



HEALTH SYSTEM STRENGTHENING

MAKAWANPUR, JUNE 2017



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Government of Nepal
Ministry of Health
District Public Health Office
Makawanpur

Cover picture was taken during the diagnosis phase of the exercise. In the picture IMAM technical officer Gitanjali Dhakal is interviewing the community members to get their feedback on the health services.

Picture credit: Sanjay Chaudhary

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Makawanpur
June 2017



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Ministry of Health

Department of Health Services

Central Regional Health Directorate

District Public Health Office



Phone : 057-20718

Fax : 057-20409

Ref. No.:



Forward

We embark upon a more decentralized form of governance, we are looking at greater engagement of the provincial and local government to address the health issues of the people. The constitution of Nepal, 2015 recognizes people's right to health care as a fundamental right. Therefore, it is high time that the health system reflects on its performance, identifies bottlenecks and takes corrective measure to become more accountable and accessible than ever. In that regard, District Public Health Office (DPHO), Makawanpur lead a health system strengthening (HSS) exercise with the technical assistance of Sustainable Action for Resilience and Food Security (Sabal), a USAID funded program under the Integrated Management of Acute Malnutrition (IMAM) program. Primarily the exercise was aimed at outlining the bottlenecks of the district health system in context of addressing the barrier of IMAM program. However, from the perspective of the DPHO the exercise has been useful to reflect upon the overall performance of the district health system, identify existing bottlenecks, the way the bottlenecks stand in the realm of the new health structure and develop multi-year plan to guide the efforts of the health leadership at the local level.

Health system strengthening exercises generally tends to focus on the policy level intervention at the national level. For the first time, we had an opportunity to take on a Health System Strengthening exercise at the district level that was well and truly lead by HSS Steering Committee including district level stakeholders. The entire exercise was conducted in two phase which includes diagnosis phase and planning phase. The three-month long exercise outlined five key bottlenecks that will enable the local governments across the district to take action. The most interesting things about the exercise was its three workshops. The workshops provided rare opportunity for the all relevant stakeholders of the district health system to hold rigorous discussion to assess various problems identified in the health system, prioritize them, finalize and assess the key bottlenecks. Hence, I would certainly recommend this sort of exercise for other district health system as well. The District Public Health Office wholeheartedly takes ownership of all the results and recommendations of the exercise.

In the end not a least, I would like to express my gratitude to USAID/Sabal Program as well as Action Against Hunger/ Action Contre La Faim (ACF)- the technical lead, for their support to the District Public Health Office in conducting such a rigorous exercise. The results of the exercise will certainly help the District Public Health Office and the local government bodies to know the existing challenges and look to address them in the new governance structure in context of the holistic health system as well in context of addressing the issues of undernutrition.

Ramchandra Pathak
Chief, District Public Health Office

ACKNOWLEDGEMENTS

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S.N.	Name	Designation
1	Ram Chandra Pathak	Chief, DPHO (Chair of SC)
2	Ram Krishna Thapa	Social Development Officer, District Coordination Committee
3	Suresh Yadav	Statistic Officer, DPHO
4	Bhim Sagar Guragain	Nutrition Focal Person, DPHO
5	Bhola Chaulagain	Public Health Inspector, DPHO
6	Anant Baskota	Sr. Auxiliary Health Worker, Hetauda Hospital
7	Mihir Kumar Jha	Health Program Coordinator, Plan Nepal
8	Mahendra Bahadur Magar	Executive Director, Center for Community Development Nepal (CCDN)
9	Puspa Raj Prasai	Program Manager, Sabal project

Special thanks to the assessment team including HSS Technical support, Action Against Hunger: Sarah Brousse, Head of Department- Nutrition and Health: Sujay Nepali Bhattacharya, Senior Program Officer, Action Against Hunger: Manisha Katwal, Senior Capacity Building Officer, Sabal: Niraj Shrestha and IMAM technical officers, Sabal: Gitanjali Dhakal, Pratima Rai, Bharat Hamal, Shashi Verma. We also express gratitude to all the district staffs of Sabal Makawanpur led by Senior District Coordinator Diwakar Dawadi. Special thanks to Senior technical Manager: Health and Nutrition, Dr. Jaganath Sharma and Senior Program Coordinator-health service promotion, Mr. Jeeban Ghimire for their support and guidance.

Last but not the least we would like to thank all the key informants including health workers and community members interviewed during various stages of the exercise.

ACRONYMS

AHW	Auxiliary Health Worker
ANC	Ante-Natal Care
ANM	Auxiliary Nurse Midwife
ASL	Authorized Stock Level
BC	Birth Center
BMI	Body Mass Index
CMAM	Community Based Management of Acute Malnutrition
CPR	Contraceptive Prevalence Rate
DAG	Disadvantaged Group
DCC	District Coordination Committee
DHO	District Health Office
DPHO	District Public Health Office
DTP	Diphtheria Tetanus Polio
EDP	External Development Partner
EPI	Expanded Program of Immunization
EOP	Emergency Order Point
ER	Emergency Room
EWARS	Early Warning And Response System
FP	Family Planning
FCHV	Female Community Health Volunteer
GDP	Gross Domestic Product
HDC	Hospital Development Committee
HF	Health Facility
HFOMC	Health Facility Operation and Management Committee
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HP	Health Post
HR	Human Resource
HSIS	Health Sector and Information Strategy
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorder
IMAM	Integrated Management of Acute Malnutrition
IMCI	Integrated Management of Childhood Illnesses
INGO	International Non-Governmental Organization
IPD	In Patient Department
ITCC	Inpatient Therapeutic Care Center
IUCD	Intra Uterine Contraceptive Device
LMIS	Logistics Management Information System
MAM	Moderate Acute Malnutrition

MAR	Monthly Activity Report
MCHW	Maternal and Child Health Workers
M&E	Monitoring & Evaluation
MGM	Mothers' Group Meeting
MO	Medical Officer
MoH	Ministry of Health
MUAC	Mid Upper Arm Circumference
MIYC	Maternal, Infant and Young Child
NCD	Non-Communicable Diseases
NHSP	Nepal Health Sector Program
NHSS	National Health Sector Strategy
NPC	National Planning Commission
OOP	Out-Of-Pocket
OPD	Out Patient Department
ORC	Out-Reach Clinic
ORS	Oral Rehydration Salts
OTCC	Outpatient Therapeutic Care Center
PEM	Protein Energy Malnutrition
PHCC	Primary Health Care Center
PMTCT	Prevention of Mother To Child Transmission
PNC	Post Natal Consultation
QA	Quality Assurance
RMNCH	Reproductive Maternal Neonatal and Child Health
RUSF	Ready-to-Use Supplementary Food
RUTF	Ready-to-Use Therapeutic Food
RRT	Rapid Response Team
SABAL	Sustainable Action for Resilience and Food Security
SAM	Severe Acute Malnutrition
SBA	Skilled Birth Attendant
TB	Tuberculosis
TNA	Training Need Assessment
UHC	Urban Health Clinic
UN	United Nations
VAD	Vitamin A Deficiency
VHW	Village Health Worker
VDC	Village Development Committee
WHO	World Health Organization
3S	Strengthening, Support, Substitution

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EXECUTIVE SUMMARY

OBJECTIVE

The objective of this HSS exercise is to get a snapshot of the health system structure and understand its strengths and weaknesses at the district level, in order to determine the priority actions required for the development of a health system strengthening strategy. Ultimately, this approach aims not only at strengthening the health system, but also at contributing to build its resilience.

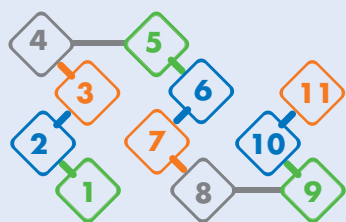


WHY STRENGTHEN THE SYSTEM

By strengthening the health system, impact of the IMAM program in Makawanpur, supported by Sabal, will be positively affected. Barriers to the program go beyond the scope of the program itself.

GUIDELINE

The method developed by Action Against Hunger “Health System Strengthening – From diagnosis to planning – Version 3” is used to carry out the HSS exercise at the district level. The method has two phases, the diagnosis and the planning phases and constitutes 11 steps in total.



STEPWISE APPROACH

The exercise consists of two phases (diagnosis phase and planning phase) and eleven steps. The diagnosis phase provides detailed information on the strengths and weaknesses of the health system, and an extensive analysis of them. Then the planning phase aims at developing a planning strategy by defining activities to strengthen the health system based on the results of the diagnosis. During the exercise, three workshops took place involving all the key actors of the district covering the diagnosis and planning phase.

SIX BUILDING BLOCKS

The entire exercise revolves around WHO six building blocks (Leadership and Governance, Financing, Human Resource, Service Delivery, Supply, Health Information System) i.e. from diagnosis of the bottleneck in the health system to action plan design.



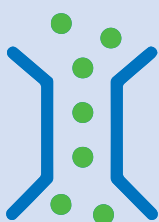


LOCALLY DRIVEN

A steering committee comprising of nine people with Chief of the district public health office as chair led the exercise.

WORKSHOPS

The exercise involved three important workshops, two in the diagnosis phase and one in the planning phase. In addition to the fieldwork, the discussion in the workshop provided through input on interpretation of the results of discussion and determining the action plan.



FIVE KEY BOTTLE NECKS

In the diagnosis phase, a desk review of available literatures and primary data outlined five key bottlenecks in the district health system. They include

1. Limited geographic access of the community to reproductive, maternal, neonatal and child health (RMNCH) services.
2. Insufficient reproductive health services such as antenatal care, postnatal care and birthing services to ensure good utilization
3. Lack of all essential medicines at all times in all health facilities.
4. The data collection and their interpretation to feed the action plan are limited and
5. The formative supervision and training of health managers and health workers is inadequate.

THE ASSESSMENT

Meanwhile, the assessment of the health system based on 113 indicators associated with each one of the six building blocks of the health system highlighted room for much improvement under human resource, service delivery and health information system while governance blocks turned out to be performing well owing to presence of necessary policies, guidelines, protocols etc.



THE OUTPUT

The results of diagnosis guided the action plan design, which will enable the district health system to address its bottlenecks and become more resilient to shocks. The implementation of the action plan can now start. The actors of the health system should remain mobilized and integrate the activities into their own annual action plan in order for them to take the ownership of these activities.

1

HEALTH SYSTEM STRENGTHENING IN MAKAWANPUR DISTRICT

The goal of this approach is to diagnose and address the bottlenecks in the health system¹ of Makawanpur district². From the perspective of sustainable action for resilience and food security (Sabal) project³, the exercise helps understand and support the Integrated Management of Acute Malnutrition (IMAM) program, a government health program supported by Sabal in the district. Strengthening the health system will support the IMAM program since most of the challenges to the program transcends program scope. Moreover, this approach will provide an overview of the district health system, based on the six building blocks of health system defined by the world health organization (WHO).

Ultimately, this approach strengthens the health system at the district level by contributing to build its resilience by allowing the system to prepare, absorb, adapt and transform after stresses/shocks. To summarize, the main objectives were:

- Identify the strengths and weaknesses of the health system
- Create a common vision amongst partners at district level
- Build a consensus among stakeholders on priority actions to be taken to strengthen the health system



- Introduce the health system strengthening thinking within the district health planning agenda
- Allow synergy between actors through the development of a multi-annual district action plan with clear roles and responsibilities of all relevant actors
- Develop a resilience building approach

2

HEALTH SYSTEM STRENGTHENING (HSS) – FROM DIAGNOSIS TO PLANNING GUIDE-VERSION 3



The health system strengthening guide is developed by Action Contre La Faim (ACF) /Action against Hunger (ACF). The guide that had its third version published in January 2017 had its inception in 2010. It was then that Action Against Hunger recognized that most approaches dedicated to assessments of health system are country based- top down model may not manifest a visible change at the district level. Hence, this guide adopts a bottom up approach to carry out a health system diagnosis and development of health system strengthening

strategies, at district level. The first version of the guide published in 2013 followed by second version in early 2015. Recently in January 2017, a third version of the guide is out⁴. The global nutrition cluster has endorsed the guide.

The guide takes an adaptable approach. It can be adapted to the context and situation of the health system of particular country or sub-region. Hence, it focused on the process and not the model.

2.1 Structure of the HSS approach

The main actors involved in the HSS approach, are generally all those who contribute to the function of the health system at the district level. It is important to have a clear understanding of the roles and responsibilities of each actor within the health system before setting up the HSS approach. The approach comprises of 2 phases and 11 steps. The two phases are:

The diagnosis phase intends to provide detailed information on strengths and weaknesses of the health system with regards to the WHO six building blocks of the health system namely Governance; Financing; Service delivery; Health Workforce; Supply; and Health Information Systems.

The planning phase intends to support the development of comprehensive strategies to reinforce the health system based on the initial diagnosis. In addition, resilience oriented activities/ approaches are identified in order to enable the health system to prepare, absorb, adapt and transform from predictable or exceptional small medium or large shocks. The following table further subdivides the two phases into steps.

Table 1: Short description of the activities in each step of HSS

Step	Description	Actions
Diagnosis phase		
1	Preparation phase	• A Steering Committee (SC) is created and terms of reference of the SC is defined • Main characteristics of the methods are defined
2	Secondary data collection	• Secondary information regarding each building block and the context is collected
3	Primary data collection	• Primary information regarding each building block is collected • Secondary and primary information is analyzed
4	Risks and capacity analysis	• Risks (type 1 and 2 shocks) and capacities are identified at the district level • District thresholds are defined based on the workload and district capacities
5	Consensus phase	• The data previously collected are final-analyzed • The health system is assessed, by scoring benchmarks of each building block • The main strengths and weaknesses of the health system are highlighted
6	Prioritization	• List of prioritized bottlenecks of the health system are outlined
7	Causes identification	• Interrelated causal trees of the prioritized indicators are built • Immediate, underlying, and basic causes are identified
Planning phase		
8	Solutions identification	• Solutions trees are built • 'HSS objectives' are identified for each solution
9	Partners internal preparation	• The planning method is well understood by the partners • Activities for the planning phase are pre-identified
10	Planning workshop	• A multi-years plan and activities along with cost and resources is developed
11	Implementation, M&E and follow-up	• External communication is performed • A new adjusted Steering committee is created • Implementation, M&E plans are developed

2.2 Rationale for health system strengthening under IMAM program

The coverage of community-based treatment of Severe Acute Malnutrition (SAM) program in various parts of the world are being increasingly assessed over the last few years. According to a report published by the Coverage Monitoring Network (CMN)⁵ five of the most frequently reported barriers to access nutrition programs includes lack of knowledge on the disease, lack of knowledge of the program, high opportunity costs, distance to site and previous rejection. These barriers are not specific to SAM program but common to all services.

Moreover, in the recent semi-quantitative evaluation of access and coverage held in Makawanpur district in February, 2017 identified 22 barriers affecting coverage of IMAM program⁶. The barriers ranged from geographical inaccessibility and economic unaffordability to social issues such language barriers between the service seekers and provider, gender

bias towards female child, belief in traditional faith healers. The social issues are beyond the scope of the IMAM program. Hence, we cannot even begin to fathom the complexity of health issues.

The following quote truly explains the complexity. *“Every intervention, from the simplest to the most complex, has an effect on the overall system, and the overall system has an effect on every intervention. (...) If we accept that no intervention is simple and that every act of intervening has effects – intended and unintended – across the system, then it is imperative that we begin to understand the full range of those effects in order to mitigate any negative behavior and to amplify any possible synergies. We must know the system in order to strengthen it.”*⁷

Hence, health system strengthening exercise provides Sabal project with a better picture of the bottlenecks in the district health system and seek for ways to improve it thereby ensuring sustainability of the project.

DIAGNOSIS PHASE



The picture was taken during the diagnosis phase of the exercise. In the picture enumerators, Homnath Sapkota and Sanjay Chaudhary are engaged in a discussion with community members.

Picture credit: Niraj Shrestha

3

DIAGNOSIS PHASE

First, Sabal district team briefed the District Public Health Office (DPHO) about the health system strengthening exercise including its rationale. After getting the consent from the chief of the DPHO and the nutrition focal person, the district team approached and sought the consent of various individuals who could be involved in the steering committee. Finally, the steering committee was formed under the leadership of Chief of DPHO. The composition of the steering committee were as follows:

Table 2: Member of steering committee

S.N.	Name	Designation
1	Ram Chandra Pathak	Chief, DPHO (Chair of SC)
2	Ram Krishna Thapa	Social Development Officer, District Coordination Committee
3	Suresh Yadav	Statistic Officer, DPHO
4	Bhim Sagar Guragain	Nutrition Focal Person, DPHO
5	Bhola Chaulagain	Public Health Inspector, DPHO
6	Anant Baskota	Sr. Auxiliary Health Worker, Hetauda Hospital
7	Mihir Kumar Jha	Health Program Coordinator, Plan Nepal
8	Mahendra Bahadur Magar	Executive Director, Center for Community Development Nepal (CCDN)
9	Puspa Raj Prasai	Program Manager, Sabal project

Then, secondary and primary data were collected, which helped to analyze and understand the context and the health system. In the diagnosis phase, two workshops took place with the key stakeholders of the district to, first identify the shocks and risks to which the health system is exposed; and then to assess in details the district health system through scoring of indicators and the analysis of the causes of the main bottlenecks. The diagnosis involves a total of 7 out of 11 steps. A brief description of the two workshops are as follows:

- STEP 1:** Preparation phase
- STEP 2:** Secondary data collection
- STEP 3:** Primary data collection
- STEP 4:** Risks and capacity
- STEP 5:** Consensus phase
- STEP 6:** prioritization
- STEP 7:** Causes identification

DIAGNOSIS

- Workshop 1 – Risks and capacity⁸

The workshop is instrumental in identifying and analyzing the type 1 & 2 shocks to which the district is exposed, reflect the capacity of the health district to cope with shocks, define thresholds for the district to indicate normal to emergency condition.

- Workshop 2 – Diagnosis workshop⁹

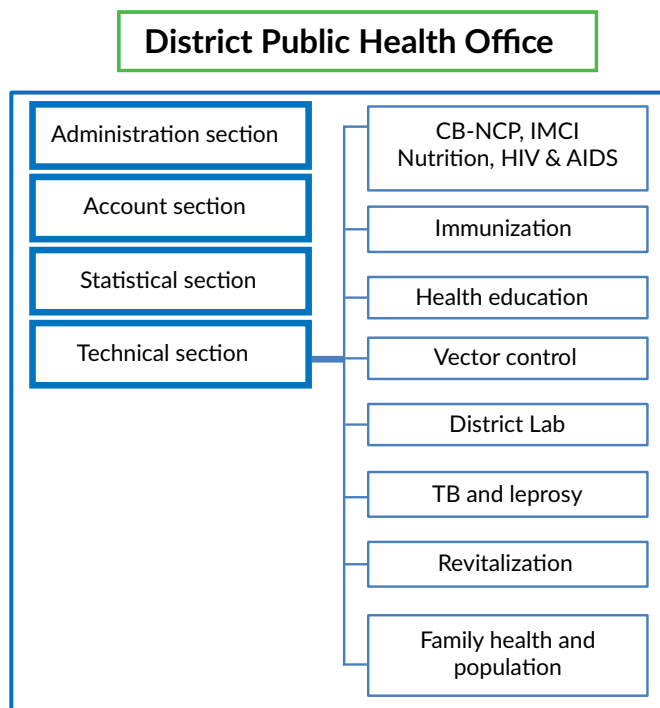
It provides an opportunity for thorough assessment of the health system, by scoring indicators of each building block; prioritize the main bottlenecks of the health system; describe and analyze the causes of the prioritized bottlenecks, and identify the HSS objectives and describe the solutions.

3.1. Sampling, data collection and indicator scoring

Prior to data collection, an orientation on HSS was held on 11 April, 2017. Primary and secondary data collected informed the discussion in workshops. WHO six building blocks of health system provided a basis for data collection. The secondary information comes from a desk review of the district health system. The program team along with a few enumerators collected primary data, using three different techniques:

- Direct observations
- Individual interviews
- Focus group discussions

The data collection took place from 16-21 April, 2017. The data collection team visited four types of health facilities viz. health post (HP), primary



health care center (PHCC), urban health care center (UHCC) and Hetauda Hospital. In total, there are 50 health facilities in the district. Among the 50, data was collected from a sample of 16 health facilities. Questionnaires available in the health system strengthening guide was taken as a reference and adapted to the Nepalese context by the program team.

Table 3: Sampling criteria and list of sampled health facilities

Sampling criteria			Sampling based on geographic location	
DAG	OTCC Non-OTCC	HF type		
Very high	12	4 OTCC	1 PHCC	Manhari
		3 HP	1 HP	Kankada
	8 Non OTCC	8HP	2 HP	Bhainse Fakhel
High	18	2 PHCC	1 PHCC	Daman
		7 HP	2 HP	Kalikatar Faparbari
	9 Non OTCC	8 HP 1 UHC	2 HP	Namtar Sukaura
Medium	11	2 OTCC	1 PHCC	Bhimfedi
		9 Non OTCC	2 HP	Churiyamai Shikharpur
Low	3	3 Non OTCC	3 HP	Hatiya
other	7	1 OTCC	1 HP	DPHO
		6 Non OTCC	1 HP, 4 UHC, 1 Hospital	District Hospital Kamane

The 16 health facilities were sampled based on type of the HF, the presence of outpatient therapeutic care center (OTCC)¹⁰, the Disadvantaged group (DAG) category¹¹, and the geographic location in the district.

The information generated from the primary and secondary data as well as knowledge and experiences of the actors of the district health system was used to score a self-assessment tool. The self-assessment tool consisted of 113 indicators used to score each building block to assess the present state of district health system. A list of indicators suggested by the HSS guide was adapted to the local context. For each indicator included in the tool, a range of possible scenarios was provided allowing for an objective and quantitative rating from the highest score to the lowest one. The highest score, 3, was given for a scenario considered as highly adequate

compared to a gold standard. A score of 2 for a scenario considered as adequate subsequently score of 1 for a scenario considered as present but not adequate and 0 for a situation regarded as not adequate at all. The assessment of each indicator in a block contributed to scoring the entire block as follows.

Table 4: Color code for the scoring of indicators

Color code for the scoring of the indicators	Interpretation
2.25 to 3.0 (75% - 100%)	Highly adequate
1.5 to 2.24 (50%-74%)	Adequate
0.75 to 1.49 (25% - 49%)	Present but not adequate
0 to 0.74 (0 % - 24%)	Not adequate at all

Shock analysis

The resilience of a health system can be defined as the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learned during the crisis, reorganize if conditions require it. In order to improve the resilience of the health system of the district, it is necessary to have a good understanding of the seasonal and exceptional risks to which the district is exposed. The various shocks that can affect the district were discussed in the workshop as well as the current plans and mechanisms that are in place to cope with them.

3.2. Results of the diagnosis

3.2.1. Type 1 and type 2 shocks

TYPE 1 SHOCKS

Type 1 stresses/shocks induce a caseload increase. They are surges, and are a rise in the number of admissions regardless of the cause, the rapidity and the length of the rise. It can be seasonal admission peaks as well as the result of a natural disaster for instance.

To assess the ability of the health facilities to face type 1 shock data regarding the caseload fluctuations of the DPHO (including all the health facilities of the District), and of the hospital were collected and discussed during workshop 1. The data available were for the year 2071-2073, and some for the year 2070-2071. For the hospital caseload, patients coming to the outpatient and emergency room were considered (in-patients were excluded, as they were already included in the outpatients).

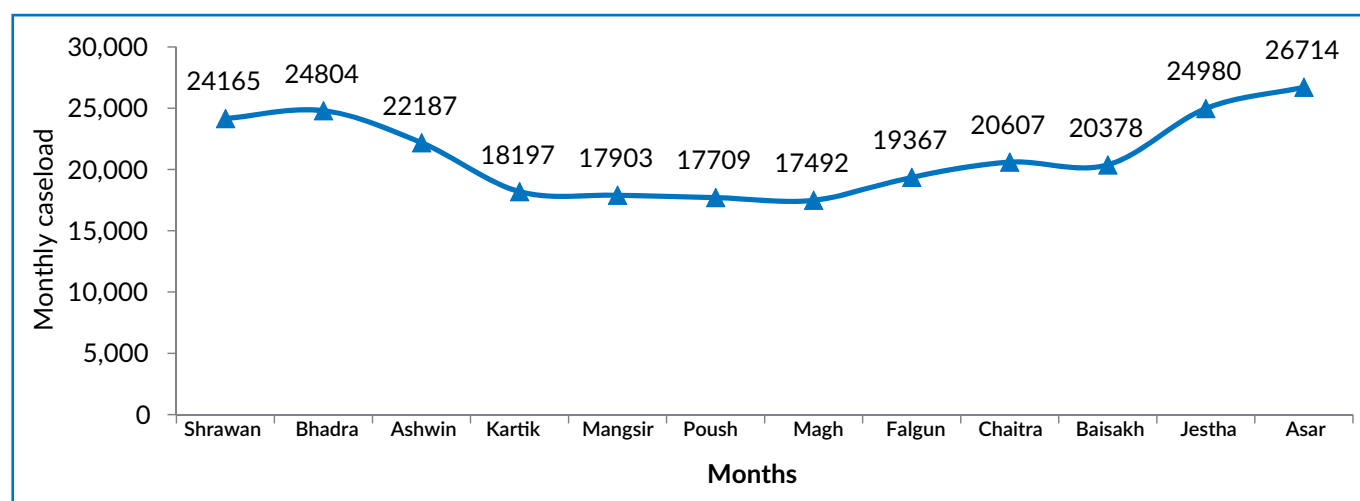


Figure 1: Average total caseload fluctuations during three consecutive fiscal year 2070-73 for Makawanpur district -Health facilities and hospital combined.

The caseload information found that the average total number of cases is about 245,000 per year, with an average of 21,200 cases per month. From the month of Magh, a slight rise is observed, and it increases even more during the rainy season (Baishak-Bhadra).

