du bloc.

La prévention de la transmission mère-enfant du VIH, quant à elle est intégrée à la Consultation prénatale. Elle est effective, décentralisée dans les CSPS, selon un programme hebdomadaire (en moyenne 2 fois par semaine). Néanmoins, quelques formations sanitaires ne la réalisent pas par insuffisance de formation du personnel.

Le dosage de CD4 est effectué dans l'un des districts ; par contre, dans l'autre, les pannes de l'équipement de laboratoire sont fréquentes. La PCR n'est pas effectuée dans les districts sanitaires. On note une rupture en intrants (réactifs, substituts de lait).

Le Programme Elargi de Vaccination est offert, intégré aux activités du CSPS avec un programme hebdomadaire en stratégie fixe surtout pour la BCG et vaccine anti-rougeole. Dans les districts étudiés, la vaccination en stratégie avancée est mensuelle avec un accent dans la plupart des CSPS sur la recherche des perdus de vue et les zones d'accessibilité difficile. Il y a même une pléthore (de campagnes de vaccinations qui conduisent à la non disponibilité des agents de santé dans les formations sanitaires au niveau des deux districts.

Les soins de réhydratation orale au niveau de la communauté ne sont disponibles en communauté que dans l'un des districts sanitaires. L'encouragement des mères à nourrir les enfants malades (allaitement maternel) ne semble pas effectif. Par contre la pratique communautaire d'allaitement maternel même des enfants malades existe.

La prise en charge communautaire du paludisme par la thérapie combinée d'artémisine est assurée dans le cadre de la Prise en charge à domicile des cas de paludisme simple (PECADO) à l'échelle nationale. Mais le recrutement des agents de santé communautaires et leur supervision se fait en dehors des services de santé par des organisations non-gouvernementales locales.

Le traitement antibiotique des infections respiratoires aiguës et de la dysenterie est effectué selon les algorithmes du guide de diagnostic et de traitement. Les antibiotiques sont disponibles et sont sur la liste des médicaments essentiels au niveau CSPS. Le traitement adjuvant de la rougeole par la vitamine A est effectué. Le zinc n'est pas disponible dans les formations sanitaires à l'échelle nationale pour la prise en charge. Les combinaisons thérapeutiques à base d'artémisine sont disponibles au CSPS.

Les autres services comme la traumatologie ne sont pas disponibles au niveau des districts sanitaires. Un des districts enquêté a développé un système pilote de prise en charge des cas d'hypertension au niveau des CSPS et des Centres médicaux avec antenne chirurgicale.

En conclusion, l'offre de services existe pour les interventions à haut impact dans les deux districts ; cependant elle n'est pas permanente, continue et globale surtout dans le district de moindre performance. S'y ajoute la faible qualité des prestations fournies par du personnel de santé peu qualifié en périphérie. Ces résultats poussent à recommander une répartition des ressources humaines en santé de qualité plus équitable à l'intérieur de chaque district, une meilleure accessibilité des infrastructures sanitaires, une disponibilité plus grande des agents de santé dans leurs formations sanitaires.

7.4 Executive Summary - Guinea-Bissau

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The HHA study "Community of Practice on the Services Delivery Study on High Impact Interventions" is a joint initiative of UNICEF, WAHO, and the Ministries of health in four countries of West Africa (Ghana, Burkina Faso, Guinea, and Guinea-Bissau). The study aims at analysing the factors that facilitate and impede the proper operation of high impact interventions (HII) in these selected countries, and to propose relevant recommendations that may contribute to greater effectiveness in the implementation of HII. The study was commissioned to the Institute of Tropical Medicine in Antwerp, Belgium (ITM). The ITM, in turn, collaborated with research teams in each country study. In the case of Guinea-Bissau, the *Instituto Nacional de Estudos e Pesquisa*-INEP (National Institute for Studies and Research) executed the study.