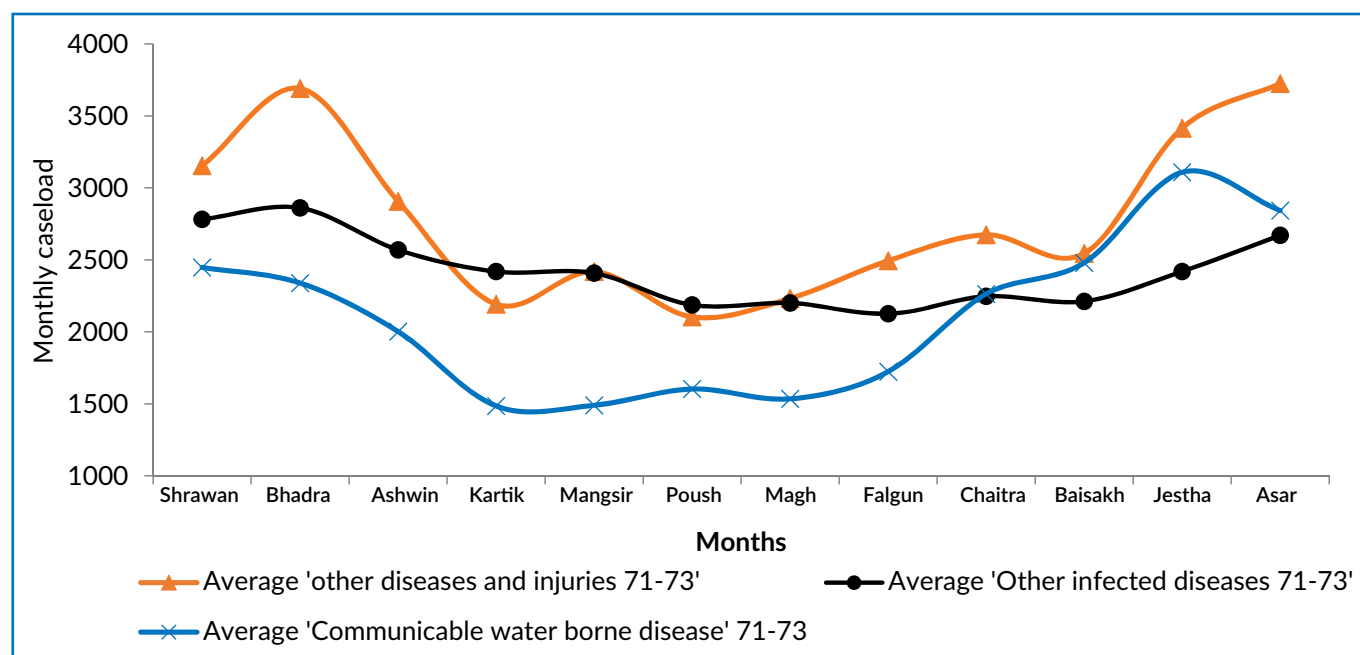


Figure 2: Caseload fluctuations for the three main categories of diagnosis for the DPHO

The three main diagnosis categories are:

- Other diseases and injuries are mostly related to fevers of unknown origin, headache and gastritis
- Other infected diseases mostly stand for upper and lower respiratory tract infections, which represent on average 19,000 cases per year. The prevalence remains about constant along the year
- Communicable water borne diseases are mostly represented by the non-infectious diarrhea cases, with about 8,200 cases per year. Dysentery and intestinal worms also add up to diarrhea cases. The prevalence of the cases goes up during the rainy season (Jestha to Shrawan), and at the end of the dry season (Chaitra and Baishak), when water sources are more likely to be contaminated, and the hygiene practices are poor

Table 5: Practical causes and mitigation measures for the type 1 shocks

Months	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
	Shra	Bha	Aso	Kart	Man	Pou	Mag	Falg	Chai	Bais	Jest	Asa
Agriculture	Planting			Harvesting People stay in the fields				Planting				Planting
Influencing factors												
Climate	Rainy season, contaminated water								Water shortages and contaminated sources Poor hygiene and sanitation practices			Rainy season, contaminated water
Food		Less				High					Less	
Temperatures						Cold (triggering allergies)			Warm			Hot
Mitigation measures of the District								Every year DPHO develop a plan to handle the coming peak based on the last year data. It mostly addresses logistics and supplies aspects				

DEFINING THRESHOLD

Thresholds are a number of monthly new cases regardless of the diagnostic, and represent the point at which the District is overstretched beyond its capacity and requires action in order to cope with the situation. They take into account both the capacity and the workload of the district: when the workload surpasses the capacity, this is the ideal value to set a threshold. Each threshold defines a phase. The threshold system allows the district to prepare and cope with surges, monitoring of the new cases and a comparison to established thresholds.

Thresholds have been defined in order to identify four different phases viz. normal, alert, serious and emergency, which describe the various situations in which the district could be. These various phases will help the district to get better organized for type 1 shocks. The thresholds were calculated, for HP, PHCC and hospital. For HP and PHCC, 25 working days per month were considered, from 10.00 am to 05.00 pm, with full staff available at these hours. OPD working hours have been extended by three hours, and are now 10.00 am-05.00 pm; therefore, the data collected reflect the services delivered with the ancient time schedule. This change can explain the gap between the observed caseloads and the thresholds defined.

For the hospital, outpatients and emergency patients were considered, and inpatients were excluded, since they are already included in the outpatients count. For OPD, 16 doctors were considered working 25 days a month, with the capacity of seeing maximum 25 patients per day for the normal phase. For the emergency services, five doctors were considered



Interview with a health worker

to be working 30 days a month, with the capacity of seeing 25 patients per day as well. For all facilities, a raise of 20% of the normal threshold was assumed for threshold 2, and an additional raise of 10% for the threshold 3.

TYPE 2 SHOCKS

Type 2 shocks not necessarily induce a caseload increase. The intrinsic structure of the health system (the 6 pillars) is disrupted by an event, which provokes a dysfunction of the system itself. However, a rise of caseloads is not necessarily observed. For instance, a flood would prevent the drugs and materials to be delivered to the health facility. The following calendar of type 2 shocks has been agreed on, based on the results from the primary data collection and the discussions during the workshop 1. Shocks are described as well as the effect they have on the HF as well as the mitigation measures that are taken.

Table 6: Thresholds for the various health facilities

	Threshold 1 Normal/ Alert	Threshold 2 Alert/ Serious	Threshold 3 Serious/ Emergency
Health Post (40)	1,250	1,500	1,650
Primary Health Care Center (4)	2,500	3,000	3,300
Hospital – OPD & ER (1)	13,750	16,500	17,880
District thresholds	73,750	88,500	97,080

Table 7: Type 2 shocks, descriptions, effects and mitigation measures

Months	Jul	Aug	Sept	Oct	Nov	Dec - Apr	May	June
	Shrawan	Bhadra	Asoj	Kartik	Mangsir	Poush - Baishak	Jestha	Asadh
Type 2 shock description	Heavy rainfalls leading to rises in water level, flooding of rivers and landslides		Festivals period, people go on holiday		Agricultural activity, people stay in the fields			Heavy rainfalls leading to rises in water level, flooding of rivers and landslides
Effect on the health system	- Isolation of some Health Facility - Delay or shift of outreach services and EPI		- Shortage of health staff - Number of visits to the HF is relatively less.		Patients visit less HF			- Isolation of some HF - Delays or shift of outreach services and EPI
Mitigation measures of the district	Supplies distributed in Jestha/ May to make sure isolated HF have enough supplies for the rainy season		During the festival weeks, the regular schedule of the EPI and outreach clinics might be disturbed		None		DPHO delivers extra supplies to enable the HF to handle the 3 months of the rainy season. When the rainy season comes one month earlier, supplies are transported by porters until the HF	Supplies distributed in Jestha/ May to make sure isolated HF have enough supplies for the rainy season

Leadership and Governance

Leadership and Governance in a health system involves ensuring that strategic policy frameworks are in place and are combined with effective oversight, coalition-building, regulation, attention to system design and accountability. Accountability is an intrinsic aspect of governance that concerns the management of relationships between various stakeholders in health, including individuals, households, communities, firms, governments, nongovernmental organizations, private firms and other entities that have the responsibility to finance, monitor, deliver and use health services.¹²

3.2.2. Leadership and Governance

National health policy, 2014 guides Nepal's health system¹³. The new health policy developed in 2014 aims to provide free-of-cost basic health services; establish effective and accountable health services that are easily accessible and well equipped with essential drugs, diagnostics and skilled human resources and promote participation of people in

health services provision. Further National health sector strategy (2015-20) aims to guide the health system towards universal health coverage, and assure equitable access to quality health services for the population. The move towards progressive universalism is made through the provision of basic health services that are provided free-of-charge and other services beyond the basic health package that

Table 8: SWOT analysis of the governance building block in Makawanpur district

Strengths	Weaknesses
• Good collaboration with partners/supporting agencies • A health personnel (most of the time the Health facility In-charge) participates in planning meeting with Village Development Committee and takes this opportunity to advocate for more funds • In case of an outbreak, Rapid Response Teams (RRT) ensure prompt response under the leadership of a medical officer from the PHCC • DPHO ensures effective implementation of the programs in the field through regular monitoring and supervision visit to the health facilities (HF). However, the HFs call for effective monitoring and supervision visits • Presence of Health Facility Operations and Management Committee (HFOMC), which is represented by people from local bodies and members of the community. Although there are questions over the regularity of the meeting of HFOMC • Female Community Health Volunteers (FCHVs) are involved in regular coordination and reporting meetings at the HF. FCHVs also participate in mother groups discussions in the community itself • The users of the health systems are mostly aware of the free essential health care services	• DPHO is merely an implementing body of the Ministry of health (MoH) that decides most of the health policies and strategies. There is very little room for the DPHO to design program for the district • FCHVs are not always active and their effective mobilization is more dependent on their personal will. Not all FCHVs have a basic level of education. FCHVs can be replaced through the mother groups, but it is not always done • When HF staffs think that nutrition and health objectives are not met, they relate it to lack of human resource, lack of enough supplies, and the difficulty to reach people in the remote areas, or people who do not visit because of the difficult access • At the health post level and the hospital, there are no plans to deal with sudden rise in caseloads. There is no plan to deal with surges at the hospital as well • Lack of effective coordination between the DPHO and the hospital. The hospital and DPHO are two separate hierarchical entities, focusing on curative and preventive services respectively • Monthly meetings of HFOMC are not always held, and the members are not that active.
Opportunities	Threats
• The new federal structure that is being developed offers a decentralized structure to develop health policies that better fit the local context	• Lack of opportunity to develop district specific policy, strategy and plans for local level on health and nutrition problems

are provided at an affordable cost through targeted subsidies and various social health protection schemes.

The health system of Nepal is in a state of transition. Following the promulgation of constitution of Nepal 2015, Nepal became a federal republic. Nepal now has three level of government viz. federal government, provincial government and local Government. Hence, there are 7 province and 744 local levels including four metropolitan cities, 13 sub-metropolitan cities, 246 municipalities and 481 village councils/rural municipality. In context of district health system the responsibility of imparting basic health services has devolved to the local government. The district hospital will be autonomous in operation and management co-financed by municipality for provisioning of free basic health care services. The district health(public) health office will be accountable to municipality and primary health care centers and health post will be accountable to the village council/rural municipality.

Previously they were accountable to various units of ministry of health but following local election in May and June 2017 after a gap of 20 years¹⁴ the local government has begun exercising rights and duties and operationally the basic health services including the institutions delivering those services have come under them. The responsibility to conduct nutrition program at the local level also comes under the jurisdiction of the local government.¹⁵

RESULTS OF THE GOVERNANCE INDICATORS

The governance building block is qualified as “highly adequate”, with a score of 2.26. The score is just above the threshold of 2.25, which suggests some fragility in this high result. The good scoring of the Governance shows that the policies and regulations framework is present and satisfactory at the national and district levels, but the challenges will mostly reside in the implementation of this governance framework. The main policies, regulations, strategies and plans are developed by the central level and disseminated to the district and HF levels for implementation. The roles and responsibilities are clearly defined for the various levels of the health system and the different sectors of intervention. An annual work plan and budget is developed and implemented by the district authorities, and the

various partners, that are coordinated by the DPHO through various mechanisms.

Table 9: Results for the Governance building block

Governance	2.26
1. Policy formulation and planning	2.31
2. Information/ Assessment Capacity	2.50
3. Social participation and system responsiveness	2.21
4. Accountability	1.67
5. Regulation	2.67

National protocols, tools and guidelines for nutrition and health are all formulated by the central level, and are only partially disseminated in the other levels of the health system (district and beyond). Despite the presence of an implementation strategy of the health plans and policies, the implementation itself is not properly done due to a lack of resources availability. Moreover, a policy and a multi-sectorial strategy on the prevention of child illnesses and malnutrition (Multi-sector Nutrition Plan) are developed at the central level and an action plan is implemented by the DPHO. The same happens for the roadmap of the implementation of the RMNCH, which is defined by the central level and identifies all the necessary modalities (resources, R&R, timeframe, etc.). Moreover, the District Coordination Committee prepares annual plan based on the local needs, but the planning process that should be followed as guided by the National Planning Commission, are not entirely implemented. The National Planning Commission is not providing the planned budget, and the communities do not always have to opportunity to take part in the whole process.

For priority health and nutrition issues, focal persons are appointed and included in the District organization's chart, and the Chief of DPHO is doing the overall management of the programs. Most of the time, these people have a technical background and are unfortunately lacking management skills. In addition to that, a coordination mechanism between the various actors exists at the district level, and it includes funds pooling, or basket of funds in the hospital but not in the DPHO. Since DPHO is aware of all the programs that are implemented in the district an informal mapping of the health programs is available, it is not updated and included in the annual work plan of the district. Roles and responsibilities of all the stakeholders involved in

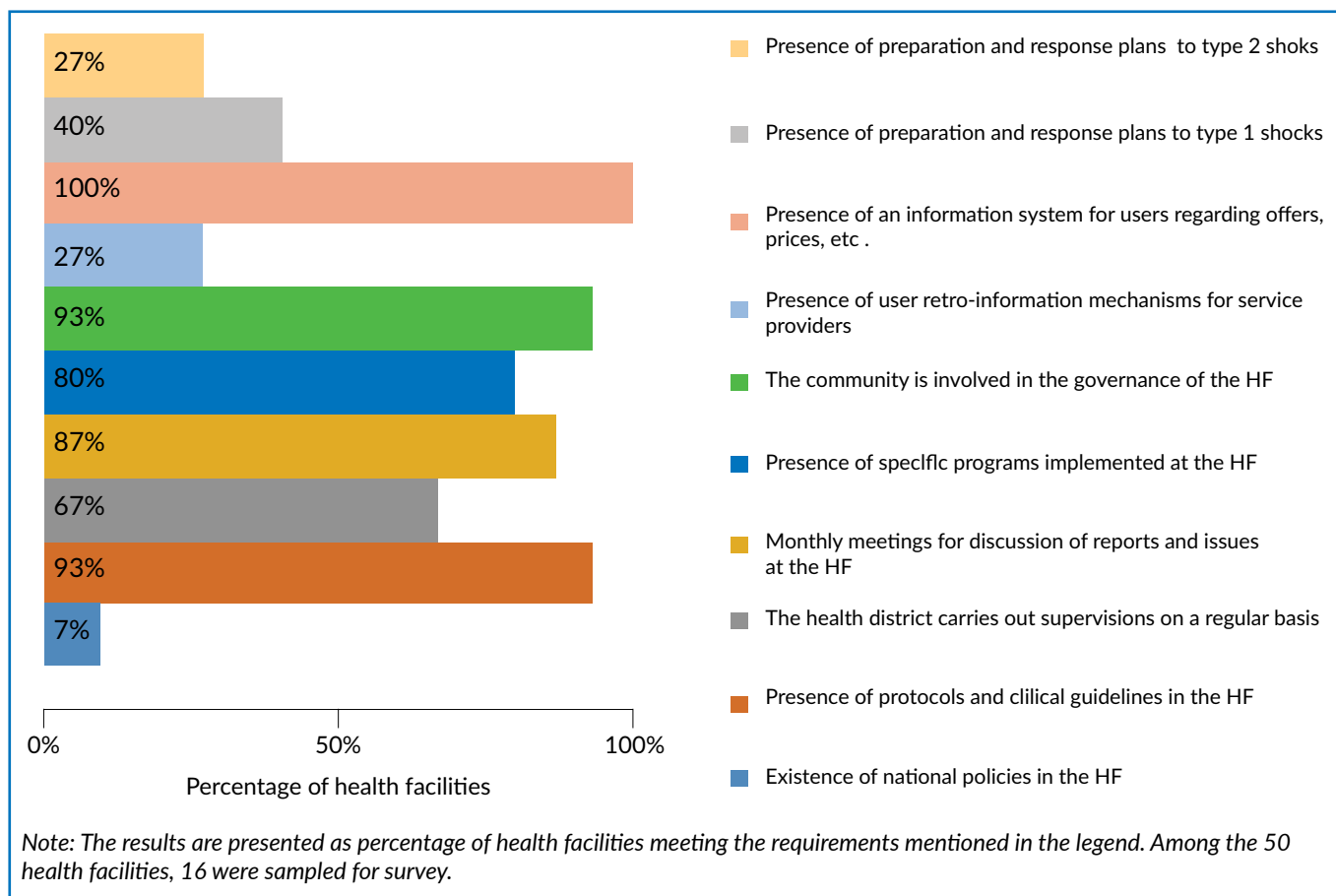


Figure 3: Summary of results of primary data for the governance block

the implementation of the district's action plan are well defined, but due to external long training, or in-between jobs within other organizations, people tend to be away for long periods of time, and are replaced by less adequate people.

A disaster preparedness and response plan is going to be updated in 2017, and a contingency plan exists at the district level, but it has been revised after the earthquake of 2015, and is yet to be validated (at the HFs no such document is available). The main weakness of these plans is that they were never tested, so their operational feasibility is unknown. Exit strategies of the NGOs working in nutrition and health involved in Makawanpur are regularly shared with the DPHO.

The guideline of health management information system recording and reporting tools, 2070 provides a framework for the implementation and management of the HIS. Every month, DPHO organizes a meeting to collect the data from the HFs, but no analysis, or feedbacks are given at this time, and data will only be compiled for the annual reporting. An annual work plan and budget is developed and implemented by the district authorities, however, meetings and

planning sessions related to the work plan are not regularly held at the district level. In addition, some coordination mechanisms between all the partners active in the district such the district health and nutrition cluster, are partially functioning. Above that, the Regional Health Directorate is responsible for providing supportive supervisions to the district, and for monitoring the activities. Lessons learned from the district are capitalized and sometimes shared during the district and regional review meetings. There is a clear and comprehensive strategy of IEC/BCC developed at the central level through the national health education information and communication center (NHEICC), and the district is in charge of implementing this strategy. This strategy is not well rolled out at the HFs' level.

The roles and responsibilities of each personnel involved in the health system is clearly defined, but at the district level it is not always implemented correctly. Unlike the HFs, the district produces every year a report on the performance of the health sector, but the report is not broadly disseminated. Besides, every year a district financial report is written, it is neither broadly disseminated nor the public can request it under the Right to



Group discussion during workshop.

Information Act. Regulations that define the roles and responsibilities of the District, the standards for infrastructures and equipment, and the safety, efficacy and quality of drugs and therapeutic products are distributed and applied at the district level.

LEADERSHIP AND GOVERNANCE FROM PERSPECTIVE OF IMAM

As has been mentioned in the SWOT analysis, the DPHO is merely an implementing body of the ministry of health. The implementer's role provides DPHO very little role in terms of designing its own policies at the local level. Given that local context varies with geography as well as socio-cultural factors, DPHO as an entity can only seek to drive the national policies in the district. While it is a limiting factor, it is also important to note that DPHO is at the center of the district health system and does play a key role in improving nutritional status of children and pregnant and lactating women through local partnership and collaboration.

National nutritional policy and strategy 2004¹⁶ is the guiding document to attain nutritional goals and targets in the country. The main goal is to achieve nutritional wellbeing of the population, through improved nutrition program implementation in collaboration with the relevant sectors. This policy directly addresses various aspects of malnutrition (IDA, IDD, PEM, VAD), as well as its main determinants (such as household food security, dietary habit, infectious diseases, etc.). It also re-emphasized the target of Second Long Term Health Plan (1997-2017)¹⁷ of reducing wasting below 5%, however, a clear strategy and plan of action to achieve is missing. In addition, a revised and updated version of this policy is needed to better fit with the actual nutritional context.

In addition to this broad policy on malnutrition, a couple of other policies/strategies are available and can complement the latter. As such, the multi-sector nutrition plan (MSNP 2013-2017) developed by the National Planning Commission (NPC) aims at improving maternal and child nutrition, which will result in the reduction of Maternal, Infant and Young Child (MIYC) undernutrition, in terms of maternal BMI and child stunting¹⁸. This plan emphasizes the role and importance of the non-health sector in the improvement of the nutritional status of women and children, with interventions focused on the 1000 days window of opportunity. The World Bank and UNICEF performed an assessment of the needs in term of capacity building at the local government and community levels¹⁹. It appeared that all the domains for developing community, nutrition capacity require considerable strengthening, and the service delivery nutrition system at the national level requires additional commitment to be able to take up the remaining challenges.

In line with, the Nepal Health Sector Program 2010-2015, the National Nutrition Policy and Strategy, and the MSNP, a strategy to tackle maternal under nutrition in a comprehensive way has also been developed in 2013²⁰. It aims to accelerate and sustain reductions in chronic under nutrition and micronutrient deficiencies in adolescent girls, pregnant and lactating women, particularly among disadvantaged and vulnerable groups.

Prior to 2008, Nutrition Rehabilitation Homes supported by the Nepal Youth Foundation helped in the treatment of acute malnutrition, but it appears that the default rate was high, and only a limited number of cases could be handled. In 2008, UNICEF and the Ministry of Health and Population (MoHP) conducted a feasibility study of the approach for CMAM program. The recommendations from the study led to a five-district pilot of CMAM in districts with high prevalence in a cross section of eco-geographical zones. Implementation was conducted in collaboration with the national, regional and district health authorities, working through the existing health structures and with the health staff (hospital and health facilities' staff and FCHVs) as well as the local NGOs and the community-based organizations (e.g. women's groups).

Further, the results of evaluation of Community-based Management of Acute Malnutrition (CMAM) pilot in Nepal in 2011 suggested its positive role in

enhancing access to services, providing effective treatment and a basis for ensuring sustained services within the existing health service. The CMAM pilot evaluation in 2011 and a joint review of the Mother and Child Health Care (MCHC) program conducted by the Ministry of Health, the Ministry of Education (MoE), and World Food Program (WFP) in 2011 highlighted gaps in the management of moderate acute malnutrition (MAM) and recommended the development of national MAM guidelines. Meanwhile, evaluations also highlighted the need to integrate CMAM services with relevant health services, strategies and programs aimed at preventing malnutrition and improve management of moderate acute malnutrition (MAM). Therefore, to address this shortcoming there was shift in strategy to include services for management and treatment of SAM and MAM based on Community Based-Integrated Management of Neonatal and Childhood Illness (CB-IMNCI) under an integrated approach,

Integrated Management of Acute Malnutrition (IMAM). Ministry of Health and Population (MoHP) has included Community-based management of severe acute malnutrition (SAM) into Multi-Sectoral Nutrition Plan (MSNP) 2013-17 as well as National Health Sector Program II (NHSP II).

In 2015, following the disastrous earthquake of April, 2015 Government of Nepal prioritized response in 14 district of the country marking it as a crisis hit district. Makawanpur is one amongst the 14 districts. Government of Nepal implemented and prioritized Integrated Management of Acute Malnutrition (IMAM) program in the crisis-hit districts as an emergency measure. Hence, IMAM program started in Makawanpur district. In 2017, under the leadership of the MoH, IMAM program rolled out to 34 districts of the country (including earthquake affected districts) with the support of external development partners.



Focus group discussion with a women's group

Financing

Health financing is fundamental to the ability of health systems to maintain and improve human welfare.²¹ Although health system should seek to raise sufficient funds but in doing so it should in no way put people at risk of financial hardships. Health financing has referred to as “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system... the purpose of health financing is to make funding available, as well as to set the right financial incentives to providers, to ensure that all individuals have access to effective public health and personal health care”.²²

3.2.3. Financing

Financing sources in Nepal are of three kinds. First, there are the private contributions (households and institutions) also known as out-of-pocket expenditures, which represented 48% of the health expenditures in 2014. Second, the government funds which includes taxes, and non-tax revenue finance the health system at different administrative levels, accounted for 40% of the health expenditures in 2014. Third, funds coming from foreign sources

represent 13% of the total health funding (the other 87% being provided by domestic funding).

The financial scheme of the national health system has been changing in the last years. Indeed, in 2008 the government introduced free health care program to mitigate economic barriers in accessing health care services, however, the results observed still show some important limitations in the financial access to care, since in 2013, 19% of outpatients

Table 10: SWOT analysis of the financing building block

Strengths	Weaknesses
- Funds of the HF mostly come from the government for the OPD consultations and the deliveries, VDC also provide some funds. PHCC collect additional money through ambulance services, laboratory investigations, emergency tickets, and X-ray. Hospital generates money through the sales of medications (out of essential drugs), OPD registration fee, laboratory services and emergency services - The community can be involved in the financial management of the HF through the HFOMC - Most of the time HF users do not have to pay for the services they receive; the financial barrier is then well mitigated - FCHV receive incentives to take part in trainings, campaigns, reporting days, screening programs, etc	- The HFOMC is led by the VDC secretary, who doesn't have much time to listen and attend the regular meetings, which challenge the efficiency of the HFOMC - FCHV are most of the time not involved in the financial management of the HF, and when they are, it is through the HFOMC
Opportunities	Threats
- Donors directly provide money to the central level, which is redistributed afterwards. Hospital is totally funded by the government, and received additional funds to help the poor and the disadvantages - The hospital and DPHO can have the possibility to take additional support from I/NGOs, which didn't come through the central treasury	- The funds available in the HF are not enough to cover all the costs. Funds are mostly used for the operational costs of the HF, but cannot really cover the rest. In addition, no funds are available to deal with shocks - Patients prefer to go to private facilities. Since they provide long hour services and people can go for treatment even after their work. People are losing trust in the public HF and think it is of poor quality - If patients know they had to pay to receive health services, they will not come except if it is an emergency because they cannot afford such costs. Some mention that in this case they will go to a private facility instead

were still paying to receive care that should have been provided for free. Further constitution of Nepal, 2015 addresses health as a fundamental right, stating that every citizen has the right to basic health services free of cost; however, this is not the case. Based on the lessons learned of the community-based health insurance (CBHI) schemes that was introduced in Nepal in the 1970s, and which suffered from low enrollment and retention of members as well as from a pro-rich bias, the Government of Nepal recently (February 2015) formed a Social Health Security Development Committee. This committee is a legal framework to start implementing a social health security scheme (SHS) (technically considered as a social health insurance). The insurance scheme aims to ensure universal health coverage by increasing access to, utilization of, quality health services, and by ensuring access to health services to the poor, the marginalized, and people in hard to reach areas of the country. Therefore, the Government of Nepal is currently starting the implementation of a new social health security scheme. Sabal project is supporting the government in rolling out the project in Makawanpur district.

RESULTS OF THE FINANCING INDICATORS

The financing building block obtained a score of 2.19, meaning that it is “adequate”. The funding coming from the government are secured, and the ones from the donors are also secure most of the time, however an insufficiency of these funding is

deployed (example is given for RMNCH services and shocks coping system). It is not systematic, but financial management/activities can be done jointly at the district level (joint financing, joint costing, basket of funds). A strong system to ensure financial access of the population is in place, and will even be strengthened in the coming month with the implementation of the new social insurance scheme.

Table 11: Results for the financing building block

Financing	2.19
Pooling and allocation of financial resources - Government budget formulation and allocation	1.89
Joint financing	1.67
Universal access to healthcare	3.00

The financing of the activities defined by the central level are secured on the long-term, but remains insufficient to correctly address the actual needs, so the financial support of partners is required. Most of the time, the funds provided by partners are secured as well, but it happened in the past that some were cancelled in the last minute, leaving the government without any resources to develop the agreed programs. A part of the fund is allocated to RMNCH services, however in the last fiscal year it was insufficient for both DPHO and District hospital. When it comes to type 1 & 2 shocks, a financing mechanism is available only for the RRT, and is insufficient to cover the needs of the district on a yearly basis.



Focus group discussion with mothers of children <5 years.



In-depth interview with Female community health volunteer

Since the district is mostly implementing the activities defined and financed by the central level, a financing gap analysis is not key, and unfortunately the district doesn't usually perform it. However, the government uses a software called TABUCS (Transaction Accounting and Budget Control System) which allows the DPHO to record all the financial activities, and could easily be used as a basis to do gap analysis in the future. In terms of joint financing, resources tend to be pooled at the district level. It was observed that when budget is sufficient to carry out all the activities no pooling was taking place, but when the budget was insufficient or when there were important time-constraints in the implementation of activities, then the financial resources were pooled. In addition, the costing of the activities is jointly performed by the donors, local NGO and district council meetings, but the budgeting is not done jointly. Besides, there is a basket of funds at the DPHO, but it is tied to interventions especially when it comes to nutrition related activities. For the district hospital, there is also a basket fund under the hospital development board and it can be used with more flexibility.

The cost-exemption policy is thoroughly applied in the various HFs, and ensures a broad financial access to care for all the population of the district. Moreover, the new social insurance scheme that

will be rolled out soon in the district will ensure an even better financial access to care.

FINANCING FROM PERSPECTIVE OF IMAM

The IMAM program is a priority program of the Government of Nepal, which benefits of the financial assistance from external development partners. In the fiscal year 2016/17, government has allocated funds to continue the program in pilot and roll out districts and has planned a national review of the IMAM program. Other activities such as expansion of the IMAM program in 8 districts, piloting program on moderate acute malnutrition in two districts, supply of the ready-to-use therapeutic food (RUTF) in 23 districts as well as purchase of 700,000 sachets of RUTF; 20,900 sachets of F100 and 12,350 sachets of F75 will be performed. Besides the funds for the supply of RUTF, all the activities are financially and technically supported by UNICEF, WFP and by a pool fund supported by various external development partners.²³

The RUTF which is used in the treatment of uncomplicated cases of severe acute malnutrition (SAM) is currently imported by the Government of Nepal through a pool fund, and is provided free of costs in the public health facilities.

Human Resources

According to the world health report 2006, Health workers are "all people engaged in actions whose primary intent is to enhance health".²⁴ Health workforce around the world are under increasing stress owing to rise of new diseases, escalating conflicts and violence, and burden of current diseases to which they must be ready to respond.²⁵ Health workforce are the engines of the health system and a country's ability to meet its health goals are subject to health worker's knowledge, skills and motivation level. Health system tends to underperform because of lack of human resources, limited production capacity, demographic imbalances and migration of health workers outside the country.²⁶

3.2.4. Human Resources

In context of Nepal, the distribution of the health workforce is very uneven from one region to the other. The central region gathers half of the health workforce (*refer to table below*), and the rest is mostly spread in the eastern and western region with about 18% of the workforce. The mid western and the far western regions are the less staffed with respectively 9% and 5% of the national workforce. Further, Nepal also lacks adequate health workforce. The country has 0.17 doctors/1,000 population and 0.50 nurses/1,000 population, which means there are 0.67 doctors and nurses /1,000 population. It is significantly less than the WHO recommendation of 2.3 doctors, nurses and midwives per 1,000/ population.²⁷

Every year about 1,000 doctors register, however a continual gap between annual registrations and the numbers employed suggests that a significant number may be working outside the health sector or in other countries, which emphasizes the shortage of health workers.²⁸ This “brain drain” situation is a major concern, since about 16% of the registered doctors are outside the country studying or working.²⁹

Meanwhile, the low level of motivation among health workers has been identified as a key issue in the current human resources situation of the health sector (23). In Makawanpur, one of the major issues identified in the human resources was that the personnel are not working full time as they should be.³⁰ The lack of motivation within the staff does not allow a delivery of high quality services, and will not urge patients to come back to the health facilities. At the health post level, the most frequently mentioned de-motivating factors were, no appreciation of work; lack of equipment and insufficient or no staff quarters. Nevertheless, staff in health posts and PHCCs are said to be motivated by opportunity for training and further study opportunities and salary/incentives. In addition to that employees at the hospital mentioned salary and incentives were the main motivating factors.

In terms of policies, a strategic plan for human resources for health (2003-2017)³¹ was created to identify the kinds of healthcare services and staff required to meet the changing health and healthcare needs of the population, but also to outline human resource objectives and identify short-term policy actions for MoH. The strategic plan recommended increasing the capacity and strengthening the staff at lower level to better meet the primary and secondary care requirements of the people, to create an effective referral network and to reduce stress of patients at tertiary level health facilities.

RESULTS OF THE HUMAN RESOURCES INDICATORS

The human resources building block has been scored as ‘adequate’ with a score of 1.69. The scoring shows that system and processes exist and are mostly defined by the central level, but their implementation is limited. In addition, the specific context of the district, or the seasonality are not taken into account in these processes (topics of supervisions and training, amount of public personnel, etc.) which doesn’t always allow to respond correctly to the needs of the district. Indeed, a HR management system, which includes performance, recruitment, promotion, transfer exists in the district but it is partially implemented and not always well used. It is well followed for the recruitment and the promotion part, but not for the transfers, where some health workers may stay at the same position for a long time, whereas others are transferred before doing the required number of months/years.

For each type of HF, a specific number of health staff is defined, and the adequate budget is provided by the DPHO to cover it. The HF context, and seasonality are not taken into account in the estimation of staff needs, but if the HFs have additional needs, contractual staff can be hired at the HFs’ costs, or financial support can be sought with the Village Development Committee (VDCC). The supervisions performed by the DPHO are not always of high

Table 12: Distribution of the health workforce by region (countrywide data)

Percentage of total national health work force	Central	Eastern	Western	Mid-western	Far western
Public sector	45%	21%	17%	11%	7%
Private sector	58%	12%	22%	6%	2%
Both	50%	17%	19%	9%	5%
% of Nepal's population (2011)	36%	22%	19%	13%	10%

Table 13: SWOT analysis of the human resources building block

Strengths	Weaknesses
• Trainings received are sponsored by DPHO or I/ NGO or other EDPs present in the district (USAID, UNICEF), and are about IMAM, family planning, immunization, safe abortion, HMIS, PMTCT • DPHO has an annual plan of supervision, in which 42 days in total per year are allocated for supervision of HFs. PHCCs staff said to be supervised at least once per month, and on the occasion of program. The content of the supervision is either on a specific program topic, or about medicines storage, working time, HMIS, etc • Health users gave positive feedbacks on the health workers that took care of them. Users mention that they did not have to wait for a long time when they visited HPs and PHCCs, however for hospital they had to • FCHVs are present in the community as the first point of contact point of the health system. The trainings that FCHVs received were mainly about vitamin A, polio campaign, nutrition. They said that it helped them a lot to perform their work. FCHVs also mention that seeing their community healthier is a motivating factor • Community representatives are part of the HFOMC, which ensures their participation in the management of the HFs. The community members also directly take part in FP, immunization activities, and awareness campaigns, hoping to receive incentives at the end of the day for most of them • Majority of the post are fulfilled • When health issues are spotted in the community or when interventions at this level are developed, members of the HFOMC, social workers, VDC representative, local NGO can be mobilized • Community leaders advise people to visit the HFs, or eventually disseminate specific messages from the HFs	• According to the Chief of DPHO and Medical superintendent of the hospital, the staffs are not very motivated to perform their job. The inability to help patients when there is shortages of drugs or equipment, or when patients are referred to hospital but cannot afford to go are some demotivating factors mentioned • Absence of training and coordination, drugs and equipment stock-out, as well as lack of time for their own family are challenges that the personnel encounter • Some FCHVs are supervised on a monthly basis, but other mentioned that they were only supervised during campaigns. Several FCHVs stated that more supervision would be beneficial to them • Numerous FCHVs are not literate, they need the help of other people during the campaigns, and for the reporting. In addition, some FCHVs observed a lack of trust from the community • The hospital is under-staffed, and under-paid, and there is a lack of collaboration with the DPHO • Some HPs mentioned that they are very rarely supervised • In case of surges in the hospital, no specific procedure is in place, but extra workforce can come to help form the other tertiary level hospitals • When members of the community take part in health activities, they mention that it is mostly to receive incentives
Opportunities	Threats
• Appreciation from patients, acknowledgment of the superior staff and opportunity for capacity building are factors that enhance the motivation of the health personnel • Health personnel mention that the following training would be needed to improve their job: management, community health awareness, IUCD implant • Members of the HFOMC, teacher, local political leaders and social workers are influential people in the community that could help to influence behavior change	• Misbehavior of the patients, depreciation of the superior staff, and lack of clinical updates are demotivating factors for the HFs' staff



Interview with chief of district public health office.

quality, and they are not performed in an equitable manner. Pre-service and in-service trainings are to be performed for all the staff, based on regional or central standards, but it is not systematically done and not all the personnel benefit from it.

Table 14: Results for the Human Resources building block

Human Resources	1.69
9. Policies	1.58
10. Planning	2.00
11. Performance management	2.00
12. Training and education	1.17

The Human Resources Strategic Plan 2011-2015³² has been followed in the past years, it has not been updated to the present context, but it acted like a guideline for the HR development. A performance management system of the health personnel exists (Nepal Health Service Rules, 1999), but it is not systematically used, and only the part regarding the work completion is considered most of the time. In addition, strong biases are observed along the process, which does not allow a fair and equitable management. Moreover, a formal process for the recruitment, hiring, transfer and promotion of personnel exists, but its full utilization is limited especially in the transfer system, so not all the personnel go through the same equitable processes.

The information system for the human resources is partially used at the district level, information are only compiled on an annual basis for the yearly Makawanpur report. The MoH is also monitoring the HR through the Health Resources Information System (HuRIS) which is not up to date, and understate the joiners and resignations.

For each type of HFs there is fixed number of personnel, which is based on the DPHO annual budget. This budget is allocated by the central level, and it does not take into account the seasonality in the staffing policy. Hence, neither the context of the HFs nor the seasonality are taken into account while expressing the HR needs, which can lead to a lack of personnel in the periods of peak. The budget provided by the district allows the hiring of the number of sanctioned positions defined by the DPHO, and if additional staff is needed, it will have to be covered by the HFs' budget or through VDCs' budget.

It has been mentioned that the number of staff was adequate, but that no scale up or down were taking place during the year. Not all the sanctioned positions are being fulfilled; however, staff hired on a contractual basis (not on government budget) has the roles and responsibilities of these positions, and ensure the related activities. The position of Office Assistant is being removed from the Government

sanctioned positions and will now be filled by a contractual staff. Public and contractual staffs are then both present at the HFs, and share the amount of work. The roles and responsibilities of each of them are clearly defined on the paper, however it appears that the contractual staff is working much more than the public one. Since the contractual staff does not have a permanent position, they are under more pressure and tend to work more.

A lack of regular supervisions of the HFs has been recorded. HFs are not equitably visited by the DPHO for supervisions, indeed the incentives received or the personal relationship with the health workers tend to be the criteria on which the district staff select HFs for supervision. Moreover, the quality of the supervisions are not always as per standards (supervision checklists and guidelines are not used). The monetary and non-monetary incentives used for supervision or others are standardized according to the published Nepal royal gazette notice of the Ministry of Finance.

Further, the central level defines the training strategy, and the district focuses on implementing the planning of trainings. There is no accounting of the district context or needs while defining which kind of training will be carried out during the year, which can lead to important gaps in the skills of the personnel. In-service training packages should be provided by the regional health directorate or the central level to the health staff on the basis of

their performance appraisal, geographical region and qualifications, however, it appears that not all the health personnel benefit from it, and it is not systematically carried out. Besides, pre-service training should be performed on a regular basis to all health staff, including 21 days training for newly recruited staffs by training center at regional level for non-officer level, and at the staff college (central level) for officer level; but, these trainings depend on the budget and are therefore not regularly happening. There is no joint training plan that involves all the partners of the district.

The training of trainers is standardized by virtue of specific protocols that were defined at the various levels, and each trainer receives one before conducting any session. Nevertheless, most of the time, one trainer is responsible for a large variety of trainings and is not an expert in each field, so the training provided are not of high quality. Most of the time, trainings are performed in Nepali as it is the common language understood by almost all the population, however local or ethnic languages are also used if further clarity is required. The advocacy/IEC materials are sometimes translated into local languages (Chepang, Newar and Tamang languages) to ensure a better dissemination of the messages. The trainings received by the district level managers are not holistic and only covers either logistics, formative supervision or minimum health package services. Hence, the latter are lacking comprehensive skills and knowledge for the efficient management of the HFs.

HUMAN RESOURCE FROM THE PERSPECTIVE OF IMAM

Strengthening the capacity of the government health workers in the management of severe acute malnutrition children is one of the objectives of the National Nutrition Policy and Strategy of 2004. Therefore, the Government of Nepal trains all the health workers of the districts on the IMAM program.³³ Technical and financial assistance of the external development partners is provided at this stage to ensure a proper training to health workers from the central level, down to the community.³⁴ One of the main challenges observed, is the turnover of trained staffs at the point of service, and the insufficient quantity of staff supported by the external agencies.



Interaction with health workers during data collection.

Service Delivery

Service delivery is a vital input to improve the health of the population. Hence, one of the prime responsibilities of the health system is to ensure availability and accessibility of services, which meets minimum quality standard. The health services offered will differ from one country to another but well-functioning health system should display following characteristics³⁵:

- *Comprehensiveness*
- *Accessibility*
- *Coverage*
- *Continuity*
- *Quality*
- *Person-centeredness*
- *Accountability and efficiency*

3.2.5. Service delivery

The Government of Nepal first published an EPHS, called the “Essential Health Care Services package,” in 1999 as part of the second Long Term Health Plan, which included 20 broad health areas. The government’s Health Sector Strategy (2004) acknowledged that the original EPHS was not affordable for the government, given the country’s current resource availability. The 2004 Health Sector Strategy proposed to focus on delivering four main areas of essential care across all districts: safe motherhood and family planning, child health, control of communicable disease, and strengthened outpatient care, which the Nepal Health Sector Program Implementation Plan 2004–2009³⁶ sought to do. The subsequent Nepal Health Sector Program Implementation Plan 2010–2015³⁷ updated and expanded the EPHS to include new services under the reproductive health and child health areas, and new programs on mental health, oral health, environmental health, and community-based newborn care, and a community-based nutrition care and support program. In addition, the update includes non-communicable disease control component to address changes in demographics and diseases. The government has made clear that the EPHS is a tool used to work towards universal health coverage in Nepal.

The Government of Nepal is committed to deliver these services free of cost to every citizen, primarily through public health networks and, eventually, in

partnership with non-state providers. Studies have shown that following the implementation of free basic health services package, there has been an upsurge in services utilization in government health facilities, it rose from 62 to 255% at HP level in the following years based on studies conducted in various parts of the country.³⁸ In 2015, a national survey³⁹ showed the availability of the services in the health facilities of the country, as summarized in table 15. Almost all the public facilities offer a curative care, child growth monitoring, child vaccination, family planning, and antenatal care, whereas, much less private facilities offer these services. Half of the facilities perform normal delivery, against only 5% of them which are able to do cesarean.

There are 34 birthing centers, 1 comprehensive emergency obstetric care, and 4 basic emergency obstetric care providing safe motherhood services in Makawanpur district. There has been slight increment in ANC first visit to 89% as compared to last two FYs, and a continuous improvement in delivery conducted by SBA as of expected live births to 46% as compared to 34% of last FY⁴⁰. In addition, social service units provide free health care services to the target groups on a daily basis, and to facilitate their access to such services in zonal, sub-regional, regional and central hospitals.⁴¹ These units identify the target groups on the basis of equity and equality, and the hospitals provide services free-of charge based on the needs of the patients.

Table 15: Availability of health care services in health facilities (countrywide)

Available services	Availability in health facilities
Public health facilities providing curative care, child growth monitoring and child vaccination	90% of public health facilities
Private health facilities providing curative care, child growth monitoring and child vaccination	2% of private health facilities
Availability of Family Planning in public health facilities	99%
Availability of Family Planning in private health facilities	70%
Facilities Providing Antenatal Care	95%
Facilities offering Normal Vaginal Delivery	49%
Facilities offering Cesarean Delivery	5%
Malaria Diagnosis or Treatment	49%
TB Diagnosis or Treatment/ Follow Up	91%

Table 16: Essential Health Care Services Package for NHSP-2⁴²

1. Reproductive Health	2. Child Health
1.1 Family planning 1.2 Safe Motherhood (SM), including newborn care (free institutional deliveries nationwide for all) 1.3 Medical safe abortion 1.4 Prevention and repair of uterine prolapse	2.1 Expanded program on immunization 2.2 Community-based Integrated Management of Childhood Illness (CB-IMCI) 2.3 Nutrition 2.3.1 Growth monitoring and counselling 2.3.2 Iron supplementation 2.3.3 Vitamin A supplementation 2.3.4 Iodine supplementation 2.3.5 De-worming 2.4 Community-based newborn care (emerging as a separate component) 2.5 Expanded nutritional care and support (added to community-based nutrition care, community nutrition rehabilitation with institutional care, and School Nutrition Program)
3. Communicable Disease Control	4. NCD Control
3.1 Malaria control 3.2 Kala-azar control 3.4 Japanese Encephalitis (JE) control 3.5 Prevention and treatment of snakebites and rabies control 3.6 Tuberculosis control 3.7 Leprosy control 3.8 HIV/AIDS/STI control	4.1 Community-based Mental Health Program 4.2 Health promotion for NCD control
5. Oral Health	6. Eye Care
5.1 Promotive and preventive oral health care	6.1 Promotive and preventive 6.2 Examination, correction and surgery 6.2 Trachoma (SAFE Programme)
7. Rehabilitation of the Disabled	8. Environmental Health
7.1 Promotive and preventive 7.2 Rehabilitation, surgery and therapy	8.1 Promotive and preventive (water, air quality, sanitation, hygiene, waste disposal, etc.)
9. Curative Care	
9. 1 Outpatient care at district facilities	

Over the last decades, the government has brought health services closer to the communities through a decentralized health system. There is at least one health post in every VDC, one PHCC in every electoral constituency, a district level hospital in every district and secondary level hospitals in zonal and regional levels. In addition to that, private hospitals developed a lot, but in a very uneven manner. The central region gathers 76% of the private hospital whereas the western region doesn't have any private hospital.⁴³ In 2014, 301 private

hospitals were registered in Nepal, accounting for 78% of the total beds, where the public hospitals only count for 22% of them. Most of these private hospitals are concentrated in urban areas, 67 of them are in Kathmandu valley and mainly cater to the clients from higher wealth quintiles.⁴⁴ However, a rise in the visits of private health facilities is also observed in the rural areas. The following table described the number of people who attended health facilities of Makawanpur district, for the years 2014-16.

Table 17: Average number of people served every day in 2014/15 and 2015/2016 in the district of Makawanpur

Type of Health facilities	Average number of people served per day in 2014/15	Average number of people served per day per HF in 2015/16
Public Hospital	204	261
NGO/Private Hospital and other health institutions	59	62
PHCC	36	48
Health Posts	17	23
EPI Clinic (per clinic)	20	25
PHC/ORC Clinic (per clinic)	23 (per month)	22 (per month)

Table 18: SWOT analysis of the service delivery block

Strengths	Weaknesses
• PHC/ORC to take health services as close to people's homes as possible • FCHV organize mother's group meetings to discuss on maternal and child health issues. FCHVs and HFOMC are then people or group of people that allow the communication between the HFs and the communities. However, no specific mechanism or process has been mentioned, but phone calls, letter or visits are commonly used • When the monthly meetings are held at the HF, the community is involved and can provide feedback • HF users who are satisfied by the services explain that it is because health worker provide them with ample time for consultation, behave decently, and services are free	• The health workers highlighted some issues in the service delivery of HFs: some people expect hospital level services; lack of equipment, for remote HP the referral to PHCC is difficult • The ambulance available in the district tend to stay in the district hospital instead of the rural areas where they have been deputed • Referral slips exists but are not operational. Hence, it is difficult to ensure if the people referred get to the intended health facility • Quality assurance mechanism is non-existent • No system is in place to collect the users' feedbacks, although users would like to be asked their opinion on the services • No mechanisms in place to ensure that community needs' are met • Opening hours of the public HF, specially the health post, do not always allow people to visit them when they need or when they are free
Opportunities	Threats
• While defining activities or programs, community would like to be more involved in identifying the intervention areas, and participate in awareness and information campaigns • Community leaders also mentioned that involvement of the existing institutional groups within the community would help to improve services • The newly elected local government will be responsible for running the local health facilities as well as conducting nutrition and health activities • The local government representatives will head the HFOMC so this will allow greater involvement of the local people in decision making regarding local health issues	• Challenging geographical terrain, seasonal roads and irregular and/or inadequate public transportation services in the remote areas discourages people to seek health services • Trust deficit among the users/clients on the quality of health services encourages them to prefer private health institutions as the first choice

In context of geographical accessibility, on average 62% of Nepalese households have access to health facilities within 30 minutes. In urban areas, it goes up until 86%, and is only of 59% in rural areas (5). One of the solutions developed to improve geographic access is the PHC Outreach Clinic program (initiated in 1994). The aim of (PHC/ORC) program was to improve access to some basic health services including family planning, safe motherhood services, child health, health education and counselling, and first aid treatment for rural households. PHC/ORC clinics are the extension of PHCCs, HPs at the community level, and the responsibility for conducting the activities lies with ANMs, and AHW. Based on the local needs PHC outreach clinics are conducted every month at fixed locations of a VDC on specific dates and time. The clinics are held at locations not more than half an hour's walking distance for the population residing in that area. The fact that there is no adequate infrastructures with proper space and equipment is often missing, which prevent the team from correctly perform the PHC/ORC. In addition, the irregularity of the conduction of the PHC/ORC during the rainy season is an important challenge.⁴⁵

RESULTS OF THE SERVICE DELIVERY INDICATORS

Service delivery obtained a score of 1.60, meaning that it is “adequate”, all the sub-categories are “adequate” except for the access and coverage which is not. The availability of the minimum package of services is adequate in the district. Longer opening hours, and on-call system facilitate it, but the referral system and the integration of the SAM management still requires some improvements. Geographic access is very challenging in the district, and everybody is not able to reach the services they need. This can be related to the insufficient utilization of services especially for pre-natal care and attended skilled deliveries. The financial access to care is adequate due to basic package of free health services. Proxy such as availability of equipment, infrastructures and key services allow to say that the quality of services is satisfactory. Finally, the community and the civil society are involved in the service delivery through various mechanisms and also by FCHVs.

Table 19: Results for the Service delivery building block

Service delivery	1.60
16. Availability and continuity of care	1.75
17. Coverage and access to RMNCH services	1.13
18. Utilization	1.80
19. Quality assurance	1.67
20. Community participation in service delivery	1.67

The availability and continuity of care is adequate. In about 80% of the HFs, essential services of the continuum of reproductive, maternal, newborn and child health are available. The management of SAM for children under 5 years is partly integrated in the HF circuit. Indeed, in the 16 HFs where an OTC center is present, it is well integrated, but when there is no OTC center the importance of IMAM is not well known by the community. A referral system is in place and identifies very clearly the referral circuit of patients, however transportation means are rarely available, patients have to pay by themselves, and there is no feedback mechanisms for the follow-up of the patient. The continuous access to RMNCH services is adequate, HP, UHC, PHCC and OPD of the hospital provide 7 to 8 hours services and IPD hospital provides round the clock services. In addition, on-call services are available in 87% of the HFs, but birthing centers are not available in each HF.



Interviewing a health worker.