The implementation of the study began with the organization of a workshop on methodology during three days in October 2010, in Ouagadougou, Burkina Faso. At the seminar participated the four country research teams, representatives of the UNICEF West and Central Africa Regional Office (WCARO), the West African Health Organization (WAHO), and ITM research team, the latter acting as responsible for framing the study. The Guinea-Bissau's team was composed of three members: one from INEP, a representative of the Ministry of Health, and a representative of the UNICEF Country Office. At the Ouagadougou workshop various aspects related to the study were presented (rationale, objectives, methodology, among others) and it was also an opportunity for the national teams to meet, exchange, and discuss on the operational status of the HII. Moreover, the survey teams from the four participating countries, with technical support from the ITM, started the development of research tools, which was later continued in each country. Back to Guinea-Bissau, the research team leader (from INEP) constituted the national research team composed of two other participants from INEP and one from INASA/Ministry of Health.

The study was conducted in two of the nine administrative regions of Guinea-Bissau: *Cacheu* in the North and *Bafatá* in the East. The selection of

these two regions followed previously established criteria for all participating countries. The fieldwork was anticipated for a number of other activities that could facilitate its operationalization. Contacts were initiated with authorities of various institutions at the central level (Bissau): the Ministry of Health, UNICEF and WHO country officers, and officials the Centre for Reproductive Health Services. The purpose of these meetings was to inform about the study and ask for their support when necessary. A second round of contacts took place, involving regional health authorities to inform about the study and its rationale, and seek their agreement and collaboration. All details of the agenda were agreed upon in advance with the national teams and regional health authorities, what created the necessary conditions for a good development of the study and facilitated data collection in the field. The study was conducted in two regions (equivalent to the district in the other country studies) covering the Regional Health Direction, the Regional Hospital (HR), 3 Health Centres (CS) and 3 Community Health Units (CHU) in each region. For data collection, documentary analysis, individual and group interviews, observation, and inspection were used. Interview guides were prepared for each category of persons/group to be interviewed, as well as guides for observation and inspection (as for pharmacies, for instance). In the region of *Cacheu* a total of 56 persons were interviewed, and in *Bafatá* region, a total of 48. The group interviews were always conducted by two researchers, one responsible for guiding and animating the session and another for audio-recording and note-taking. The use of digital voice recorder and digital photo camera received informed consent. Recorded material were transcribed and analysed. Notes taken by the researchers were summarised and contributed to the analysis.

Overall results and conclusions

The National Health System of Guinea-Bissau suffers from chronic structural problems that do not fail to adversely affect the functioning of all other sectors of national life. Most of these problems originates from the weakness of governance at the central (macro) level and eventually contaminates the meso and micro levels. The constraints faced by the health system are less motivated by lack of consistent policy and strategic documents than to the inability of the sector in putting them into practice. Weaknesses in the National Health System are in various areas, particularly in stewardship, coordination, human resources, infrastructure, provision of materials,

equipment and medicines, monitoring and evaluation, and effective participation of communities in the process of providing health services.

The confrontation between the conditions initially hypothesized as necessary for each HII to function, with the field dataset collected shows that the majority of the needed requirements for each HII are not met, meaning that the responsiveness of different services delivery platforms are far from acceptable.

Health systems lack proper financing. The total State expenditure on health is 6.1% of GDP and 4% of national budget is allocated for the health sector. Daily activities are supported by local revenues and external funding; the Guinean State practically guarantees the payment of salaries.

Despite many attempts, programming, monitoring and evaluation have never been materialized in practice. Weak leadership, very long delays in adopting programmes (as the National Programme for Health Development elaborated in 2008 and not adopted until today), and various programs running vertically and independently are some of the difficulties found by this study.

Shortage of human resources, mainly its distribution, are serious bottlenecks, with over half of human resources for health concentrated in the capital. Specialists are very few. All categories of human resources suffer from low wages, regularly delayed, and from insufficient/absence of additional financial incentives. A positive aspect observed is the comprehensive training of most technical agents (nurses, midwives, ...) enabling them, thereby, to be multitask at their work place.

Community participation in health care is based on the Bamako Initiative principles and at present do not function. The Community health units visited were empty, without basic material and equipment and with no medicines. Community health workers explain that the population is poor and the community management committees in place lack credibility due to misuse of people's funds. CHWs are unmotivated, complaining of lack of incentives by the state and by the population. Notwithstanding this general feeling, they still appreciate their work. A reform is under way in order to change the mode of functioning of CHWs and introduce financial incentives (free care for their family members, incentives for helping in immunization outreach/campaigns, etc.). The bulk of this reform is to redirect the focus from the Community health units towards the families. The research team, however, feels that this reform takes insufficient account

on how to revitalize the participation of people in health services and activities.