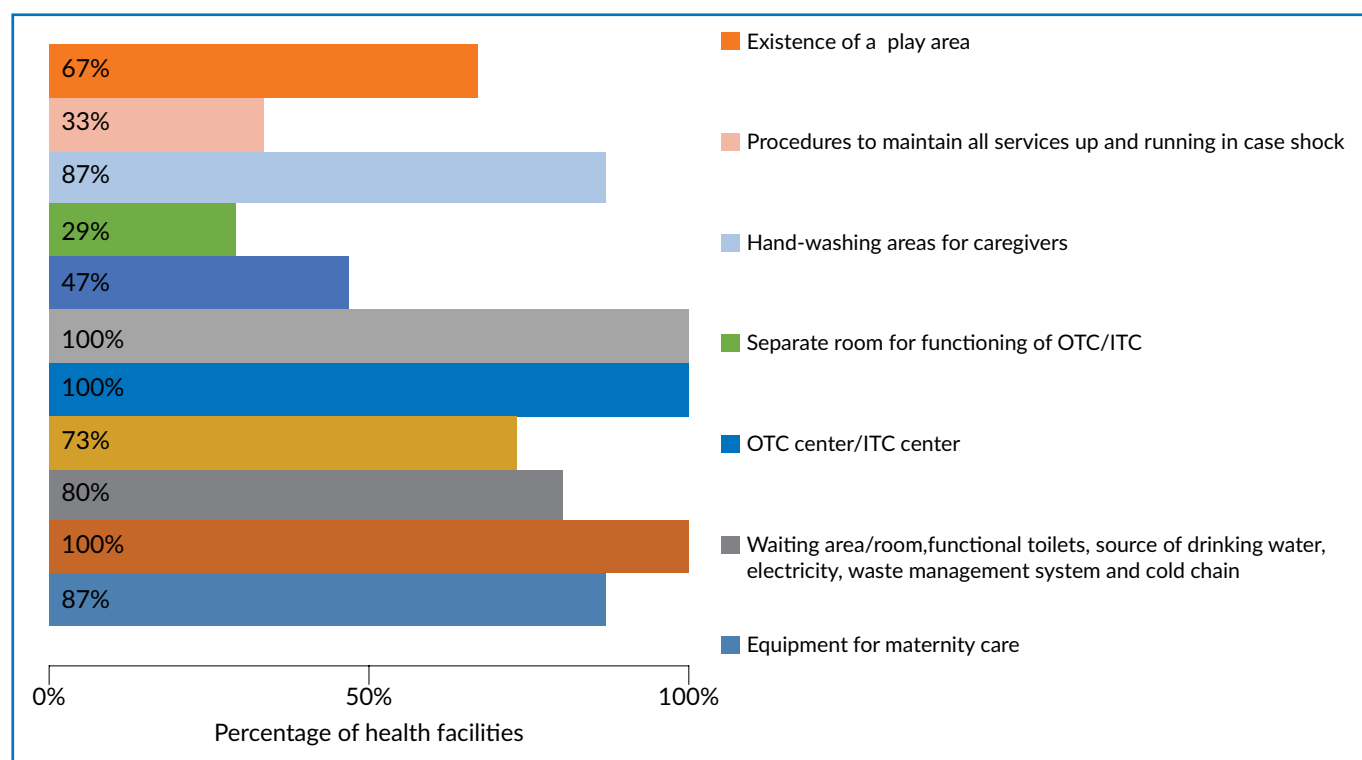


Figure 4: Summary of results of primary data for the Service delivery - Infrastructures

In the context of Makawanpur, the access to care is not satisfactory, and requires the mobilization of important resources to be improved. The geographical access is challenging in the district due to remote places, hilly areas, lack of proper road infrastructures and public transportation. Advanced strategies exist to reach the hard-to-reach population (Outreach clinics, EPI clinics, FCHVs) but they are not functioning well due to poor HR management. The financial access to care is ensured for most of the population through the basic package of free health services, when they visit the HF. Some procedures to ensure the continuity of care in case of shocks are in place but they are not implemented and therefore the continuity of care is not correctly ensured.

On average HPs have two beds available, and some of them can be used to perform birth

delivery, whereas PHCCs have six beds. All the HFs have correct waiting area, functional toilets, drinking water sources, electricity, as well as cold chain. Also, 87% have hand-washing areas for the caregivers. HFs can perform birth deliveries since 73% of all HFs have a delivery room (34 declared birthing centers), and 100% of the latter have the necessary equipment. Around 87% of the HFs have permanent construction that are all functional, and consultation rooms with tables are found in 100% of the HFs. A waste management system is available in all the HFs, but remains very basic for most of them (waste pit, burning of wastes). In only 33% of the HFs, procedures are in place to maintain all these infrastructures in case of shocks. Only 29% of the OTC centers have a separate room to deliver the care.

Table 20: Results of the primary data for the quality - Service delivery building block

Indicators	Average/ Percentage
The protocols are displayed and used	80% of all HFs
The curative registers are correctly filled in	100% of all HFs
Registers for preventive consultations are correctly filled in	100% of all HPs and PHCCs
Registers for children consultations are correctly filled in	100% of all HFs

No specific system to assess the quality of care is in place, but the indicators described below show that quality of services is satisfactory even if it is not perceived as such by the patients. Indeed, post-natal services (including distribution of FeFol) are available and free-of-costs in all HFs and at the community level, also oxytocin is always provided to women after delivery since it is included in the protocol. The infrastructures and equipment of the HFs are said to be satisfactory, however when it comes to out-reach clinics no building with proper infrastructures are available. The triage and waiting time are not properly managed since there are neither infrastructures nor HR available to do it. Patients are not satisfied with the quality of services they receive in 50% to 75% of the HFs because they cannot get the medicines, they are not given enough time or the diagnosis are not correct.

The community and the civil society are engaged in the delivery of RMNCH through mechanisms such as district nutrition and food security steering committee, nutrition and health cluster, or VDC level nutrition and food security steering committee, however; meeting frequencies and regularity of such forums need to be increased. FCHVs, which are the link between the community and the HF, receive supervision especially when programs or campaigns take place, but no regular supervision take place as the community workers would like. In less than half of the time, the traditional healers refer the patients to the HFs, some can be trained on services awareness and specific diseases, and however there is not a proper referral mechanism.



Participants making a presentation in a workshop.

The utilization of services seems insufficient; indeed the utilization of the prenatal health care or curative care by the community were not satisfactory, except for the children under 5 years old. In addition, in spite of the free health services, health seeking behaviors within the poor and marginalized population is very poor. Despite the incentives initiative of the government to encourage parturient to give birth with the assistance of skilled personnel, less than 50% of the pregnant women actually do it. The absence of a tracking system for pregnant women, as well as a lack of proper counselling from the health staff due to poor training on the subject can be some of the reasons behind that. It appears that when pregnant women visit HF that do not have birthing centers, then they are more likely to miss the 3rd and 4th ANC visits as well as the PNC visit, and the health workers think that they cannot continue the consultations as there is no proper facilities in the health center. Community health workers and

Table 21: Results of the primary data for the services utilization - Service delivery building block

Indicators	Number of consultations over the last 3 months
Number of OPD visits	HP/UHC: average 720 PHCC: average 1,758 Hospital: 1,648
Number of OPD visits < 5 years old	HP/UHC: average 87 PHCC: average 199
Number of 4 ANC visits	HP/UHC: average 14 PHCC: average 30
Number of deliveries assisted by skilled personnel	HP/UHC: average 13 PHCC: average 16
The current equipment can put up with an important rise in the number of patients	36% of rise is possible
New users of family planning services (if possible CPR)	HP/UHC: average 32 PHCC: average 52

HFs provide family planning services several times a week, and all the different methods are offered, therefore the contraceptive prevalence rate (CPR) is very adequate (57% in Makawanpur). During the workshops, there were discussion that while 3rd and 4th ANC is less in health post and primary health care centers without birthing facilities those visits are particularly high in hospitals and birthing centers

About 12% of the OPD visits are for the under 5 years children, so they do not represent the majority of the consultations flow. For the HPs, the number of ANC is equivalent to the number of assisted delivery, which suggests a good follow-up of the pregnant women at this level. New users of family planning are also counted every month. The HFs have enough equipment to put up with a rise of patients upto 36% on average, and keep delivering services correctly.

SERVICE DELIVERY FROM THE PERSPECTIVE OF IMAM

Services related to IMAM programs are delivered in Outpatient Therapeutic Care Centers (OTCCs) and in Inpatient Therapeutic Care Centers (ITCC). OTCCs covers children aged from 6 to 59 months with severe acute malnutrition (SAM) with good appetite and no medical complications. OTCC are present within public health facilities as a separate room or a desk in conjunction with other child health and nutrition programs. The OTCC provides the following services⁴⁶.

- Medical assessment and anthropometric monitoring
- Systematic medical treatment

- Therapeutic treatment: Home-based treatment and rehabilitation with RUTF. The SAM cases will have to come for weekly or fortnightly follow-up for routine medical treatment using simplified medical protocols and additional RUTF rations

Meanwhile, community based screening activities are held at the community level with the involvement of Female Community Health Volunteers. The turnover of trained staffs at the point of service is a challenge, and it tends to compromise the ability of the point of service to function correctly. In Makawanpur, there are 16 OTC centers currently in operation within HP, PHCC and in the DPHO facilities itself. Regardless of the presence of OTCC, a nutrition focal person is present in each HF and will ensure the referral to OTC if needed. In addition, 23 targeted supplementary feeding program (TSFP) sites for the treatment of MAM are present (All OTCCs are TSFP sites).

In February 2017, a coverage assessment of IMAM program was conducted, through a semi-quantitative evaluation of access and coverage (SQUEAC). This assessment revealed that long distances, travel time to the service delivery points and inability to bear the transportation cost for follow up visits were the main reasons for defaulting. However, at the same time it was observed that people do not hesitate to spend money in treatments offered by the traditional faith healers no matter how poor they are. Community's belief in traditional faith healers is deep-rooted and generational. In the health facilities with OTC center an IMAM focal person has been appointed, and ensures all the tasks related to IMAM. However, it appears that the other staffs are dependent on IMAM focal person to perform any IMAM related task.⁴⁷

Inpatient care is provided at Stabilization Centers/ Inpatient Therapeutic Care Centers (ITCC) present in public health facilities, district and tertiary level hospital. In Makawanpur only one ITCC is present in the District hospital. In the ITCC, children age 0 to 59 months with severe acute malnutrition and medical complications and/or no appetite are treated. According to the WHO guidelines, these centers provide medical treatment and nutrition rehabilitation. Severely malnourished children aged 6 to 59 months are transferred to outpatient services when the medical complications are stabilized and appetite returns.⁴⁸



Interview of the medical superintendent at the district hospital.

Supply

According to the WHO framework for health systems⁴⁹, equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use are the major traits of a well-functioning health system. However, to ensure well-functioning supply system efforts must be made to ensure an effective procurement, supply and storage, and distribution systems that minimize leakage and other waste. The system should also be supported by quality assessment and support rational use of medicines, commodities and equipment, through guidelines and strategies to assure adherence, reduce resistance, and maximize patient safety and training.⁵⁰

3.2.6. Supply

The Government of Nepal has been providing a selection of essential drugs, including 76 drugs in district hospital, 55 in PHCCs and 37 in HPs, for free under the free Essential Health Care Services (*refer to Annex 4*).

The supply of medicines is organized at three levels, which correspond to various budget lines: central budget, regional budget and the district one (see figure below). The first one is supposed to supply the 75 district with all the needed drugs during a year, however in case of a crisis the two other levels can step in and purchase the needed drugs. A tender always has to be organized and it is open to national and international bidders.

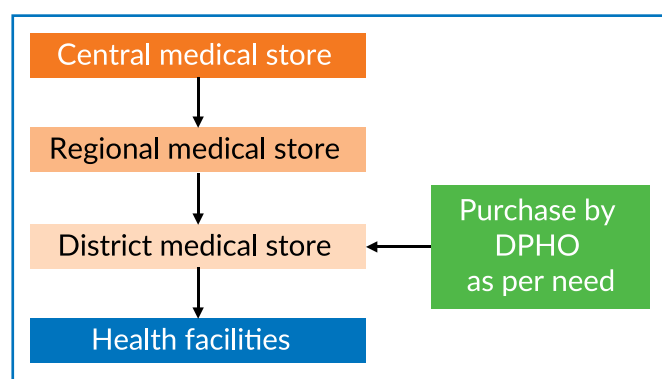


Figure 5: Logistic management process in the health system⁵¹

Inefficiencies have been noted in the procurement of drugs at the district level. Indeed, the cost of procurement appears to be 133 to 278% higher with district-based procurement than with the central based one. Although district based procurement allows the latter to procure drugs based on local needs, it also highlights its incapability to manage procurement contracts and ensure quality of drugs, dependence on single contractor for entire drugs and difficulties in attaining of economies of scale due to limitation of suppliers and quantity of drugs to be procured lead to cost inefficiencies.⁵² As soon as products need to be purchased by the public bodies, a specific procurement cycle has to be followed. A set of guidelines is available in order to facilitate the procurement process to the personnel in charged, and details all the steps of the tender process. The following cycle has to be followed.

A web-based Logistics Management Information System (LMIS) has been implemented at the central level and all 75 districts, and is used to guide logistics activities by monitoring and managing the stocks and supplies, and also support policymakers' decisions. This system tracks 206 items, and is integrated in several programs such as family planning, EPI, malaria, TB, control of diarrheal diseases, ARI, nutrition and leprosy programs, and for essential drugs. The LMIS is now producing reliable logistics data for decision making at all levels and functions of the health supply chain, including forecasting, inventory management, distribution, pipeline monitoring of key health commodities, and prevention of stock-outs. Policy makers have now acknowledged the credibility of the tool and use it to make policy and operational decisions. It also helps logistics managers to make supply decisions based on the information collected. The LMIS unit and the Logistics Management Department monitor the flow of commodities at the national level, the Regional Medical Stores monitor it at the district level, and the DPHOs monitor it at the field level. In 2011, about 96% of the HFs was submitting the LMIS forms regularly.⁵⁴ Meanwhile, the MoH with the support of international partners has developed a procurement improvement plan for the period of 2013-2016.⁵⁵ The purpose of this plan is to strengthen the procurement planning,

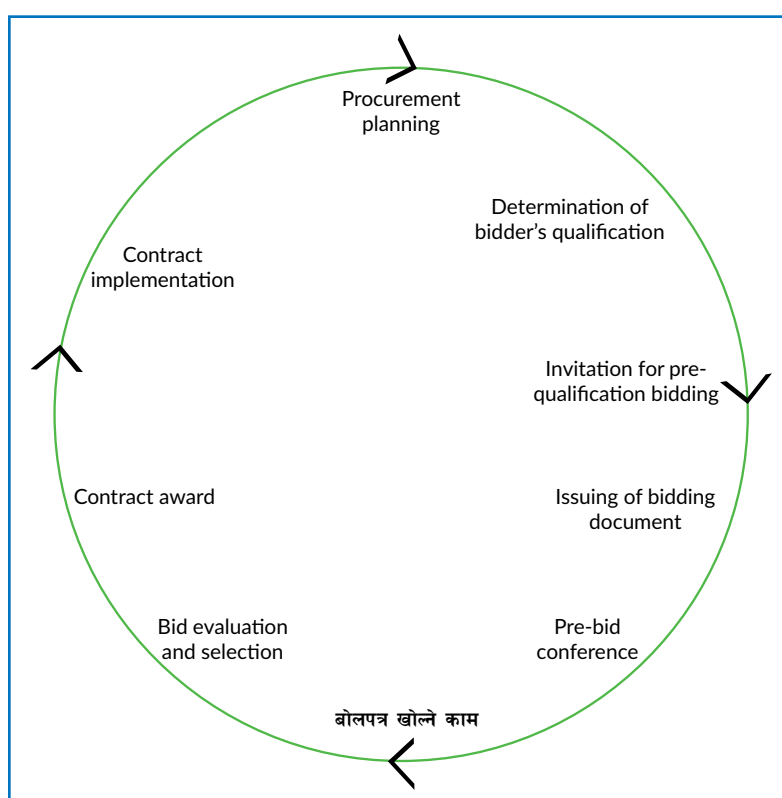


Figure 6: Procurement cycle of the health sector⁵³

implementation and monitoring practices. Several objectives were listed, and among them: “Address procurement issues at district level”, by assessing the procurement system in all the 75 districts, and provide the needed capacity and trainings. The other objectives were about the improvement of procurement guidelines procedures, budgeting, as well as procurement processes including e-procurement, improvement of procurement monitoring, and development of human resources.

RESULTS OF THE SUPPLY INDICATORS

The supply building block obtained a score of 2.09, which means that it is “adequate”. Indeed, several aspects of this building block allow a good global functioning, such as the LMIS, and the well-defined supply chain. However, some difficulties are observed in the implementation especially when it comes to the long procurement process or the

Table 22: SWOT analysis of the Supply building block

Strengths	Weaknesses
- When there are acute shortages of specific drugs, they also perform demands as per necessity. Every three months PHCCs/HPs report to DPHO through LMIS about the needs and stocks of the past three months - In case of emergency, funds can directly be asked by DPHO to the higher level for drugs procurement. For the hospital, supplies are directly shipped to the hospital by the regional and central levels	- In principle of demand of supplies is to be filled by the PHCCs/HPs and sent to DPHO every quarter due to limited supplies in the district medical store the health facilities are compelled to demand for drug every month - If drugs are not available in the HF, the patients either visit another facility (public or private) and purchase , or they buy the drugs in a pharmacy - If an amount of supply is urgently needed, the possibility to obtain them quickly will depend on the transportation conditions to reach the HFs - The hospital does not have enough funds to purchase the necessary drugs. At the DPHO level, there is not enough funds to buy medicines, hence drugs shortages is observed
Opportunities	Threats
- The availability of the LMIS at all levels of the health system allows the production of reliable logistics data as well as tools to ensure a good supplies management - The push-pull system for supplies ensures a minimum and systematic amount of supplies to all HFs, and allow them to order more when needed - Following the establishment of local government, the health facilities will have the direct support and funding of the local government for the purchase of medical supplies	- DPHO is dependent of the bidders for the supply of drugs. It is possible that nobody bid for the tender - During the rainy season, the delivery of supplies is very challenging and even impossible in some areas

anticipation of stock-outs, which most of the time do not include seasonality into the previsions. The actual quality control system doesn't ensure a high quality of supplies at every steps of the supply chain.

Table 23: Results for the Supply building block

Supply	2.09
Pharmaceutical policies, laws and regulations	1.83
Effective implementation of supply	2.11
Joint supply management	2.33

A national drug policy is present in the district, but there is not enough fund to ensure a good continuous implementation, and the procurement procedures are long and numerous, which can be challenging for the implementation. A medium-term procurement plan that takes into account the calendar of seasonal shocks exists at the district level, but is partially used for the supply management. A quality control system is only present at the central level. This system ensures a monitoring of the supplies and the quality checks at central level, however there is no quality control system in place at the district level. Therefore only one quality check is performed during the process, which can lead to the delivery of poor-quality supplies. Guidelines on the storage and management of drugs and nutritional products exist but are partially applied by the HF staff. For instance, the storage area for the supplies is most of the time sufficient; however the standards required for storage of quality are not always enforced.

LMIS is the tool used by all HFs and the district to quantify and manage the supply needs. Although it is used by most of the HFs, it is still not systematically done and not always in a proper manner. The LMIS is not systematically consulted to estimate the supply needs of the HF, and the demand form is most of the time filled in without checking the LMIS information. Using the LMIS information as a basis for the demand would allow a more adequate demand of supplies every month and reduce the risks of stock-outs.

The product delivery of the drugs and nutritional products is performed through the district supply chain (the RUTF supply system is totally integrated in the standard pharmacy management of the HFs). The supply previsions are carried out based on the information of the previous year. Every month the HF performs a demand of supplies to the DPHO, and every three months the HF perform an inventory of



Nutrition focal person engaged in a presentation on bottlenecks.

the stocks, and report to DPHO through LMIS about the needs and stocks of the past three months. In a situation of shocks, procedures to ensure a quick delivery of supplies is used, and the central and district levels can be rapidly mobilized, however it has been scored as partially functioning. Although the stock capacities of the district are sufficient, no buffer stock is anticipated and available. This can be partly explained by the fact that the supplies available at the central level are insufficient, which makes it difficult for the district and the HF to have a proper buffer stock at all times. In addition, the shock calendar is not enough considered in the procurement of supplies, so stock-outs can happen more easily. Joint storage for inputs and consumables are used for the different services of HF, moreover since there is only one storage area most of the time, all the services store their items in the same location. Not all the essential medicines are present in all HFs at all times, based on the scoring it is the case to more than half of all the HFs of the district. In addition to that, 60% of the HFs endured stock-out in the last 6 months. It is an important issue to be addressed because it really affects the quality of the care delivered at the HFs. The majority of the HFs seems adequately equipped for the RMNCH services.

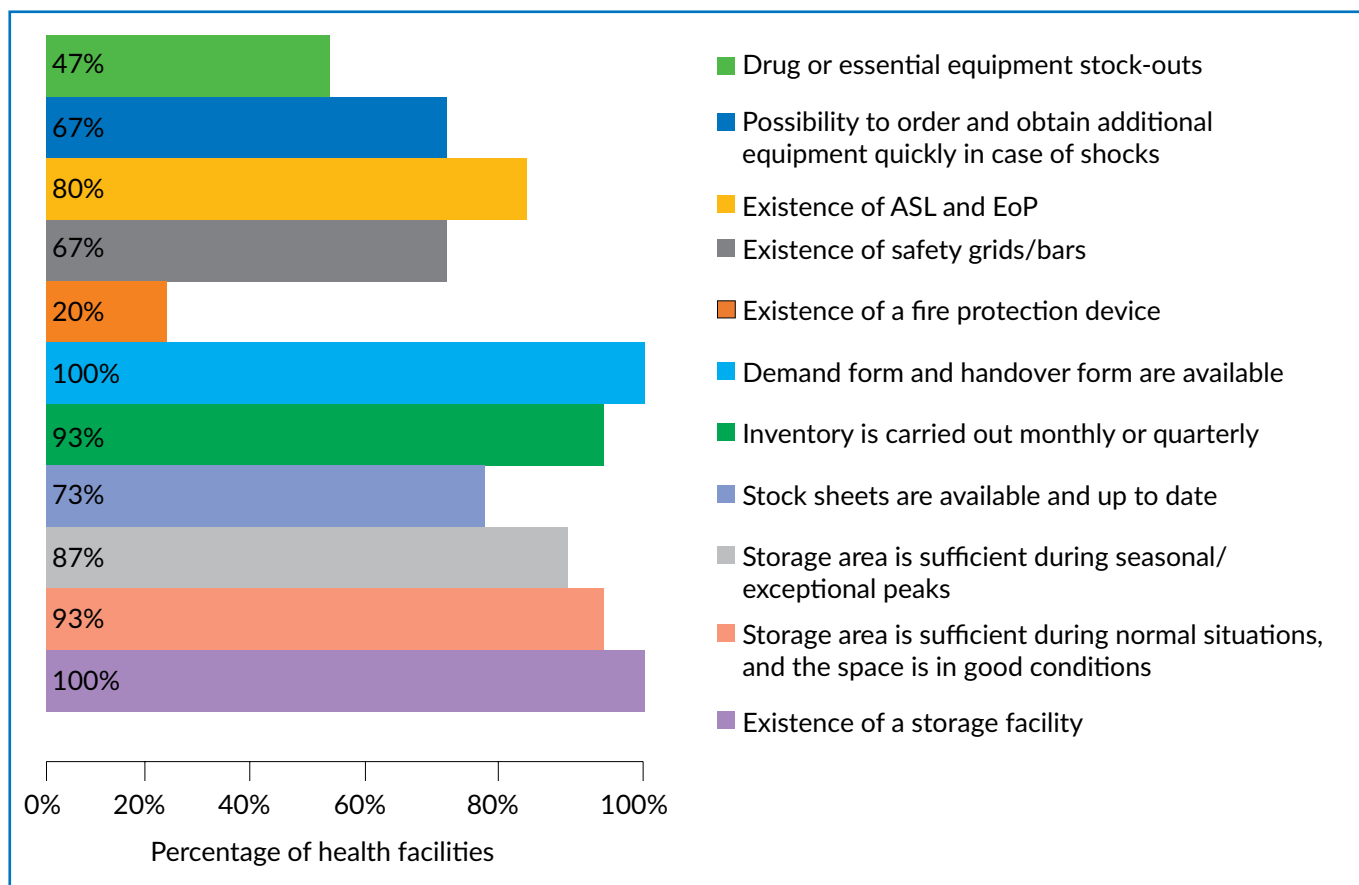


Figure 7: Summary of results for the Supply - Storage

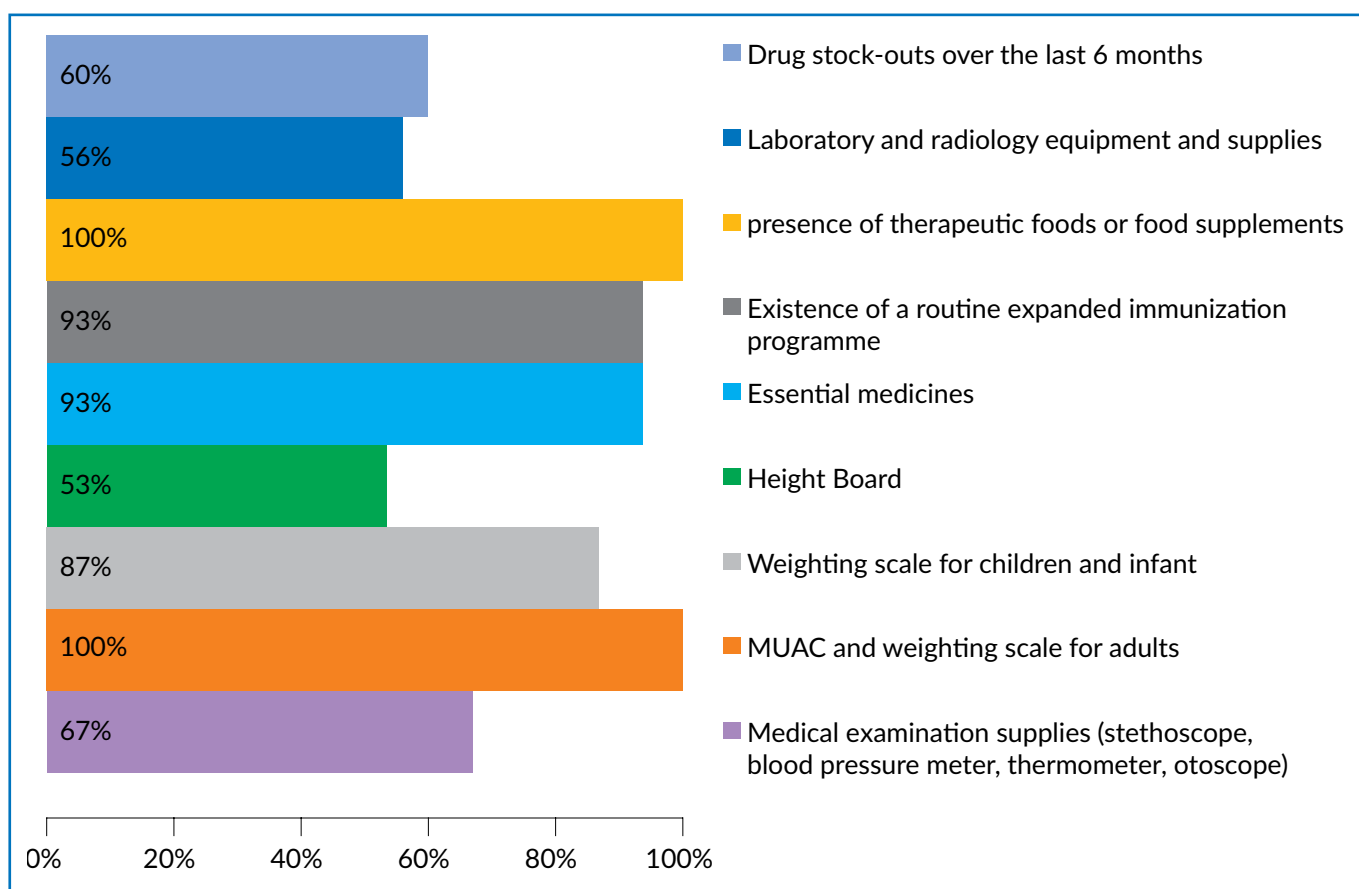


Figure 8: Summary of results for the Supply - Supplies management.

Since the LMIS is web-based issues such as proper internet access and consistent power supplies will rise. In addition, the drugs procurement at the district level is a long and non-optimized process that does not allow a high efficiency in the drugs procurement, and the poor actual quality control system doesn't ensure a high quality of supplies at every steps of the supply chain. Stocks sheet are available and up to date in 73% of the HFs, (they are present in the hospital, but not necessarily up-to-date) which can be related to the stock-outs that have been observed in 47% of the HF (including the hospital), and 60% of them in the last 6 months. Medical examination material (otoscope, stethoscope, thermometer, blood pressure meter) is only present in 67% of the HFs although it is essential for the delivery of primary health services.

Seasonality is not taken into account in the anticipation of stock-outs, and stock management, so regular drug shortages are observed. It happens in every 4 months in DPHO, and they have to ask for additional money to the higher levels to cope. DPHO is also dependent on the bidders for the supply of drugs, which can be a barrier in the fast commodities supply. If drugs are not available in the HFs, there is no process to provide some to the patients, they will have to find some in pharmacies or other clinics and pay by themselves. Remote areas are challenging to reach especially during the rainy

season, where some areas will be very inaccessible. In addition, in case of shocks the supply delivery can be quite long.

SUPPLY FROM PERSPECTIVE OF IMAM

The supply of RUTF is arranged through the regular government system. One of the challenges is that there has been no practice of maintaining stock of RUTF based on Authorized Stock Level (ASL) and Emergency Order Point (EOP). RUTF is primarily procured by UNICEF though the Government of Nepal is also planning to procure them in this fiscal year. Besides, the government has also plan to procure F75, F100 and ReSoMal for inpatient management of severe acute malnutrition. Usually, the shipment of RUTF is stored in Pathlaiya warehouse of the government from where distribution is done on the basis of demand from the districts.

Another challenge is correlation between RUTF consumption and the number of children to be managed. The demand form is forwarded by OTC center to DPHO form where it is forwarded to Child Health Division with a request letter. The Child Health Division forwards the request to LMD which is then processed. In addition, UNICEF makes significant contribution in transportation of materials.



Group work during a workshop

Health Information System

There is a reductionist perspective in defining the health system i.e. it is taken as monitoring and evaluation system. In addition to its role of monitoring and evaluation, the information system also should demonstrate an alert and early warning capability, support patient and health facility management, enable planners and policy makers to take appropriate decisions. One of the most important attributes of the health system should be to produce analytical results that facilitate operationalization of the recommended action.⁵⁶

3.2.7. Health Information System

The health information system has four key functions: (i) data generation, (ii) compilation, (iii) analysis and synthesis, and (iv) communication and use. The health information system collects data from health and other relevant sectors, analyses the data and ensures their overall quality, relevance and timeliness, and converts the data into information for health-related decision-making.⁵⁷

In context of Nepal, Health Management Information System (HMIS) is available in the whole country, and at every level of the health system. It includes mechanisms of data collection, compilation, processing, dissemination, analysis and interpretation. The main objectives of the HMIS are as follows⁵⁸:

- Monitor the achievement, coverage, continuity and quality of health services
- Monitor and evaluate health programs
- Help in the development of appropriate health policies guidelines
- Provide access of data/ information to the MoH

Every month, health facilities have to report on more than 200 indicators, and send this data to DPHO, that will compile them and send them to the Health Information Management, Department of Health Services. The District Health Information Management Committee, under the DPHO is in charge of managing (monitor, report and disseminate) the health information, at the district level.⁵⁹

This HMIS includes data from the vertical programs, VDC and health facilities levels, and allows data to be disaggregated per age, sex, cast and ethnicity⁶¹. To correctly record and report the data from the level of female community health FCHVs. The reporting process is implemented as follows :

- Every month, FCHVs meet with health workers to update the FCHV register (HMIS 4.2). Based on this information the form HMIS 9.1 is compiled
- By the 1st day of the month (Of Nepalese calendar): The reports from the outreach clinics are provided to the respective health facility
- By the 3rd day of the month (Of Nepalese calendar): The reports from the respective health facilities should be provided to the DHO/DPHO
- By 20th day of the month: DHO/DPHO should update the information in a web-based software that will transfer the information to the central level

Based on this information, an annual report is written by the central level and disseminated. Moreover, in Makawanpur a yearly report specifically for the district is compiled by the DPHO .

The HMIS reports include data about child health, reproductive health, diseases and injuries, programs and laboratory services (see Annex 6). All the forms are filled on hard copies in the field, only when they reach the DPHO level, information is

Table 24: Number and distribution of HMIS indicators⁶⁰

Program	Number of indicators	Percentage of the total
Safe motherhood	36	13
Family planning	2	1
Female Community Health Volunteer	10	4
Primary health care outreach services	4	1
Immunization	28	10
Integrated Management of childhood illnesses	31	11
Nutrition	25	9
HIV/AIDS	24	9
Tuberculosis	33	12
Epidemiology and disease control division	21	8
Leprosy	12	4
Curative services	26	9
Health facilities	28	10
Total indicators in HMIS	280	100

digitalized. The completeness of reporting is good for public facilities, indeed in 2008/09 it was 100% completeness for health districts, 79% for hospitals, 97% for PHCCs and 90% for EPI clinics.⁶² For Makawanpur district, the HMIS reporting rate has been 100% for the last 3 fiscal years. Reporting for NGOs and private health institutions was less successful with respectively 67% and 66% of completeness. These results show that the HMIS functions well at the various levels, allows a wide coverage in term of geography and programs, and provide an extensive statistics central database. However, some data are not timely available due to geographical constraints, some inconsistencies and incompleteness' remain, and additional personnel still need to be trained.

In addition to the HMIS, there are other systems available that can complement the HMIS. The disease surveillance system is one of them. It is a separate system coordinated by the Epidemiology and Disease Control Unit, also known as the early warning and response system (EWARS). It is based on 39 sentinel sites (hospitals) which monitor

as influenza, malaria, leishmaniosis, Japanese encephalitis and acute diarrheal disease/cholera. In addition, there are 18 priority diseases for which weekly reporting is mandatory, as opposed to the monthly reporting, and 6 other diseases with mandatory reporting within 24 hours.

Several administrative data systems also come to complement the HMIS on various topics. Among them, the Financial Management Information System which aims to collect information on budgets and expenditures by program; or the Human Resource Information System which monitors health resources at the district level and is compiled at the national level. The Department of Drug Administration develops and disseminates information on proper use of drugs, possible adverse reaction, contraindication, toxicity, drug standards and efficacy.⁶³

In 2007, the Health Sector and Information Strategy (HSIS) was written, and aimed at developing a well-organized, comprehensive, standard and accessible national health sector information system, in

Table 25: SWOT analysis of the health information system building block

Strengths	Weaknesses
- The standard HMIS recording formats are used in the HFs to collect the data about the beneficiaries seeking services and monitor the caseload - Every month, the data from the PHCCs and HPs are sent to DPHO. The DPHO then transfers the information to a higher level - The hospital just transitioned from a paper recording system to a digital recording one - HF users think they are well informed about their rights regarding their health, the available HF, as well as the kind of services they have to look for. - No specific problems regarding the monthly reporting has been flagged from the health workers	- At the HF level, data are not systematically analyzed, but most of the time the person in charge analyzes the data of his own field. No feedback from the monthly reporting meetings is given back to the staff of the HF - Information regarding IMAM are most of the time not properly filled by the ITC centers, and the information mentioned in the IMAM registers are very poor, so the monitoring of the IMAM activities can be challenging
Opportunities	Threats
- Every year, the MoH publishes an annual report on the health activity of the country based on the HMIS - Monthly reports of the district provides an opportunity for course correction	According to the head of the hospital, this collected information does not influence the district, because there is a lack of fund to translate the evidence into actions



Chief of district public health office addressing a workshop

order to provide a tool for evidence-based decision making at all levels. However, the NHSS highlighted the need for a revision of this strategy in the recent years because of important changes in technological, M&E and in the health landscapes. In addition, the potential of modern technologies, not only in making the health systems more effective and efficient, but also in increasing access to health care services in remote areas, should be exploited.

RESULTS OF THE HEALTH INFORMATION SYSTEM INDICATORS

The health information system was scored as “Present but not adequate”, which reflects that systems are in place for the data collection, monitoring, and reporting, but it is not properly implemented by the district and the HFs. In addition, a lack of understanding or awareness of the importance and power of these data collected is observed. Indeed, no proper analysis and utilization of the data is performed to improve the programs, assess the HFs’ performance or develop activities to

better answer the specific needs of the population.

Table 26: Results for the Health Information System building block

Health Information System	1.47
21. Integration of RMNCH services in HIS	1.78
22. Monitoring and Evaluation	1.17

A national guide on health data collection exists but is not always correctly applied, for instance the services register are incomplete, and the recording is not properly performed. Based on the data collected, it has been observed that 13% of the HFs were not issuing properly filled report, on top of that it was mentioned that reports were mostly complete, but the quality of the data was not satisfying. Moreover, the data are not analyzed and used at the district level, only once a year the district analyzes them for the yearly report, through aggregated analysis, no specific analysis per HF is done and no critical investigations are carried out. Therefore no corrective actions are developed to better answer the specific needs of the district.

A strong channel for the transmission of health information from the FCHVs up to the central level, exists and is constantly used by all levels of the health system. It allows the reports to be sent in accordance to the deadlines for 100% of the HFs. The recording and reporting of IMAM programs are embedded in the HMIS, however only indicators about SAM management are included. HMIS trainings are rarely organized for the staff of the health facilities, new staff is usually trained, but there is no refresher training sessions organized,

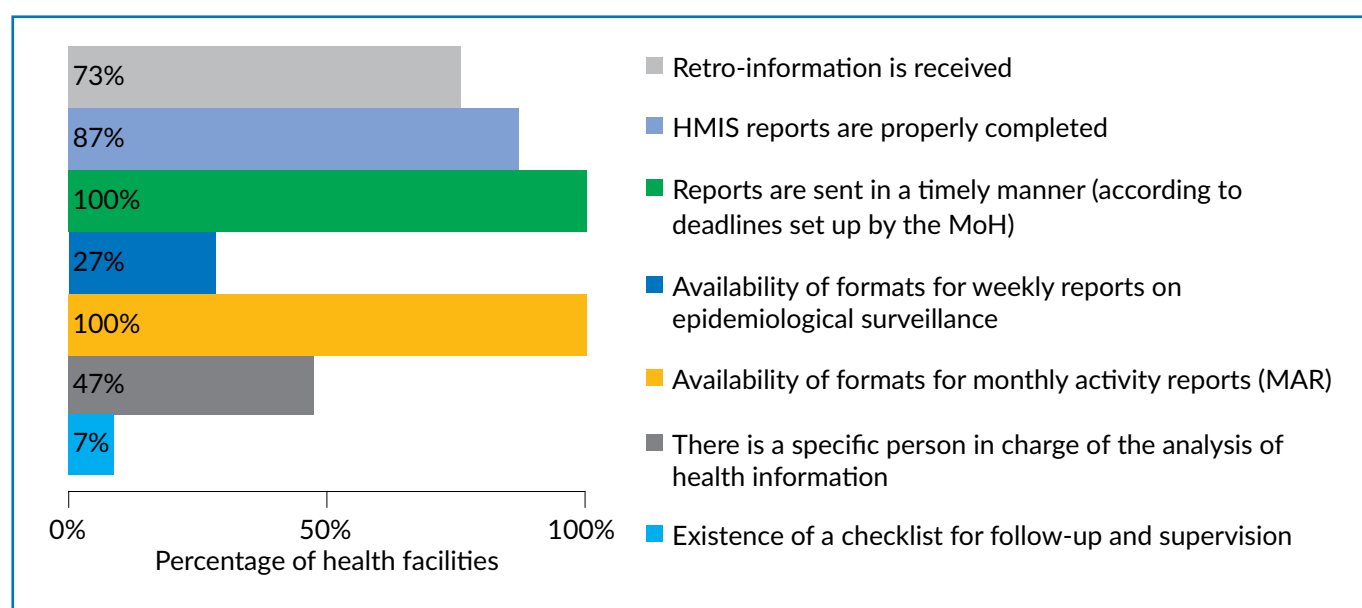


Figure 9 - Summary of results for health information system

which lead to a poor management of the HMIS. The performance of the HFs are rarely assessed by the district authorities, no mechanism is in place to address it. Only a few programs have an assessment system which allows an evaluation of the new and existing ones. An early warning system (EWARS) and an epidemiological surveillance system are in place but are rarely implemented in terms of coverage. Not all the key epidemiological diseases are tracked, and the system is implemented in a limited number of HF. In addition, no discussion mechanisms are in place between the various actors to share the relevant information.

HEALTH INFORMATION SYSTEMS FROM PERSPECTIVE OF IMAM

As the IMAM program is a regular government program, the recording and reporting of these activities is mainstreamed into the HMIS. During the care delivery of IMAM, there is an IMAM registration card (HMIS 2.5) which is basically a registration card that determines a malnourished child's enrollment into the program. This card records information on the anthropometric measurements, follow-up visits, number of RUTF packets provided and date of follow up. The recording form which is present at the OTC center is called IMAM register (HMIS 2.6). This includes detail information of the child including name address, type of admission and discharge, admission criteria, anthropometric measurement at the date of admission and follow up, number of RUTF provided, type of referral, presence of any complications.

The information collected at the health facility level is reported to the DPHO through monthly reporting form, HMIS 9.3. In addition, the PHC-ORCs record the screening of acute malnutrition that they perform, and FCHVs do the same through their register which includes screening and follow

up visits. The hospital reports the inpatients of SAM that are admitted in the ITC through the HMIS as well.

3.2.8. Overview of the result from the six building block

Governance hit the “highly adequate” score, but is very close to the “Adequate” score. HIS turned out to be “Present but not adequate”, and all the other building blocks are scored as “adequate”. The HR and service delivery ones are however very close to “present but not adequate” threshold.

When it comes to shocks and the way building blocks integrate it in their scope, results are more homogeneous. HIS, supply and governance got the same score and are qualified as “adequate”, as well as financing, whereas HR and service delivery pillars are categorized as “Present but not adequate” for preparation and response to shocks.

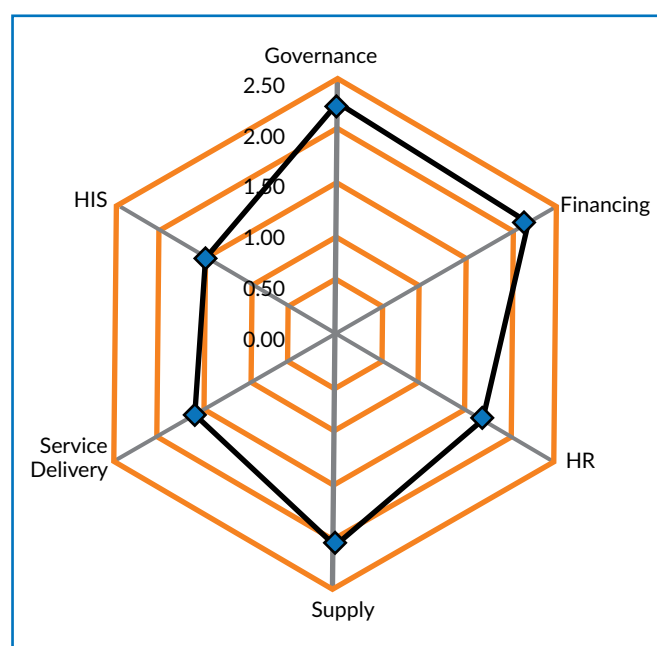


Figure 10 – Spider diagram showing the situation of all blocks

Table 27: Indicator results for each building block

Global average scores					
Governance	Financing	HR	Supply	Service delivery	HIS
2.26	2.19	1.69	2.09	1.60	1.47

Table 28: Results of the shocks indicators for each building block

Average scores for shocks indicators					
Governance	Financing	HR	Supply	Service delivery	HIS
1.83	2.00	1.25	1.83	1.33	1.83



Participants engaged in a discussion during a workshop

An overview of the results for the key indicators is presented below. No indicator was scored as “Not adequate at all”, which shows that all the minimum requirements of a health system are present in the district, however; they might not be working correctly. In addition, all the key indicators for governance and financing were scored as “adequate” or “highly adequate”. For the four other building blocks, they were mostly scored as “present but not adequate”, and then as “adequate”. These global results suggest that the health system of the district already has a structure in place for each of the building block, but the functioning and operational implementation of it is the challenge.

3.2.9. Prioritization

Now that bottlenecks of the health system have been identified, it is necessary to prioritize them, so that the ones with the highest priority can be addressed first. Once the various indicators are

scored, the bottlenecks considered as “Not adequate at all” or “Present but not adequate” are prioritized. The criteria used for the prioritization are defined by the participants during the workshop, and are as follows:

- size of the problem
- seriousness of the problem
- availability of the response
- availability of the funds
- feasibility in the next 5 years
- cost-effectiveness
- coherence with the district strategy
- priority for/of the community

The ones with the highest priority are considered for the causal trees. Some bottlenecks were merged in one, to create a more holistic weakness.

3.2.10. Causal and solutions trees

The objective of these two steps is to analyze and understand the causes behind the prioritized bottlenecks, and then identify the main solutions to address these shortcomings. To do so causal trees have been built which allows a thorough analysis of the origin of the various bottlenecks by describing all the type of causes responsible for the prioritized bottlenecks, and showing the links that exist between all the various causes. This exercise ends the diagnosis phase, and the solution trees initiate the planning phase. Solutions trees are developed based on the causal ones, the same structure is adopted. For each solution tree the prioritized bottleneck is turned into a HSS SMART objective, and each cause in a solution.

Table 29: Prioritized bottlenecks and corresponding HSS objective

Prioritized bottlenecks	HSS objectives
Communities have a limited geographic access to RMNCH services	Within 5 years, the accessibility of RMNCH services is increased in all hard to reach areas by decreasing travel time
Reproductive services (ANC/PNC/Birthing) are not enough available to ensure a good utilization	Within 5 years ANC/PNC/Birthing services are available for, and utilized by all pregnant women of the district
All essential medicines are not present in all health facilities at all times	Within 2 years, all essential medicines are adequately available in all health facilities at all the times
The data collection and their interpretation to feed the action plan are limited	Within 3 years, a data collection of quality and a systematic interpretation of the data are done to feed the action plan of the district
The formative supervisions and trainings of health managers and health workers are inadequate	Within 3 years, adequate formative supervisions and trainings of health managers and health workers are ensured every year and in all health facilities

For each prioritized bottleneck, the causal (red heading) and solutions trees (green heading) are described below. When causes or solutions are similar from one tree to the other, the boxes are colored with the same color.

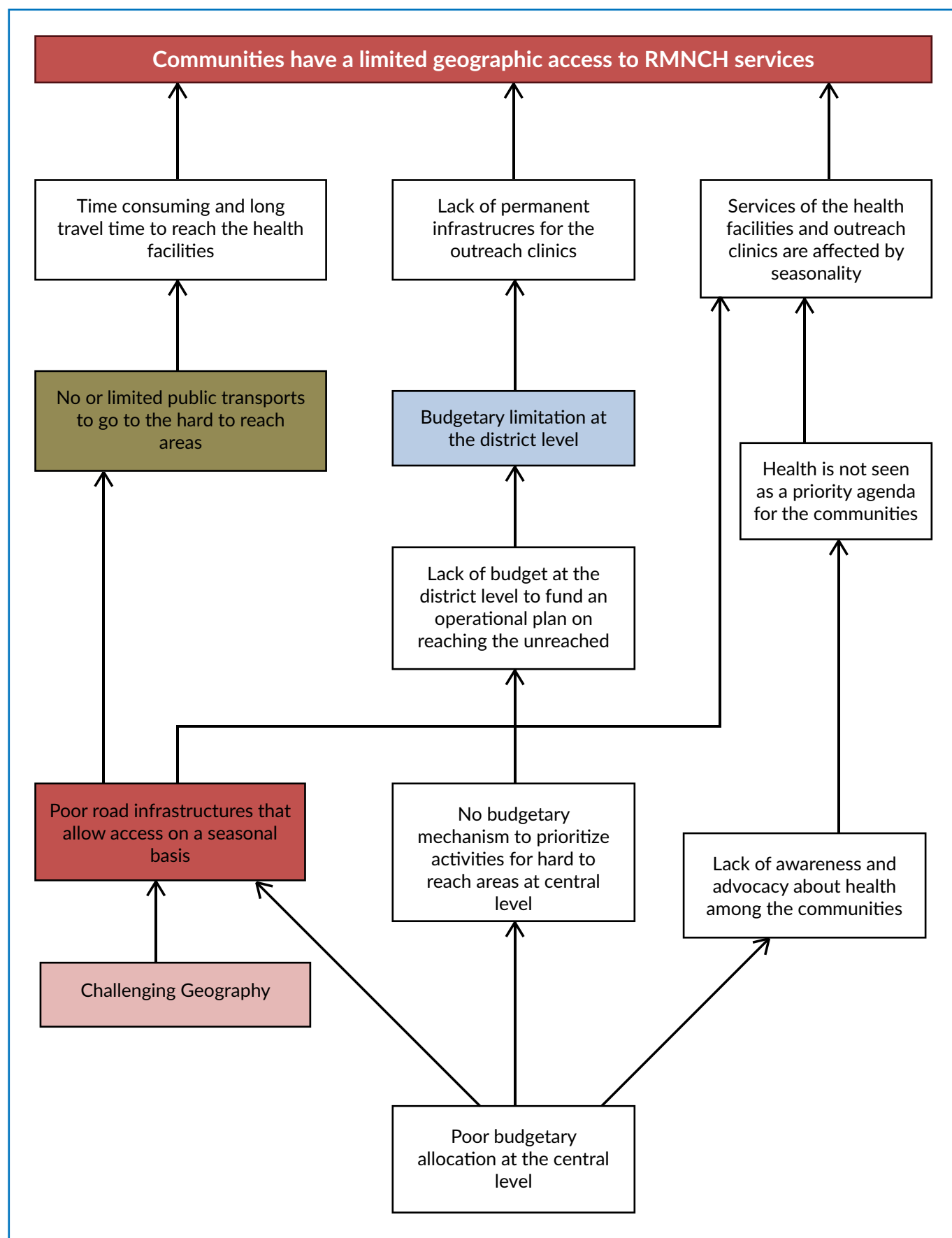


Figure 11 – Causal tree for limited geographic access to RMNCH services

- shock consideration in the framework is signified by “**”