Lessons learned

The lessons learned can be divided into two large blocks. On the one hand, the exchanges and interactions with the research teams from other countries, particularly with the researchers from the ITM with the introduction to realistic evaluation, methodology with which the INEP team had had no exposure before. On the other hand, the INEP team brought to the other countries teams and to ITM, their experience and expertise from the field of social sciences, in particular with the introduction of the “*djumbai*”, a method of free group interview developed by INEP, based on traditional sociocultural practices.

From the field, lessons were no less fruitful. Perhaps the biggest lesson learned during the study was the identification and analysis of gaps existing between the different types of services theoretically foreseen for each category of health structure and their actual capacity of response. Most services do not have the minimum requirements to fulfil the tasks entrusted to them in accordance to their technical category of infrastructure (e.g. health centres type A, unable to do surgeries for lack of surgeon, lack of equipment and materials, lack of medicines and blood, lack of electricity, lack of running water, ...).

Another striking lesson is the observation of the efforts made by health technicians placed inside country, sometimes remote areas, to save lives, what reflects their professionalism in spite of very hard working environment. Moreover, in many situations, foreign technical assistance teams work out of control and coordination of the Regional health directorates, disrupting the provision of services of the regional hospitals. Yet another finding is the total lack of supervision and monitoring of community health services by regional health authorities.

Finally, with this study, the research team reinforced its conviction on the necessity of strengthening institutional interrelations (health, education, finances, etc.) if effectiveness and efficiency of a health system are to be achieved. The social status of users (poverty), and aspects of customs and traditions continue to constrain the access to health.

Appendix 8 : Context description

Available at : www.itg.be/itg/dl/appendix-8.xlsx

Appendix 9 : Most frequently cited bottlenecks and facilitating factors per delivery platform

Community based / family oriented services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate supplies, equipment & infrastructure (2/7) <i>main factors: unavailability (1/2)</i> <i>irregular supplies (1/2)</i></p> <p>Significant: <i>Verticalisation of community services (1/7)</i></p>	
Population based / schedulable services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate supplies, equipment & infrastructure (6/18) <i>main factor: irregular supplies (4/6)</i></p> <p>2 Lack of skilled staff (4/18) <i>main factor: insufficient qualified staff (2/4)</i></p> <p>3 Weak supervision (2/18) <i>main factor: inadequate supervision (2/2)</i></p> <p>3 Inefficient implementation strategy of HII (2/18) <i>main factors: poor integration (1/2)</i> <i>single strategy (1/2)</i></p> <p>Significant: <i>Disruptive effects of campaigns (1/38)</i></p>	<p>1 Limited awareness & demand (2/7) <i>main factor: inadequate knowledge on use / advantages (2/2)</i></p> <p>1 Problems in financial accessibility (2/7) <i>main factor: financial barriers (2/2)</i></p> <p>1 Socio-cultural barriers (2/7) <i>main factors: socio-cultural obstacles (1/2)</i> <i>stigmatisation and discrimination (1/2)</i></p>
Individual oriented / clinical services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>Delivery care</p> <p>1 Lack of skilled staff (9/18) <i>main factor: insufficient qualified staff (4/9)</i></p> <p>2 Inadequate supplies, equipment & infrastructure (6/18) <i>main factor: inadequate / problems with equipment (4/6)</i></p>	<p>Delivery care</p> <p>1 Geographical barriers & transport problems (1/1) <i>main factor: poor geographical access (1/1)</i></p>
<p>Curative care</p> <p>1 Inadequate supplies, equipment & infrastructure (1/1) <i>main factor: unavailability (1/1)</i></p>	<p>Curative care</p>