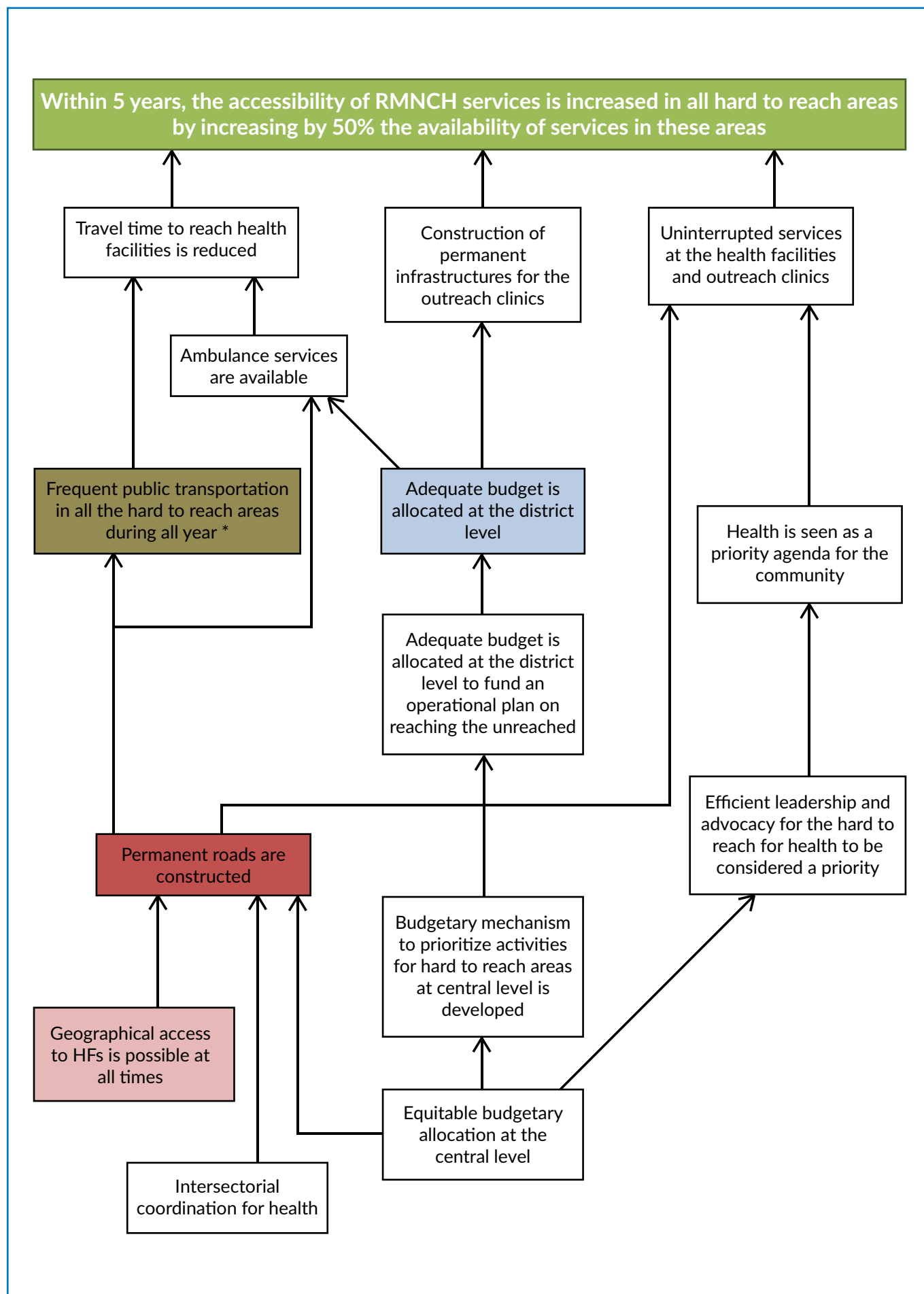


Figure 12 – Solution tree to increase communities' access to RMNCH services

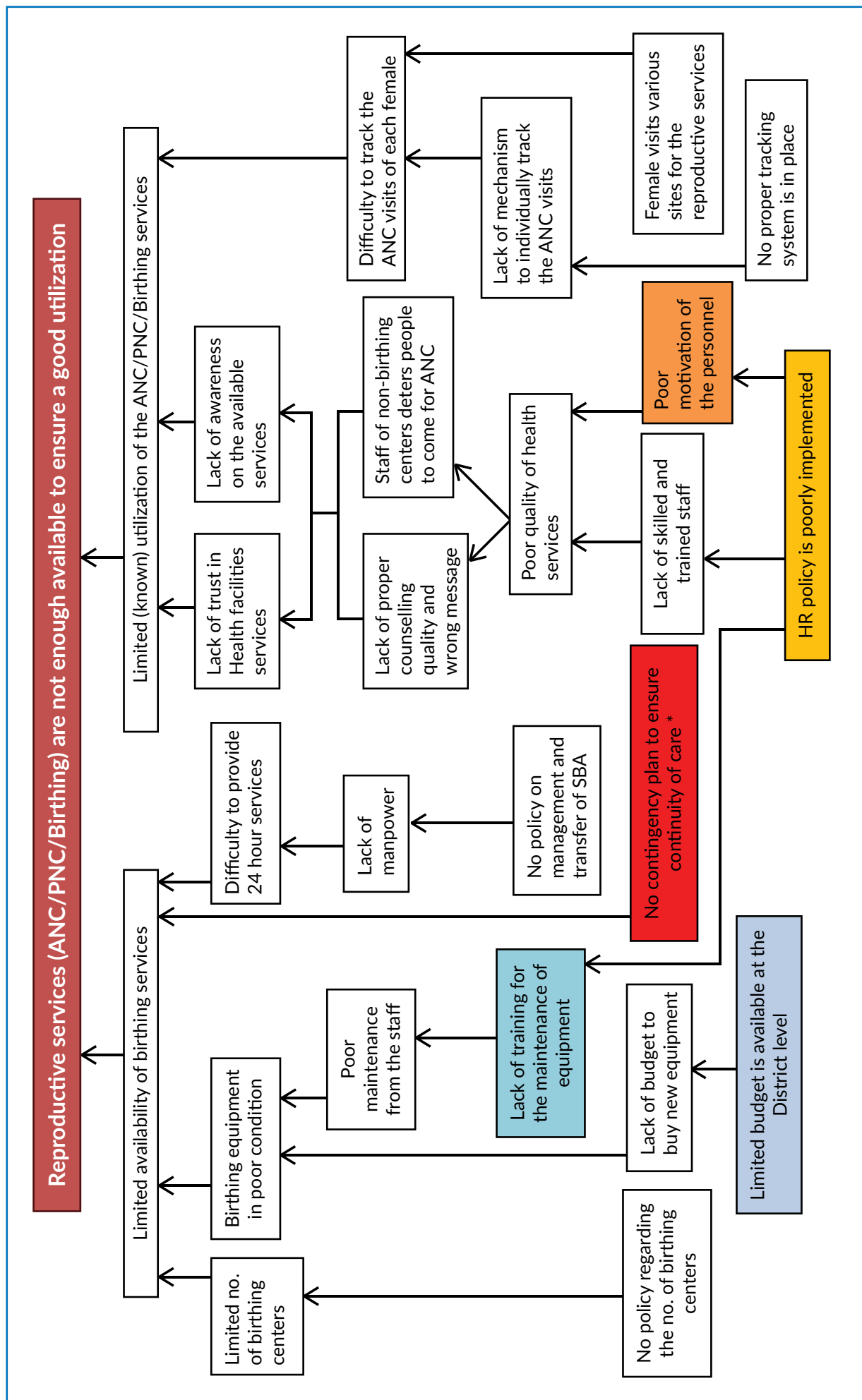


Figure 13 – Causal tree on availability and utilization of reproductive services

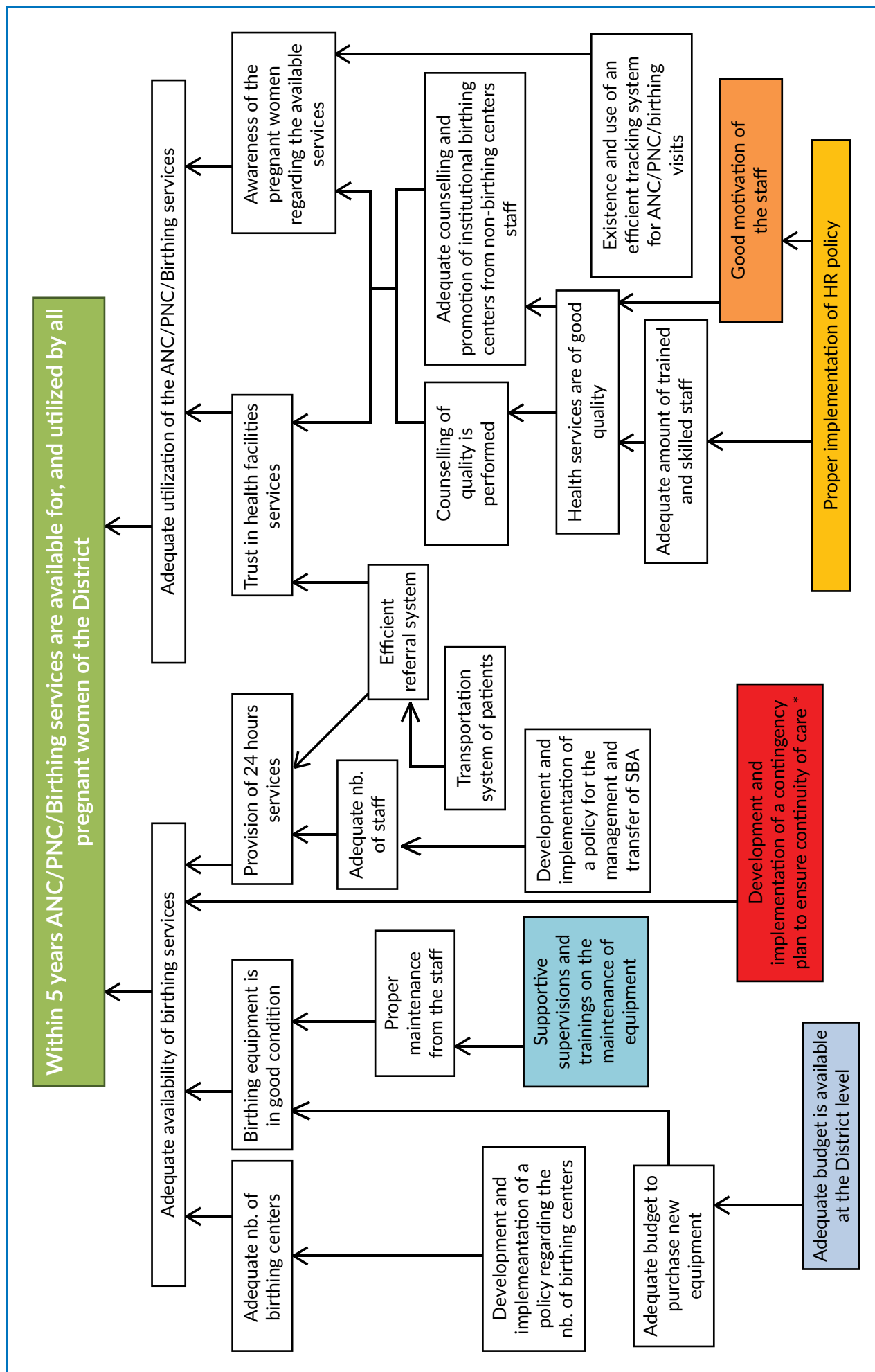


Figure 14 – Solution tree on availability and utilization of reproductive services

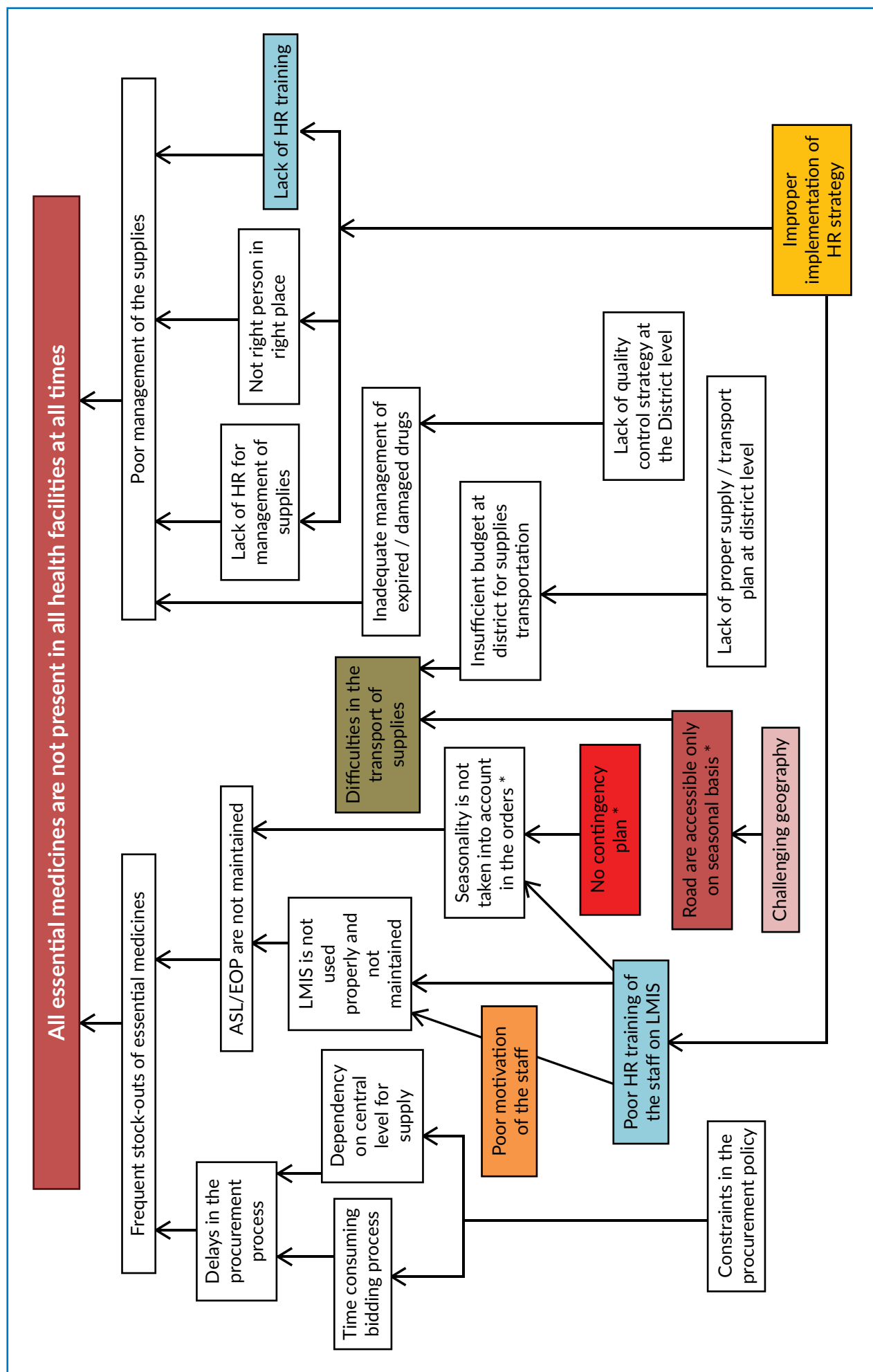


Figure 15 – Causal tree on availability of essential medicine.

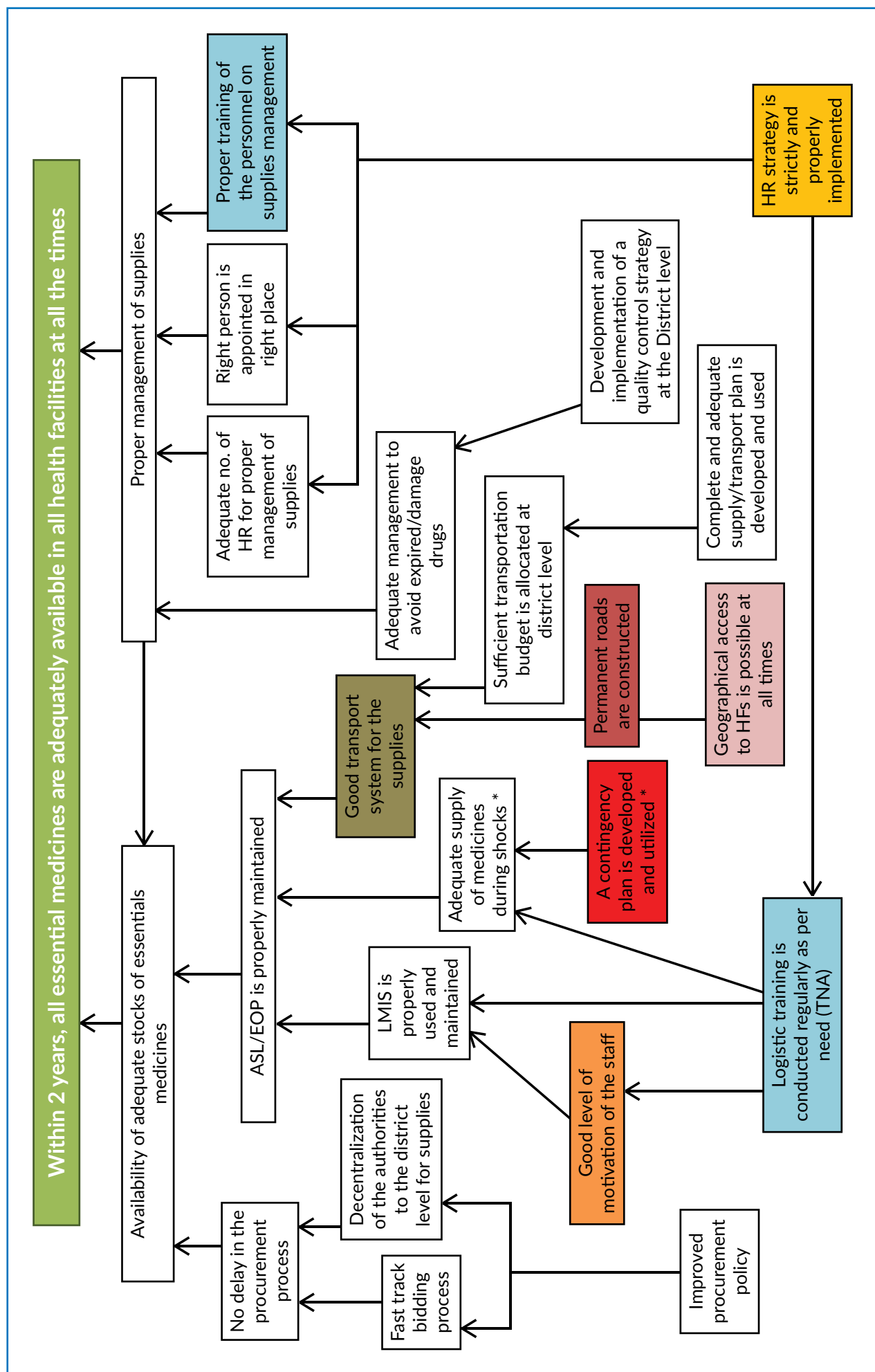


Figure 16 – Solution tree on availability of essential medicine.

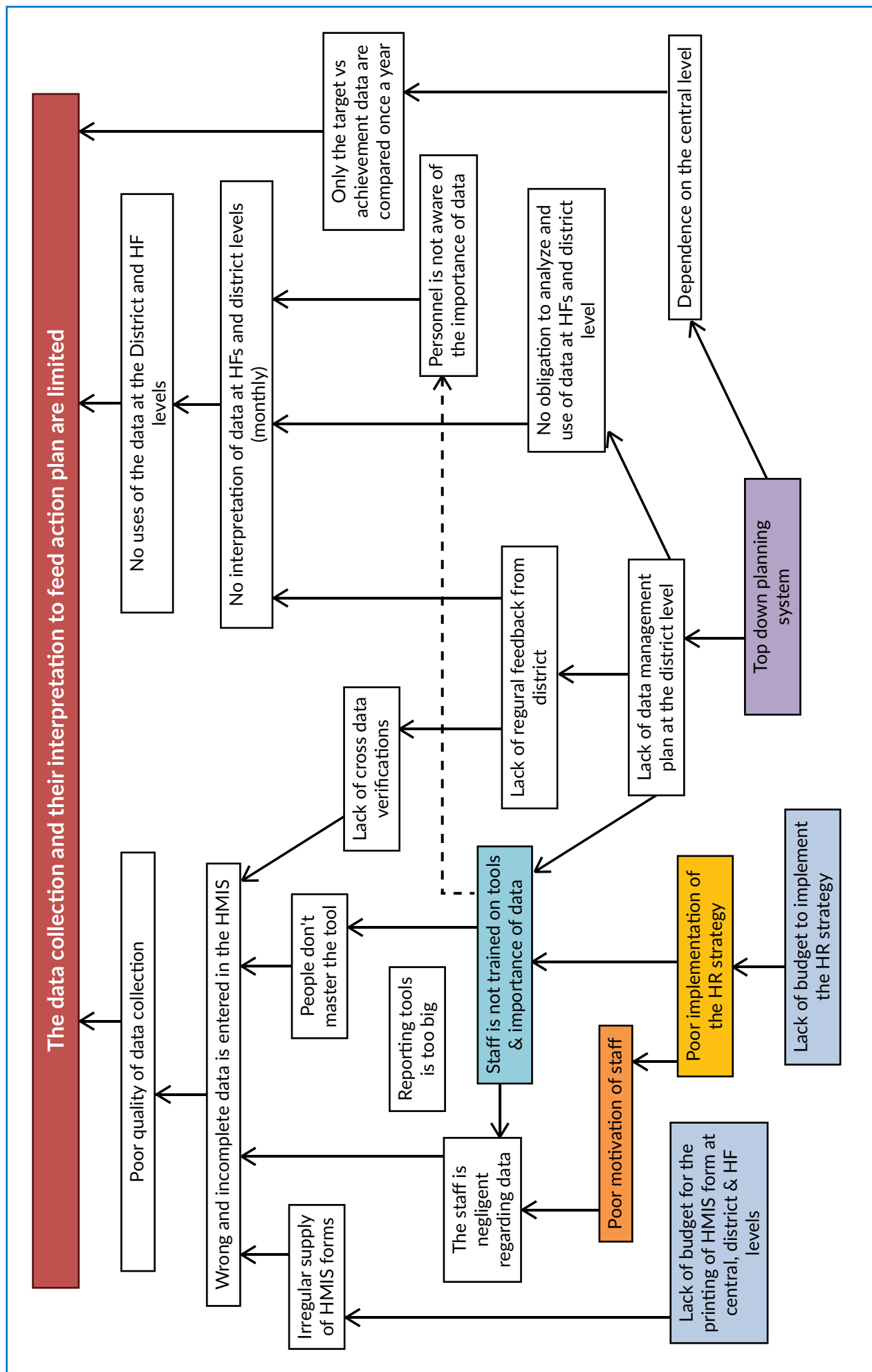


Figure 17 – Causal tree on quality of data collection and their interpretation.

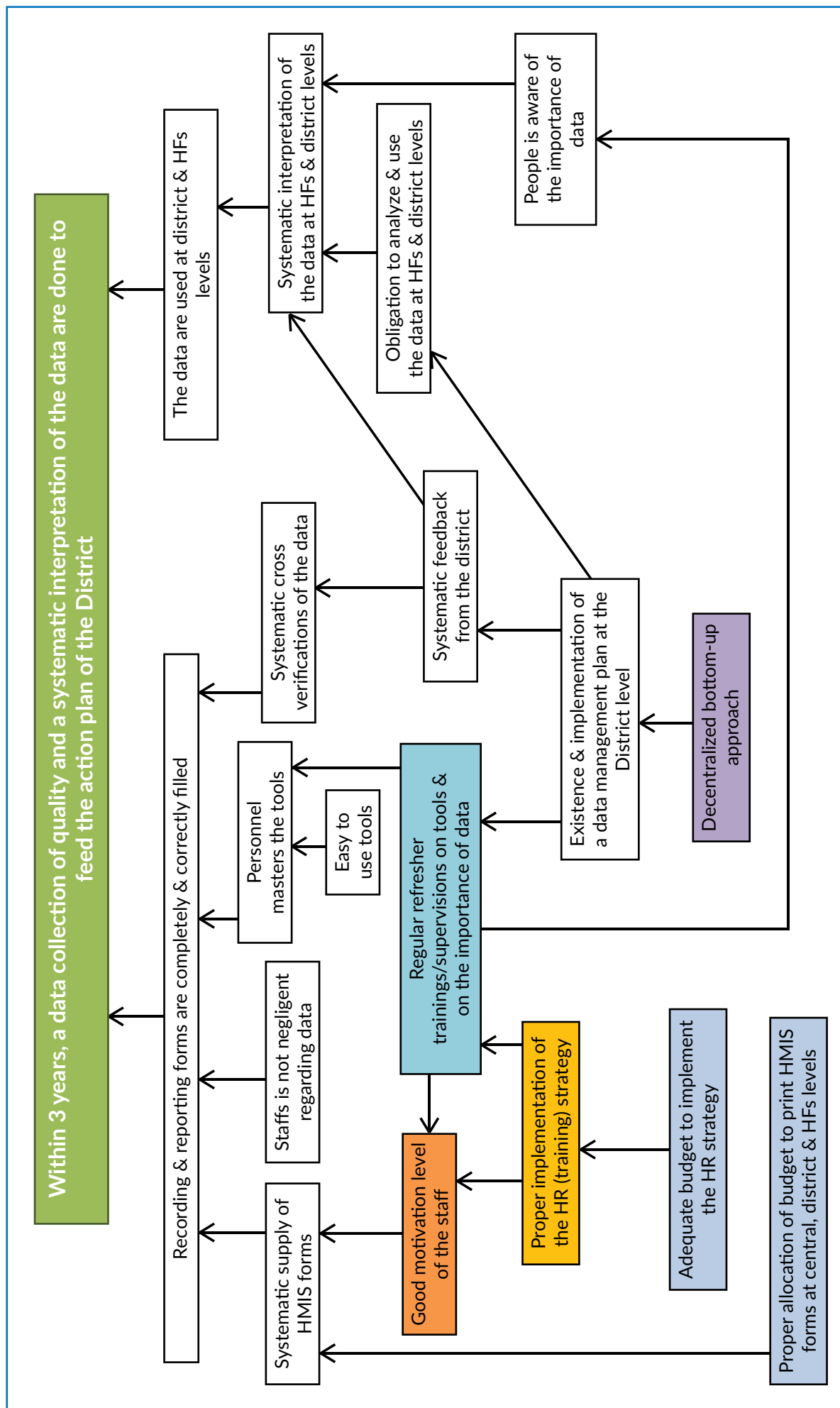


Figure 18 – Solution tree on quality of data collection and their interpretation.

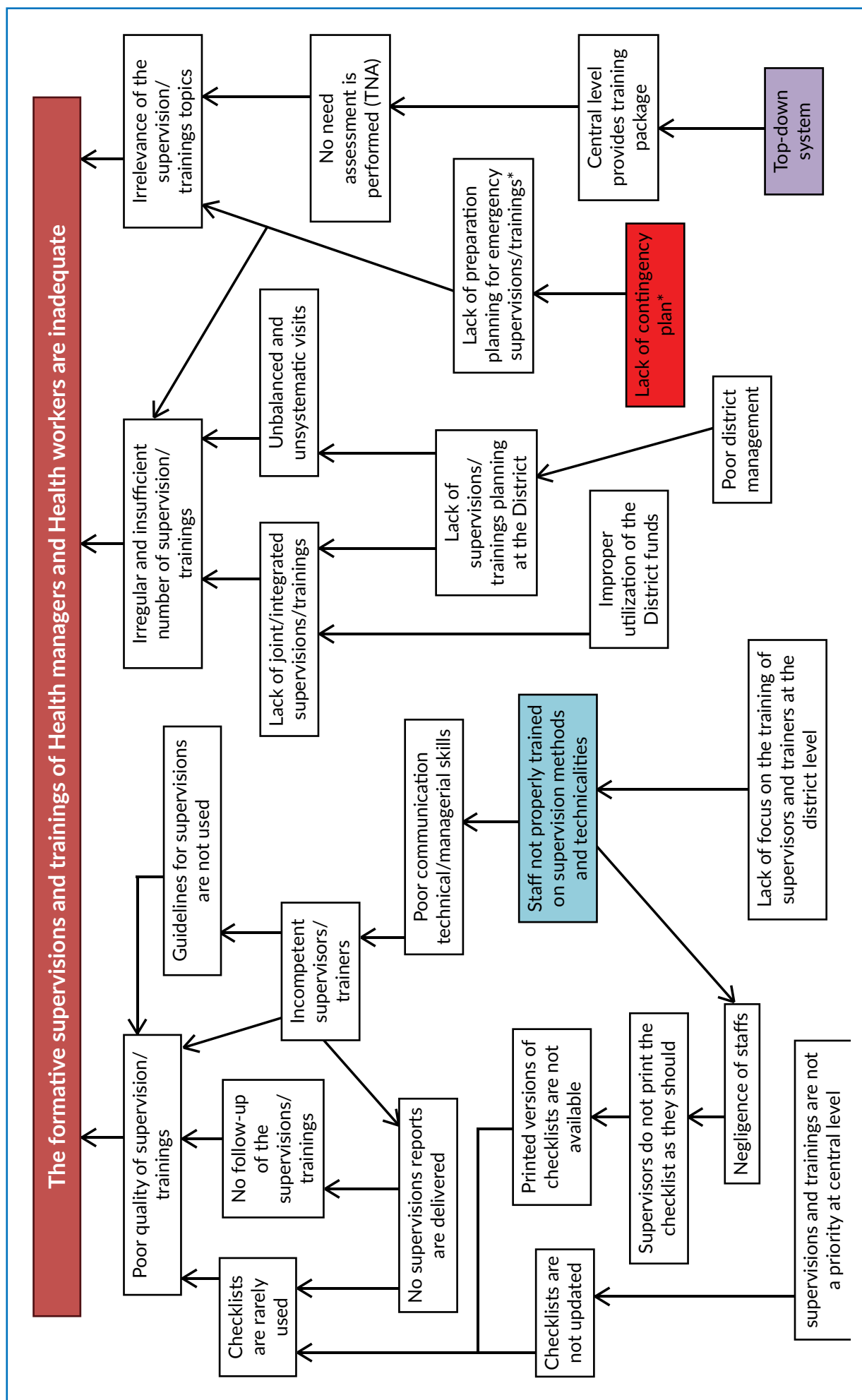


Figure 19 – Causal tree on formative supervision and training of health workers.

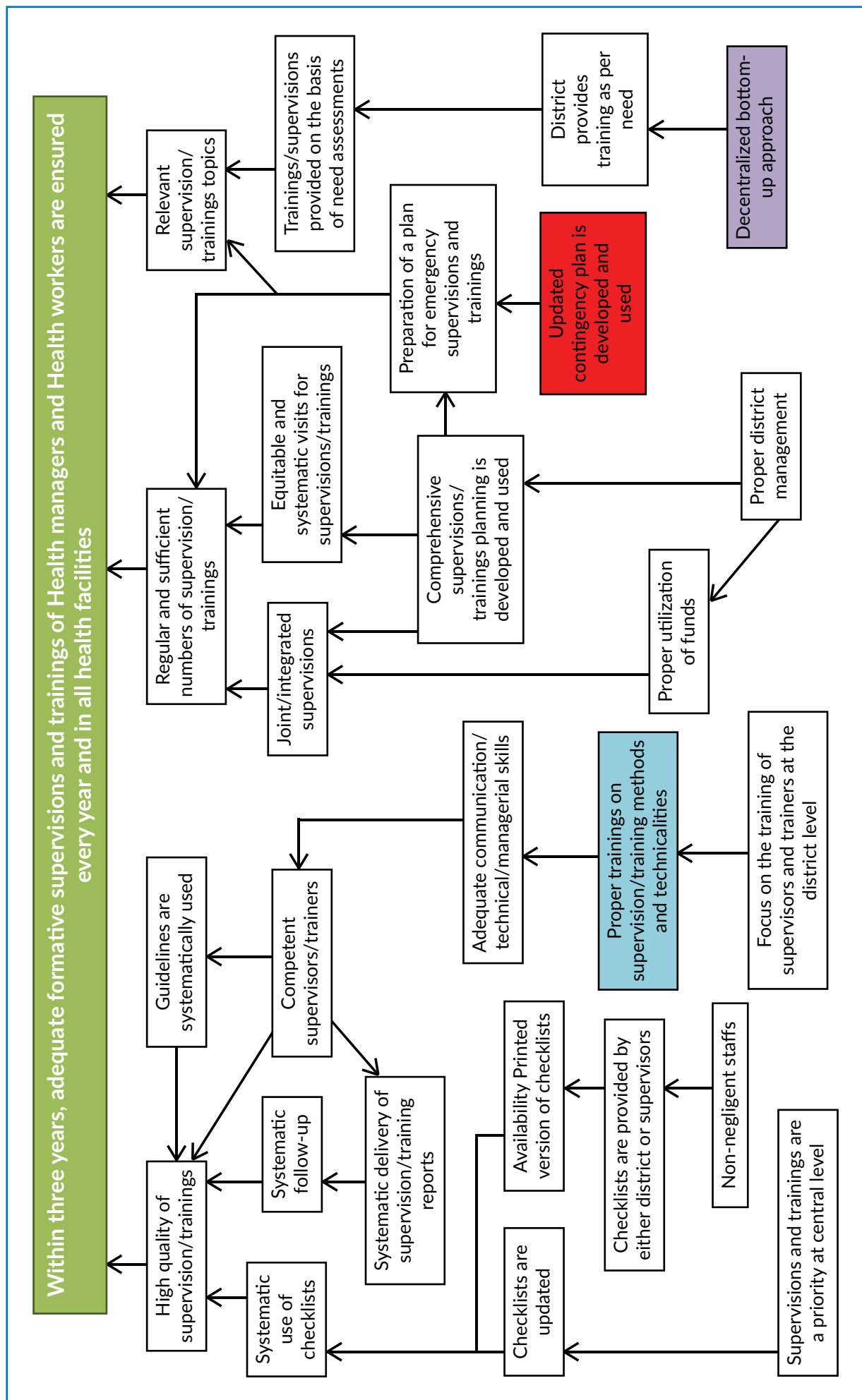


Figure 20 – Solution tree on formative supervision and training of health workers.

PLANNING PHASE



The picture was taken during the planning workshop organized in between 2-3 May, 2017. In the participants are being oriented on the modalities of the planning workshop by the Head of Department: Nutrition and Health, Action Against Hunger Mr. Sujay Nepali Bhattacharya.

Picture credit: Niraj Shrestha

4

PLANNING

4.1 Methodology

The previous step was focused on the building of the solutions trees, which then led to the definition of HSS objectives. These objectives permit to tackle all the prioritized bottlenecks and weaknesses of the health system, and make sure that all partners do now share common objectives. These HSS objectives are used as a basis for the development of the action plan, and several results are identified to better partition the 3S (strengthening, support and substitution) activities.

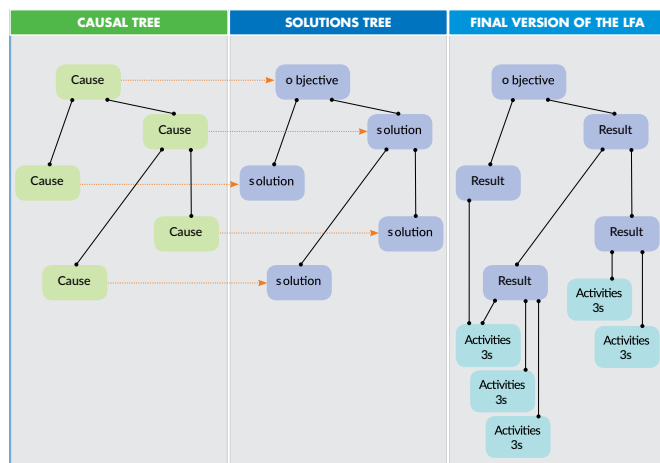


Figure 21 - Theory of change and logical framework

Strengthening: The strengthening strategy is built on the initial diagnosis presented above and focuses on the performance drivers of the system (see figure below). “Quite simply, health system strengthening is about permanently making the system function better, not just filling gaps or supporting the system to produce better short-term outcomes”.⁶⁴ This strategy provides benefits beyond a single disease or issue and is complementary to the support activities.

Strengthening activities require a longer-term investment, and more active commitment from the health authorities, but ultimately produce results that may lead to the end of support and make the system stronger.

Support: This strategy can include any activity that improves the system’s functionality primarily by increasing inputs. Support is most of the time focused on one specific issue. It offers a short term response on pre-identified key elements of the 6 building blocks. It should not be sustained, since it aims at meeting the immediate needs of the facility. It is based on the health system’s initial capacity to manage a basic package, and addresses specific inputs that the local health system can not handle. Support is supposed to decrease over time, since facility’s capacity is supposed to increase thanks to the strengthening efforts/ activities.

Substitution: This strategy goes beyond the support. In specific pre agreed situations, partners substitute the place of the health authorities, and perform most tasks by themselves. It offers short-term solutions to improve the immediate access to good quality services, and is mainly focused on one specific issue. Substitution activities will mostly take place in case of important stresses/shocks undergone by the health system.

The support, strengthening and substitution strategies are complementary, and are accordingly articulated together for each phase. The idea is to arrange activities of support (short-term) together with activities of strengthening (long-term) to better respond to the needs of the district.

In order to identify and agree on all the 3S activities, workshop 3 was organized over 2.5 days (16 to 18th of May) in Palung, Makawanpur district. About 30 participants were present: representatives of some health facilities, HFOMC, community representatives, international and national/local NGOs, WHO, Hetauda hospital, key actors of DPHO participated as well as several members of the Sabal/Action Against Hunger team who were helping in the facilitation (See Annex 4 for the list of participants). The main objectives of the workshop are to have all the key actors develop a district HSS multi-annual plan, which includes:

- Strengthening, support and substitution activities, for each phase (normal, alert, serious and emergency), and for all the HSS objectives
- Activities defined for the community, district, regional and national levels
- Roles, responsibilities, and costs estimations for all the activities

During this workshop, the step 10 was covered through group work exercises and plenary sessions. Fruitful discussions between the participants took place, and the objectives of the workshop were successfully achieved.

4.2 Multi-years action plan

During the planning workshop⁶⁵, a multi-years action plan was developed by all the key health actors of the district. Five HSS objectives were considered, each of them have several main results. For each result, strengthening, support and substitution activities are described for all the four phases (normal, alert, serious and emergency). The action plan was built in such a way that each actor can clearly identify on which activity to work, when, and in which phase. When possible, a rough estimation of the costs was performed, but numerous activities are very context dependent and no cost estimation could be performed in these cases. Further costs estimations are expected to be carried out by the actor in charge of the activity.

Objective 1: Within 5 years, the accessibility of RMNCH services is increased in all hard to reach areas by decreasing travel time

- Result 1: Travel time to reach health facilities is reduced
- Result 2: Construction of permanent infrastructures for the outreach clinics
- Result 3: Uninterrupted services are provided at the health facilities and outreach clinics

Objective 2: Within 5 years ANC/PNC/ Birthing services are available for, and utilized by all pregnant women of the District

- Result 1: Adequate availability of birthing services
- Result 2: Adequate utilization of the ANC/PNC/ Birthing services

Objective 3: Within 2 years, all essential medicines are adequately available in all health facilities at all the times

- Result 1: Availability of adequate stocks of essentials medicines
- Result 2: Proper management of supplies

Objective 4: Within 3 years, a data collection of quality and a systematic interpretation of the data are done to feed the action plan of the District

- Result 1: Recording & reporting forms are completely & correctly filled
- Result 2: The data are analyzed used at district & HFs levels

Objective 5: Within 3 years, adequate formative supervisions and trainings of Health managers and Health workers are ensured every year and in all health facilities

- Result 1: High quality of supervisions and trainings
- Result 2: Regular and sufficient numbers of supervisions/ trainings
- Result 3: Relevant supervisions/ trainings topic.



ANNEX

Annex 1: HSS additional enumerators' details

S.N	Name	Position	Male/Female	Contact number
1	Hom Nath Sapkota	Enumerator/Sabal	Male	9745056875
2	Sanjay Chaudhary	Enumerator/Sabal	Male	9801527959

Annex 2: HSS orientation participant detail

S.N	Name	Position	Male/Female	Contact number
1	Sarah Brousse	HSS Support/Sabal	Female	9810103292
2	Sujay Nepali Bhattacharya	HoD: Nutrition & Health/ Action Against Hunger	Male	9801187510
3	Puspa Raj Prasai	IMAM-PM/Sabal	Male	9801241744
4	Niraj Shrestha	SCBO/Sabal	Male	9801241743
5	Roshna Maharjan	SM&EO/ Action Against Hunger	Female	9801241738
6	Ram Chandra Pathak	DPHO Chief	Male	9855071305
7	Ram Krishna Thapa	SDO/DDC	Male	9855067323
8	Diwakar Dawadi	SDC/Sabal	Male	9801241351
9	Suresh Yadav	SO/ DPHO	Male	9845132942
10	Bhola Chaulagain	PHI/DPHO	Male	9855067540
11	Dil Bahadur Khadka	FM/Action Against Hunger	Male	9801204145
12	Sailendra Bista	SPO/ Action Against Hunger	Male	9801241741
13	Ranjan Kapali	SPO/ Action Against Hunger	Male	9801241742
14	Shirish Man Singh	SPO/ Action Against Hunger	Male	9801187516
15	Namrata Sharma	PO/ Action Against Hunger	Female	9849387475
16	Mahendra Bahadur Magar	ED/CCDN/Sabal	Male	9851000477
17	Ananta Baskota	SAHW/Hetauda Hospital	Male	9855029280
18	Chandra Kant Chataut	Finance/HR Officer, Action Against Hunger	Male	9801187509
19	Bharat Bahadur Hamal	IMAM-TO/Sabal	Male	9851132020
20	Gitanjali Dhakal	IMAM-TO/Sabal	Female	9845178405
21	Pratima Rai	IMAM-TO/Sabal	Female	9803907823
22	Shashi Verma	IMAM-TO/Sabal	Male	9852821049
23	Niraj Bhattarai	ENAO/Sabal	Male	9841864953
24	Ram Bahadur Bogati	EHFPO/Sabal	Male	9841862186
25	Manisha Katwal	SPO/ Action Against Hunger	Female	9801187513

Annex 3: Elements of essential health service package

Basic Services (Free of Cost)	CHU	HP	PHC or UHC	< 50 bed hospital (district, sub-district hospital)	> 50 bed hospital
BCG, Oral Polio, Injectable Polio, pneumococcal, DPT-HiBHb(Pentavalent), Measles Rubella, Japanese Encephalitis	✓	✓	✓	✓	✓
Preventive, promotive, community mobilization, health education and peer education	✓	✓	✓	✓	✓
Out Patient services (services through Free Drug list and laboratory services)					
Children and neonates-Management of pneumonia, malaria, diarrhoea, measles, malnutrition, ear infection, neonatal infection	✓	✓	✓	✓	✓
Adolescent, Adult and Elder- Management of pneumonia, malaria, diarrhoeal diseases	✓	✓	✓	✓	✓
STI Syndromic Treatment	✓	✓	✓	✓	✓
Treatment for UTI	✓	✓	✓	✓	✓
Treatment of RTI	✓	✓	✓	✓	✓
Treatment of simple Fungal infection	✓	✓	✓	✓	✓
Treatment of Enteric Fever			✓	✓	✓
Treatment of Epilepsy			✓	✓	✓
HIV treatment (ART First line)*			✓	✓	✓
HIV OI treatment*		✓	✓	✓	✓
TB treatment (CAT I, CAT II)*		✓	✓	✓	✓
Treatment of leprosy *		✓	✓	✓	✓
Treatment of Non Complicated Malaria treatment (PF,PV)*		✓	✓	✓	✓
Treatment of Non Complicated LF*		✓	✓	✓	✓
KA Treatment *			✓	✓	✓
Deworming	✓	✓	✓	✓	✓
Upper respiratory tract infection (eg tonsillitis, pharyngitis and rhinitis)	✓	✓	✓	✓	✓
Treatment of Schizophrenia, bi-polar disorders				✓	✓
Treatment for depression and anxiety			✓	✓	✓
Physiotherapy		✓	✓	✓	✓
Ring pessary insertion		✓	✓	✓	✓
Panchakrma, Yoga (Ayurvedic Services)			✓	✓	
One stop crisis management services (selected hospitals), including clinical management of rape and GBV				✓	✓

Basic Services (Free of Cost)	CHU	HP	PHC or UHC	< 50 bed hospital (district, sub-district hospital)	> 50 bed hospital
In-Patient services (services through consultation, Free Drug list and laboratory services)					
Children and neonates-severe pneumonia, severe malaria, severe under-nutrition, complications due to measles, severe neonatal sepsis, birth asphyxia, hypothermia, jaundice, LBW/ prematurity, feeding problem, exchange transfusion (excluding ventilator support)					√
STI Syndromic Treatment					√
Treatment for UTI					√
Treatment of Epilepsy					√
Treatment of Schizophrenia, bi-polar disorders					√
Treatment for depression and anxiety					√
Physiotherapy services					√
HIV treatment (ART First line)*					√
HIV OI treatment*					√
TB treatment (CAT I, CAT II)*					√
Treatment of leprosy*				√	√
Treatment of Non Complicated Malaria (PF,PV)*				√	√
Treatment of Non Complicated LF*				√	√
KA Treatment *				√	√
One stop crisis management services (selected hospitals)*				√	√
Treatment of leprosy*				√	√
Treatment of Non Complicated Malaria (PF,PV)*				√	√
Treatment of Non Complicated LF*				√	√
KA Treatment *				√	√
One stop crisis management services (selected hospitals)*				√	√
Minor Procedures					
Minor cut and simple wound dressing	√	√	√	√	√
Simple cut Suturing	√	√	√	√	√
Simple abscess drainage	√	√	√	√	√
Simple fracture reduction and PoP			√	√	√
Foreign body removal (non-complicated)	√	√	√	√	√
Acute exacerbation of COPD and asthma emergency management	√	√	√	√	√

Basic Services (Free of Cost)	CHU	HP	PHC or UHC	< 50 bed hospital (district, sub-district hospital)	> 50 bed hospital
In-Patient services (services through consultation, Free Drug list and laboratory services)					
Children and neonates-severe pneumonia, severe malaria, severe under-nutrition, complications due to measles, severe neonatal sepsis, birth asphyxia, hypothermia, jaundice, LBW/prematurity, feeding problem, exchange transfusion (excluding ventilator support)					√
STI Syndromic Treatment					√
Treatment for UTI					√
Treatment of Epilepsy					√
Treatment of Schizophrenia, bi-polar disorders					√
Treatment for depression and anxiety					√
Physiotherapy services					√
HIV treatment (ART First line)*					√
HIV OI treatment*					√
TB treatment (CAT I, CAT II)*					√
Treatment of leprosy*				√	√
Treatment of Non Complicated Malaria (PF,PV)*				√	√
Treatment of Non Complicated LF*				√	√
KA Treatment *				√	√
One stop crisis management services (selected hospitals)*				√	√
Treatment of leprosy*				√	√
Treatment of Non Complicated Malaria (PF,PV)*				√	√
Treatment of Non Complicated LF*				√	√
KA Treatment *				√	√
One stop crisis management services (selected hospitals)*				√	√
Minor Procedures					
Minor cut and simple wound dressing	√	√	√	√	√
Simple cut Suturing	√	√	√	√	√
Simple abscess drainage	√	√	√	√	√
Simple fracture reduction and PoP			√	√	√
Foreign body removal (non-complicated)	√	√	√	√	√
Acute exacerbation of COPD and asthma emergency management	√	√	√	√	√

Basic Services (Free of Cost)	CHU	HP	PHC or UHC	< 50 bed hospital (district, sub-district hospital)	> 50 bed hospital
Screening and Counselling					
Screening for visual and hearing impairment		✓	✓	✓	✓
Screening for hypertension and Diabetes (Clinical)		✓	✓	✓	✓
Growth monitoring and BMI screening	✓	✓	✓	✓	✓
Screening for pelvic organ prolapse, obstetric fistula, cervical cancer (VIA)		✓	✓	✓	✓
Counselling services (FP, Safe Motherhood, Neonatal, Child health, HIV, PMTCT, Nutrition, NCD, ASRH, Mental health, substance abuse, oral health, Ear, Nose, Throat hygiene and sanitation, legal and GBV counselling)	✓	✓	✓	✓	✓
Other Services					
Micro-nutrients supplementation (iron, folic acid, Vitamin A, iodine, zinc)	✓	✓	✓	✓	✓
Antenatal Check-up	✓	✓	✓	✓	✓
Normal Delivery		✓	✓	✓	✓
Management of complicated deliveries except C-section			✓	✓	✓
Management of complicated deliveries including Caesarean section and blood transfusion				✓	✓
Post-natal care (newborn/mother)	✓	✓	✓	✓	✓
Complication during post-natal period (obstetrics)		✓	✓	✓	✓
Post Abortion Care			✓	✓	✓
Postpartum-IUCD Services			✓	✓	✓
Family planning- OCP, Depo, Condoms, emergency contraception	✓	✓	✓	✓	✓
Family planning-Vasectomy, Minilap				✓	✓
Post exposure treatment with anti-rabies vaccine				✓	✓
Post exposure treatment with anti-snake venom				✓	✓
Counselling services (FP, Safe Motherhood, Neonatal, Child health, HIV, PMTCT, Nutrition, NCD, ASRH, Mental health, substance abuse, oral health, Ear, Nose, Throat hygiene and sanitation, legal and GBV counselling)	✓	✓	✓	✓	✓
Deworming	✓	✓	✓	✓	✓
Basic Services (Free of Cost)					
		HP	PHC/UHC	< 50 bed Hospital	Satellite clinic
Laboratory services (free of cost)					
Haematology: TC, DC, ESR, Hb, blood group		✓	✓	✓	✓
Biochemistry: Sugar and Urea		✓	✓	✓	✓
Biochemistry: Bilirubin			✓	✓	✓
Microbiology: Gm stain, KoH mount			✓	✓	✓
Miscellaneous: stool and urine R/E		✓	✓	✓	✓
Microbiology: Sputum AFB stain		✓	✓	✓	✓
Miscellaneous: Occult blood, ketone bodies for urine			✓	✓	✓
Serological Test: HBsAg, HCV, RPR, Widal		✓	✓	✓	✓
Rapid Diagnostic Test : Malaria, HIV I & II, pregnancy, K39 for KA		✓	✓	✓	✓
Urine dip-stick test (albumin and sugar)		✓	✓	✓	✓

Annex 4: HSS workshop I: Risk and capacity analysis workshop participant details

S.N	Name	Position	Male/Female	Contact number
1	Sarah Brousse	HSS Support/Sabal	Female	9810103292
2	Sujay Nepali Bhattacharya	HoD: Nutrition & Health/Action Against Hunger	Male	9801187510
3	Puspa Raj Prasai	IMAM-PM/Sabal	Male	9801241744
4	Niraj Shrestha	SCBO/Sabal	Male	9801241743
5	Ram Chandra Pathak	Chief, DPHO	Male	9855071305
6	Bhim Sagar Guragain	NFP/DPHO	Male	9855068858
7	Mihir Kumar Jha	HPC/Plan International	Male	9801241148
8	Dr. Soniya Bhagat	WEDS Officer/WHO	Female	9801123150
9	Suprich Sapkota	DC/ NPHF	Male	9851238036
10	Suresh Yadav	SO/ DPHO	Male	9845132942
11	Bhola Chaluagain	PHI/DPHO	Male	9855067540
12	Ram Hari Adhikari	DC, HRRP/Plan International	Male	9843557603
13	Dr. Amardip Mandal	MO/ Bhimphedi PHCC	Male	9845071478
14	Bhim Kumari BK	HA, Shikharpur HP	Female	9867836899
15	Phatik Raman Pyakurel	SAHW/Churiyamai HP	Male	9855036440
16	Mahendra Bahadur Magar	ED/ CCDN/Sabal	Male	9851000477
17	Ananta Baskota	SAHW/Hetauda Hospital	Male	9855029280
18	Chandra Kant Chataut	Finance/HR Officer/ Action Against Hunger	Male	9801187509
19	Bharat Bahadur Hamal	IMAM-TO/Sabal	Male	9851132020
20	Gitanjali Dhakal	IMAM-TO/Sabal	Female	9845178405
21	Pratima Rai	IMAM-TO/Sabal	Female	9803907823
22	Manisha Katwal	SPO/ Action Against Hunger	Female	9801187513
23	Shashi Verma	IMAM-TO/Sabal	Male	9852821049

Annex 5: HSS workshop II: Diagnosis workshop participant details

S.N	Name	Position	Male/Female	Contact number
1	Sarah Brousse	HSS Support/Sabal	Female	9810103292
2	Sujay Nepali Bhattacharya	HoD: Nutrition & Health/ Action Against Hunger	Male	9801187510
3	Puspa Raj Prasai	IMAM-PM/Sabal	Male	9801241744
4	Niraj Shrestha	SCBO/Sabal	Male	9801241743
5	Manisha Katwal	SPO/ Action Against Hunger	Female	9801187513
6	Ram Chandra Pathak	Chief, DPHO	Male	9855071305
7	Bhim Sagar Guragain	NFP/DPHO	Male	9855068858
8	Mihir Kumar Jha	HPC/ Plan International	Male	9801241148
9	Dr. Soniya Bhagat	WEDS Officer/WHO	Female	9801123150
10	Suprich Sapkota	DC/ NPHF	Male	9851238036
11	Suresh Yadav	SO/ DPHO	Male	9845132942
12	Chiniya Lama	DC/ BMNT	Male	9845072036
13	Dr. Arpana Poudel	MO/ Palung PHCC	Female	9841977844
14	Laxman Ghimire	HA/ DPHO	Male	9845027922
15	Dhruba Prasad Lamichhane	SAHW/Nibuwatar HP	Male	9855069129
16	Supendra Karki	SAHW/Chaugada HP	Male	9855068857
17	Mahendra Bahadur Magar	ED/ CCDN/Sabal	Male	9851000477
18	Ananta Baskota	SAHW/Hetauda Hospital	Male	9855029280
19	Dr. Sarbesh Sharma	MS/ Hetauda Hospital	Male	9849266333
20	Samjhana Rana	Storekeeper/ DPHO	Female	9845291360
21	Samita Bhujel	ECD Facilitator/ Risheshwor ECDC, Daman	Female	9813009938
22	Bharat Gopali	Chairperson/ Palung PHC HFOMC	Male	9851125708
23	Sanobhai Karki	HFOMC member/ Palung PHCC	Male	9855067695
24	Gitanjali Dhakal	IMAM-TO/Sabal	Female	9845178405
25	Pratima Rai	IMAM-TO/Sabal	Female	9803907823
26	Shashi Verma	IMAM-TO/Sabal	Male	9852821049