Most frequently cited bottlenecks per delivery platform - Guinea Conakry

Community based / family oriented services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Limited involvement of non-public actors (3/9) <i>main factors: non-involvement other (private) (1/3)</i> <i>no collaboration with others (1/3)</i> <i>non-involvement community level (1/3)</i></p> <p>2 Poor dialogue (2/9) <i>main factors: poor information provision (1/2)</i> <i>weak dialogue and negotiation (1:2)</i></p>	
Population based / schedulable services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>1 Inadequate supplies, equipment & infrastructure (5/20) <i>main factors: irregular supplies (2/5)</i> <i>irregular supplies (2/5)</i></p> <p>1 Limited involvement non-public actors (5/20) <i>main factor: non involvement community level (3/5)</i></p> <p>2 Inadequate financial motivation (2/20) <i>main factor: poor motivation / incentive (2/2)</i></p> <p>2 Poor dialogue (2/20) <i>main factors: weak dialogue and negotiation (1/2)</i> <i>poor motivation / incentive (1/2)</i></p> <p>2 Lack of financial resources (2/20) <i>main factors: high selling price / different tariffs (1/2)</i> <i>little fin. means/delay reimbursements (1/2)</i></p> <p>Significant: <i>Plethora of staff (1/38)</i> <i>Disruptive effects of campaigns (1/38)</i></p>	<p>1 Limited awareness & demand (1/3) <i>main factor: misconception and rumours (1/1)</i></p> <p>1 Problems in financial accessibility (1/3) <i>main factor: financial barriers (1/1)</i></p> <p>1 Socio-cultural barriers (1/3) <i>main factor: socio-cultural obstacles (1/1)</i></p>
Individual oriented / clinical services	
Supply-side bottlenecks	Demand-side bottlenecks
<p>Delivery care</p> <p>1 Inadequate supplies, equipment & infrastructure (6/13) <i>main factor: inadequate / problems with equipment (3/6)</i></p> <p>2 Lack of financial resources (3/13) <i>main factor: high selling price / different tariffs (3/3)</i></p>	<p>Delivery care</p>
<p>Curative care</p> <p>1 Lack of skilled staff (3/11) <i>main factor: insufficient qualified staff (2/3)</i></p> <p>2 Poor dialogue (2/11) <i>main factor: poor information provision (2/2)</i></p> <p>3 Inadequate financial motivation (2/11)</p> <p>3 Limited involvement non-public actors (2/11)</p>	<p>Curative care</p> <p>1 Limited awareness & demand (2/2) <i>main factors: no recognition signs (1/2)</i> <i>inadequate knowledge on use / advantages (1/2)</i></p>

Most frequently cited facilitating factors per delivery platform

Burkina Faso	Guinea Conakry
Community based / family oriented services	Community based / family oriented services
<p>1 Optimal implementation strategy (1/2) main factor: integration (1/1)</p> <p>1 Involvement of non-public actors (1/2) main factor: media to promote service (1/1)</p>	<p>1 Involvement of non-public actors (4/9) main factors: various distribution channels (1/4) media to promote service (1/4) involvement partners, organisations (1/4) collaboration DHMT-partners (1/4)</p>
Population based / schedulable services	Population based / schedulable services
<p>1 Adequate infrastructure & supplies (2/9) main factor: sustainable supplies (2/2)</p> <p>1 Appropriate financial accessibility (2/9) main factor: free or subsidised service / cost-sharing (2/2)</p>	<p>1 Optimal implementation strategy (3/12) main factor: multiple strategies (3/3) Significant: long term vision (1/11)</p> <p>1 Involvement of non-public actors (3/12) main factor: involvement partners, organisations (2/3)</p> <p>1 Genuine dialogue (3/12) main factor: knowledge by users on intervention (2/3)</p>
Individual oriented / clinical services	Individual oriented / clinical services
Delivery care	Delivery care
<p>1 Appropriate financial accessibility (3/5) main factor: free or subsidised service / cost-sharing (3/3)</p> <p>2 Good geographical access & transport (2/5) main factor: availability (emergency) transport (2/2)</p>	<p>1 Involvement of non-public actors (3/11) main factor: involvement partners, organisations (2/3)</p> <p>2 Permanence of care (2/11) main factor: continuous availability / permanence (2/2)</p> <p>3 Adequate infrastructure & supplies (2/11) main factors: adequate equipment (1/2) sustainable supplies and inputs (1/2)</p>
Curative care	Curative care
-	<p>1 Adequate infrastructure & supplies (2/7) main factor: sustainable supplies (2/2)</p> <p>2 Genuine dialogue (2/7) main factors: education of beneficiaries (1/2) knowledge by users on intervention (1/2)</p>