Annex 6: Planning workshop participant details

S.N	Name	Position	Male/Female	Contact number
1	Sarah Brousse	HSS Support	Female	9810103292
2	Sujay Nepali Bhattacharya	HoD: Nutrition & Health/ Action Against Hunger	Male	9801187510
3	Ojaswi Acharya	DCD/ Action Against Hunger	Female	9845144777
4	Puspa Raj Prasai	IMAM-PM/Sabal	Male	9801241744
5	Niraj Shrestha	SCBO/Sabal	Male	9801241743
6	Manisha Katwal	SPO/ Action Against Hunger	Female	9801187513
7	Bhim Sagar Guragain	NFP/DPHO	Male	9855068858
8	Jiban Ghimire	SPC/Sabal	Male	9841414889
9	Dr. Soniya Bhagat	WEDS Officer/WHO	Female	9801123150
10	Diwakar Dawadi	SDC/Sabal	Male	9845062908
11	Suresh Yadav	SO/ DPHO	Male	9845132942
12	Chiniya Lama	DC/ BMNT	Male	9845072036
13	Dr. Rinesh Adhikari	MO/ Palung PHCC	Male	9849310670
14	Laxman Ghimire	HA/ DPHO	Male	9845027922
15	Dhruba Prasad Lamichhane	SAHW/Nibuwater HP	Male	9855069129
16	Supendra Karki	SAHW/Chaugada HP	Male	9855068857
17	Mahendra Bahadur Magar	ED/ CCDN/Sabal	Male	9851000477
18	Ananta Baskota	SAHW/Hetauda Hospital	Male	9855029280
19	Dr. Sarbesh Sharma	MS/ Hetauda Hospital	Male	9849266333
20	Prabesh Jaiswal	AFO/Sabal	Male	9801241339
21	Niroj Pradhan	HFOMC member/ Palung PHCC	Male	9855072034
22	Tulasi Giri	HFOMC member/ Chhatiwan PHCC	Male	9855070730
23	Surendra Raj Thike	HFOMC member/ Bhimpheidi PHCC	Male	9845438238
24	Dinesh Kumar Gupta	HA/ Chhatiwan PHCC	Male	9845098085
25	Tikaram Adhikari	HA/ Manahari PHCC	Male	9855069703
26	Kiweta Bista	HO/BMNT	Female	9816452125
27	Bibhu Kumar Jha	PHO/CRHD	Male	9845098690
28	Sunil Kumar Jha	SAHW/Bhimpheidi PHCC	Male	9845149495
29	Gitanjali Dhakal	IMAM-TO/Sabal	Female	9845178405
30	Pratima Rai	IMAM-TO/Sabal	Female	9803907823
31	Shashi Verma	IMAM-TO/Sabal	Male	9852821049

Annex 7: Comprehensive action plan

Within 5 years, the accessibility of RMNCH services is increased in all hard to reach areas by decreasing travel time												
Travel time to reach health facilities is reduced												
Result 1	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5	Phases				Budget	Budget for calculations
							Normal	Alert	Serious	Emergency		
	HFOMC, Local authorities	List all ambulances running in the catchment areas, with contact numbers, and develop an ambulance network	Update the list of ambulances, contacts, and use network				x	x	x	x	NPR -	NPR -
	Hospital	Hospital administration proposes to the hospital development committee to have additional drivers to provide 24 hours ambulance services					Provision of additional drivers to provide 24 hours ambulance services		x	x	x	NPR 18,000/ driver/ month -
	DPHO	Advocate to the district committee to have equitable distribution of ambulances services in the district, especially in hard to reach areas as per the new guidelines.		Equitable distribution of ambulance services as per the new guidelines		x	x	x	NPR 50,000 (Y1 & Y2)	NPR 50,000		
	HFOMC	Conduct outreach clinics led by a medical doctor, using medicines of the HF and those obtained from local pharmacies and EDPs						x	Context dependent			
	Hospital	Demand to the central level for ambulances or budget to purchase new ones.	Follow up on the supply of additional ambulances	Manage the funds generated by ambulance services to cover the maintenance costs	x				NPR -	NPR -		
	DPHO, Local authorities	Advocate to local government for the establishment of "one HF per ward"	Follow up by DPHO in the establishment of "One HF per ward"	Establishment of "One HF per ward"	x				NPR 25,000 (Y1) NPR 5,000,000 per HF	NPR 25,000		
	HFOMC, DPHO, Local authorities	HFOMC advocate to the local government for construction of permanent roads in hard to reach areas	HFOMC advocate to the local government for construction of permanent roads in hard to reach areas	Construction of permanent roads in hard to reach areas	x	x			NPR 50,000 (Y1, Y2) TBD for roads construction	NPR 50,000		
	HFOMC	HFOMC advocate to the local authorities for the increase of public transportation in all the hard to reach areas				x				NPR 125,000	NPR 125,000	
HFOMC	HFOMC seeks funds from the local authorities for the transport of emergency cases (including delivery)					x	x	x	x	NPR -	NPR -	

HSS objective 1 Within 5 years, the accessibility of RMNCH services is increased in all hard to reach areas by decreasing travel time										
Support	HFOMC, EDPs	Ambulance services are stated as a priority by HFOMCs, and recommendations are shared with local bodies and DPHO.	HFOMCs follow up with DPHO for the development of ambulance services for each HF	HFOMCs continue to follow up and get ambulances funded by EDPs through the MoH	x	x				NPR 750,000
	Hospital, HFOMC, EDPs	Coordination with National Red Cross Services and other service providers for mobilization of existing ambulance services.					x			NPR -
Substitution	EDPs	Deploy ambulances and health staffs of NGOs						x		NPR 50,000,000
Total R1										NPR 51,000,000
Result 2 Construction of permanent infrastructures for the outreach clinics										
	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5	Phases			
							Normal	Alert	Serious	Emergency
Strengthening	HFOMC	HFOMC advocates to the local authorities to donate lands for the construction of permanent buildings of outreach clinics					x	x		
	HFOMC	Advocacy to the central level to prioritize activities in the hard to reach areas, and allocate the necessary budget					x			
Support	EDPs, DPSHO	Print and distribute at all levels 'reaching the unreached strategy of the MoH					x			
	EDPs, DPSHO	Orient the representatives of the local government and HFOMCs on the strategy 'reaching the unreached'					x			
	HFOMC, Local authorities, EDPs	HFOMCs ask the local authorities and EDPs to fund the construction of permanent buildings for outreach clinics in hard to reach areas	Local authorities provide the necessary funds to the HFOMCs	The construction of permanent buildings for the outreach clinics is completed in hard to reach areas	Outreach clinic management committee takes responsibility for the maintenance of constructed infrastructure		x	x		
Total R2										NPR 1,425,000

Within 5 years, the accessibility of RMNCH services is increased in all hard to reach areas by decreasing travel time													
Uninterrupted services are provided at the health facilities and outreach clinics													
Result 3	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5	Phases				Budget	Budget for calculations	
							Normal	Alert	Serious	Emergency			
Strengthening	HFOMC	HFOMCs prepare and implement the contingency plan to ensure uninterrupted services of HFs and outreach clinics	Update and implement the contingency plan as pre need				x	x	x	x	Y1: NPR 50,000	NPR 50,000	
	Hospital, DPHO, Local authorities, Private sector	Satellite clinics run by hospital are deployed to support outreach services					x	x	x	x	NPR 2,500,000	NPR 2,500,000	
	HFOMC, Local authorities	Through discussions, identify and prioritize as development activities the health issues of the communities in the hard to reach areas				x	x				NPR 250,000	NPR 250,000	
	HFOMC	Advocate to local communities to put health as a priority agenda					x				NPR 50,000	NPR 50,000	
	HFOMC	Advocate to local authorities to replace PHC/ORC by Community Health Units which are open every day					x				NPR 50,000	NPR 50,000	
Support	HFOMC, EDPs	Conduct health camps and outreach clinics led by a medical doctor using medicines of the HF and those obtained from local pharmacies and EDPs, especially in disadvantaged areas				x	x	x	x	x	NPR 375,000,000	NPR 375,000,000	
	DPHO, EDPs, Hospital, Private sector	Develop Public Private Partnerships at the district level to ensure continuity of care	Implement these partnerships as per need				x	x	x	x	NPR -	NPR -	
Substitution	EDPs	Establish emergency RMNCH services through tents system in hard to reach areas								x	NPR 5,000,000	NPR 5,000,000	
	EDPs	Building of a community hall in the ward to provide basic health services								x	Context dependent		
												Total R3	NPR 382,900,000
												TOTAL OBJ 1	NPR 435,325,000

Within 5 years ANC/PNC/Birthing services are available for, and utilized by all pregnant women of the District												
Adequate availability of birthing services												
Result 1	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5	Phases				Budget	Budget for calculations
							Normal	Alert	Serious	Emergency		
Strengthening	DPHO	Provision of multi-year contract system for birthing center staffs						x			NPR	NPR
	HF	Request DPHO to recruit new staff for the vacant posts at HF level (especially in birthing centers)						x			NPR	NPR
	HF, Hospital	Identify potential HR, prepare and use a roster to ensure the continuity of birth delivery services, if needed hire additional staff	Update roster and use it as per need				x	x		NPR	NPR	
	HF	Advocate to local bodies and HFOMC for the provision of porter to transfer pregnant women to institutions for delivery					x	x			NPR	NPR
	DPHO, HF, Hospital	Mobilize RRT to support with birth delivery							x	x	Context dependent	
	HFOMC, Local bodies, EDPs	Discuss with and advocate to/ask DPHO to open birthing centers in their locality (if needed)					x	x			NPR	NPR 50,000
	HF	Advocate to HFOMC for the release of their fund for proper management of the staff					x	x			NPR	NPR 50,000
	DPHO, HFOMC, EDPs	Advocate to central level for adequate budget allocation for birthing centers at the District level as well as adequate staff					x	x			NPR 125,000	NPR 125,000
	DPHO	Advocate to central level for the elaboration of a national policy on the birthing centers (number of BC, SBA management, transfer, etc.)	Implement the national policy				x			NPR 50,000 (Y1, Y2)	NPR 50,000	
	Hospital, HFOMC	Budget demand to the central level for Comprehensive Emergency Obstetric and Neonatal care (CEONC) program at the Hospital and HFs	Use of the budget provided to develop a CEONC program				x	x	x	NPR	NPR	
	Hospital	Advocate to central level for Maternal and Child Health Clinic for all 50 bedded hospital.	Development and installation of maternal and child health clinics for all 50 bedded hospital				x			NPR 50,000 (Y1,Y2)	NPR 50,000	
	Hospital, HFOMC	Demand to DPHO and Central level for budget and equipment for the Family Health, Management, and Logistic Management Divisions at the Hospital and HFs					x	x			NPR	NPR
	HF	Advocate to HFOMC for the release of HFOMC funds to purchase new equipment as per need					x	x	x		NPR	NPR
Hospital	Advocate to central level to get annual trainings on the utilization and maintenance of the Bio-Medical Engineering Technique (BMET)	Provide annual trainings on the utilization and maintenance of the Bio-Medical Engineering Technique (BMET)							NPR 50,000 (Y1 & Y2)	NPR 4000/ pers/day for training (Y3, Y4, Y5)	NPR 50,000	
DPHO	Advocate to central level for proper training on utilization and maintenance of BC equipment					x	x			NPR 125,000	NPR 125,000	

HSS objective 2 Within 5 years ANC/PNC/Birthing services are available for, and utilized by all pregnant women of the District									
Support	DPHO, EDPs	In the development of the contingency plan, include a chapter on the continuity of care in birthing centers in case of shocks	Update and implement the contingency plan	x	x	x	x	NPR 50,000 (Y1, Y2)	NPR 50,000
	HF, EDPs	Provide proper equipment to the BC		x	x			NPR 10,000,000 per birthing centre	
	HF, EDPs	Provide trainings and supervisions on the proper utilization and maintenance of the BC equipment	Provide refresher training and regular supervisions	x	x			NPR 4,000/ pers/day for training	NPR -
	HF, EDPs	Mobilize and supervise FCHVs for tracking ANC/PNC undergone by women		x	x			NPR 4,884,000	NPR 4,884,000
	DPHO, EDPs	Conduct joint supportive supervisions and monitoring of ANC, PNC and birthing services with EDPs		x	x			NPR 175,000,000	NPR 175,000,000
Support	HF, EDPs	Continue Pregnant Women Group (PWG), and expand them in all rural municipalities		x	x			NPR 5,000,000 per municipality for 5Y	
	DPHO, EDPs	Develop, update and distribute IEC materials on ANC, PNC and birthing services	Update and distribute the IEC materials	x				Context dependent	Context dependent
	Hospital, DPHO, EDPs	Conduct a workshop on the referral system	Refresher training on referral system	x				NPR 4,000/ pers/day for training	NPR -
	HF, EDPs	Advocate to partners for them to subsidize or provide free of cost transportation for pregnant women to go for institutional delivery		x	x			NPR -	NPR -
	DPHO, EDPs	Develop a plan to establish new Birthing Centers in all HFs and improve the existing ones based on HFOMC and local bodies inputs	Implement the BC plan and build new BC in HFs	x	x			NPR 2,000,000 (Y1 & Y2) NPR 50,000,000 per BC	NPR 2,000,000
Substitution	HF, DPHO, EDPs	Request DPHO, nearby HFs, local institutions or EDPs to support in providing birth delivery services			x			NPR -	NPR -
	DPHO, EDPs	Establish mother/baby friendly spaces						NPR 1,500,000	NPR 1,500,000
	DPHO, EDPs	Provision of temporary setting for ANC, PNC, Birthing center			x			NPR 1,000,000	NPR 1,000,000
	EDPs	Establish well equipped temporary service centres (e.g. tent) for ANC/PNC/birthing services.						NPR 1,500,000	NPR 1,500,000
								Total R1	NPR 186,434,000

Within 5 years ANC/PNC/Birthing services are available for, and utilized by all pregnant women of the District												
Result 2												
Adequate utilization of the ANC/PNC/Birthing services												
	Responsible	Year 1	Year 2	Year 3	Year 4	Year 5	Phases				Budget	Budget for calculations
							Normal	Alert	Serious	Emergency		
Strengthening	HFOMC	HFOMC maintain the interactions with the target groups (MGM, PLWG) to advocate on the utilization of ANC, birthing and PNC services as well as the services provided by the HF					x	x	x		NPR 10,000 per meeting	
	HF, HFOMC, DPHO	Implement a retro-information mechanism to assess the quality of care received by the beneficiaries (questions asked by a third party to the beneficiaries) and take corrective actions					x				NPR -	NPR -
	EDPs, DPHO	Advocate to central level for adequate number of SBAs in birthing centers					x				NPR 125,000	NPR 125,000
Support	DPHO, EDPs	Conduct training on ANC, PNC and birthing services					x	x			NPR 4,000/ pers/day for training	NPR -
	DPHO, EDPs	Conduct joint supportive supervisions and monitoring of ANC/PNC/birthing services					x	x	x		NPR 17,500,000	NPR 17,500,000
	DPHO, EDPs	On site coaching and on-the-job training to HWs on quality counseling					x	x			NPR 17,500,000	NPR 17,500,000
	Hospital, HF, EDPs (Nick Simon Institute for PNC)	Quality counseling on ANC/PNC for Pregnant Lactating Women (PLW) in HF and in the community					x	x	x		NPR 7,000 per ward per year	
	Hospital, HF, EDP	Set up and use an award system in HFs and Hospital to motivate the staff					x	x			NPR 1,375,000	NPR 1,375,000
	Hospital, HF, EDP	Conduct Appreciative Inquiry training on an annual basis					x				NPR 4,000/ pers/day for training	NPR -
	Hospital, EDPs	Incentives are provided to the staff in time as recommended in the guidelines					x	x			NPR -	NPR -
	DPHO, EDPs		Provide, train and use mobile applications (Ex: amakomaya) throughout the district					x	x	x	x	NPR 15,000 per mobile for FCHV
Total R2											NPR 36,500,000	
TOTAL OBJ 2											NPR 222,934,000	

Within 2 years, all essential medicines are adequately available in all health facilities at all the times									
Availability of adequate stocks of essentials medicines									
Result 1	Responsible	Year 1	Year 2	Phases				Budget	Budget for calculations
				Normal	Alert	Serious	Emergency		
Strengthening	Hospital DPHO	The process of bidding starts at the beginning of the fiscal year, and takes into account the shocks calendar, and the maintaining of the buffer stock		x	x			NPR 20,000	NPR 20,000
	DPHO	Anticipate the transport and delivery of essential medicines before the rainy season		x	x	x		NPR 600,000	NPR 600,000
	HF	Request to DPHO for capacity building/training of HWs on LMIS and stock management		x	x	x		NPR _	NPR _
	HF	Every three months, the person in charge of the HF cross checks and analyzes the LMIS report		x	x			NPR _	NPR _
	HF	Follow up with DPHO for the timely supply of essential medicines		x	x			NPR _	NPR _
	Hospital	Use of essential medicines of the buffer stock			x	x	x	NPR _	NPR _
	DPHO	Use the essential medicines of the buffer stock for HFs, and maintain the buffer stock			x	x	x	Context dependent	
	HFOMC	HFOMCs seek fund from the local authorities and also uses its own fund to ensure adequate budget for transportation of supplies		x	x	x		Context dependent	
	Local authorities	HFOMC receives funds from local bodies to purchase essential medicines		x	x			Context dependent	
	DPHO	Advocate to central level for development of easier procurement process		x				NPR 50,000	NPR 50,000
Support	DPHO	Intersectoral coordination with government and local bodies to improve drugs transportation		x				NPR 50,000	NPR 50,000
	DPHO	Provision of adequate fund for the essential medicines used by the RRT			x	x	x	NPR 100,000	NPR 100,000
	DPHO	In the development of the contingency plan, include a chapter on the management of essential medicines to ensure sufficient quantity during shocks	Implement and update the contingency plan	x	x	Y2	Y2	NPR 50,000 (Y1, Y2)	NPR 50,000
	HF EDPs	Alignment with EDPs to perform the transport of drugs during their regular activities		x	x	x		NPR _	NPR _
	HF Hospital HFOMC	Request for additional drugs to DPHO and EDPs				x	x	NPR _	NPR _
	DPHO Hospital EDPs	Supply and transport of needed additional essential medicines to HFs and Hospital EDPs				x	x	NPR 1,000,000	NPR 1,000,000

HSS objective 3 Within 2 years, all essential medicines are adequately available in all health facilities at all the times									
Support	EDPs DPHO	Advocate to the HFs and local bodies for the timely procurement of essential medicines	Timely supply of drugs from DPHO					NPR	NPR
	DPHO HF EDPs	Provision of demand- reward system for the best HF and HWs with the financial support of EDPs						NPR 500,000	NPR 500,000
Substitution	EDPs	Supply and transport of needed additional essential medicines to HFs and Hospital						NPR 1,000,000	NPR 1,000,000
								Total R1	NPR 3,370,000
Result 2 Proper management of supplies									
	Responsible	Year 1	Year 2	Phases				Budget	Budget for calculations
				Normal	Alert	Serious	Emergency		
Strengthening	Hospital HF	Hospital pharmacists and HF staff implement the first expiry first out (FEFO) strategy for drugs management		x	x	x	x	NPR	NPR
	HF	Implementation of a proper disposal system of damaged/expired drugs at HF level		x	x	x	x	NPR 75,000	NPR 75,000
	HFOMC	Advocate to DPHO to provide proper trainings on supply management, LMIS and logistics		x	x			NPR 50,000	NPR 50,000
	Hospital	Advocate to EDPs for the Hospital staff to receive proper trainings on supply management, LMIS and logistics		x	x			NPR 50,000	NPR 50,000
	HFOMC	The storage conditions of medicines is on the HFOMC meetings' agenda for discussions		x				NPR	NPR
	HF	Advocate to DPHO to appoint a pharmacist in each HF	Follow-up on the implementation	x				NPR 25,000	NPR 25,000
	DPHO	Advocate to the MoH for the development of a quality control strategy for drugs, including quality checks certified by Department of Drugs Administration, expiry date management, storage infrastructures, etc.	Implementation of drug quality control strategy	x				25,000	NPR 25,000
	HFOMC	HFOMC seeks help from DPHO for emergency management of supplies				x	x	Context dependent	
	DPHO	Development of annual plan to ensure proper management of supplies throughout the district	Implementation of the annual plan	x	x			NPR 100,000	NPR 100,000

HSS objective 3 Within 2 years, all essential medicines are adequately available in all health facilities at all the times									
Strengthening	DPHO	Advocate to the central level for the development of HR strategy including the provision of a pharmacist in each HF	Implementation of HR strategy	x	x			NPR 25,000 (Y1)	NPR 25,000
Support	DPHO EDPs	DPHO provides trainings on LMIS and stock management to all HFs and Hospital with the financial support of EDPs	1. Refresher trainings on logistics and stock management 2. Onsite coaching for proper use of the LMIS in all HF (maintenance of ASL/EOP, demand/handover form)	x	x	x		NPR 4,000/pers/day for training	NPR -
	EDPs	Develop and pilot model supply plans within HFs and organize exposure visits		x	x			NPR 400,000	NPR 400,000
	EDPs DPHO Hospital	Coordinate medicines supply to HFs		x	x	x		NPR -	NPR -
	EDPs	Advocate to the in charge of HF to allocate the right person at the right place (e.g. pharmacist)		x	x			NPR 50,000	NPR 50,000
	DPHO EDPs	Construct or upgrade medicines stores in HFs according to national standards		x	x			Y1 NPR 1,200,000 Y2 NPR 600,000	NPR 1,800,000
Substitution	EDPs	Training or orientation to HFOMCs on good governance and HF management		x	x			NPR 4,000/pers/day for training	NPR -
	EDPs	Deploy health staff for drugs management				x		NPR 600,000	NPR 600,000
	EDPs	Ensure the supply management (handover form number with dates), and packaging (logos) of the required essential medicines to HFs				x		NPR 900,000	NPR 900,000
								Total R2	NPR 4,100,000
								TOTAL OBJ 3	NPR 7,470,000

Within 3 years, a data collection of quality and a systematic interpretation of the data are done to feed the action plan of the District												
Recording & reporting forms are completely & correctly filled												
Result 1	Responsible	Year 1		Year 2	Year 3		Phases			Budget	Budget for calculations	
						Normal	Alert	Serious	Emergency			
Strengthening	HF	Monthly staff meeting on the proper recording of information with the HMIS tools									NPR 1,800,000	NPR 1,800,000
	HFOMC	HFOMCs recommend to DPHO some of their staff who need (refresher) trainings on HMIS									NPR	NPR
	HF	Every month the person in charge of the HF verifies the data entered in the HMIS before issuing them to the District									NPR	NPR
	HF	Advocate to DPHO for the timely supply of HMIS tools every month									NPR	NPR
	HF	Advocate to DPHO for capacity building on HMIS for the new recruited and in-service staff									NPR	NPR
	DPHO	Advocate to central level for proper and adequate budget allocation to trainings and supervisions								NPR 50,000	NPR 50,000	
	DPHO	Development of a data management plan at the District level			Implementation of the data management plan					NPR 100,000 (Y1)	NPR 100,000	
Support	DPHO	Advocate to the central level for the development of HR strategy including trainings and supervisions			Implementation of HR strategy					NPR 25,000 (Y1)	NPR 25,000	
	Hospital DPHO HF	Report on EWARS and epidemiological surveillance even when there is no case monitored									NPR	NPR
	DPHO EDPs	Systematically ensure the availability of printed versions of the HMIS tools for all HF's as per need									NPR 750,000 DPHO NPR 3,000,000 EDPs	NPR 3,750,000
	DPHO EDPs	Share the transportation costs of HMIS forms and formats twice a year								NPR 300,000 (EDPs)	NPR 300,000	
	DPHO EDPs	Provide systematic on-the -job HMIS trainings to new personnel, and refresher trainings to in-service personnel			Refresher trainings for HWs and review meeting for FCHVs					NPR 4,000/pers/ day for training	NPR	
	DPHO EDPs	Conduct exposure visits to model HF's demonstrating good quality and utilization of HMIS									NPR 1,200,000 (EDPs)	NPR 1,200,000
	DPHO EDPs	Conduct joint supportive supervisions and monitoring of the quality of the HF data on a quarterly basis									NPR 600,000, DPHO NPR 3,000,000 EDPs	NPR 3,600,000

HSS objective 4	Within 3 years, a data collection of quality and a systematic interpretation of the data are done to feed the action plan of the District									
	DPHO EDPs	Conduct routine data quality assessment (RDQA) on an annual basis at district level to verify the data	x						NPR 1,500,000 (EDPs)	NPR 1,500,000
Support	DPHO EDPs	Set up and use an award system for the HFs that performed the best with the quality of data	x						NPR 1,200,000	NPR 1,200,000
	Hospital DPHO HF	Mobilize additional HR for communication and data management (NRCS, army,)						x	NPR -	NPR -
	Hospital DPHO HF	Use of the Multi Indicator Rapid Assessment (MIRA)						x	NPR -	NPR -
	DPHO EDPs	Training on eReporting system	x						NPR 4,000/pers/day for training	NPR -
	DPHO EDPs	Installation of eReporting system in 4 PHCCs, and 10 other HPs	x						NPR 70,000	NPR 70,000
	DPHO EDPs	Provide equipment for the eReporting (server, computer, electricity back-up etc.)	x						NPR 7,500,000 (EDPs)	NPR 7,500,000
Substitution	EDPs	Create and use a vertical reporting system for the health services provided from HF up to District level							Context dependent	NPR -
	EDPs	Deploy staff for the recording and reporting of health services							Context dependent	NPR -
										NPR 21,095,000

Within 3 years, a data collection of quality and a systematic interpretation of the data are done to feed the action plan of the District										
The data are analyzed used at district & HFs levels										
Result 2	Responsible	Year 1	Year 2	Year 3	Phases				Budget	Budget for calculations
					Normal	Alert	Serious	Emergency		
Strengthening	HF DPHO	HF representative discusses the results of the HMIS report with DPHO representative during monthly meeting. And feedbacks are provided.			x	x	x		NPR _	NPR _
	HF	In charge of HF or HW analyzes the data, and write a short brief about the results every month			x	x	x		NPR _	NPR _
	HF Hospital	The analyzed data are discussed during the next staff meeting and used to take corrective actions at the Hospital/HF level			x	x	x	x	NPR _	NPR _
	HFOMC	HFOMC asks the in charge of the HF to present a summary of HMIS 9.3 in regular HFOMC meeting and prioritize services of HF			x	x			NPR _	NPR _
	DPHO	The analyzed data are discussed during the next staff meeting and used to take corrective actions at the DPHO level			x	x	x	x	NPR _	NPR _
Support	DPHO HF HFOMC	The data analyzed are used to make the work plans at HF and DPHO levels			x	x			NPR _	NPR _
	DPHO EDPs	Brief the DPHO team on systematic analysis and utilization of data	Systematic analysis and utilization of data at the District level		x	x	x		NPR 50,000	NPR 50,000
	DPHO EDPs	Conduct trainings and refresher trainings on data analysis and utilization to all HFs			x	x			NPR 4,000/pers/day for training	NPR _
Substitution	EDPs	Analysis and utilization of the data to take direct actions on the crisis management						x	NPR 3000/per/day	

HSS objective 5		Within 3 years, adequate formative supervisions and trainings of Health managers (HM) and Health workers (HW) are ensured every year and in all health facilities									
Result 1		High quality of supervisions and trainings									
	Responsible	Year 1	Year 2	Year 3	Phases				Budget	Budget for calculations	
					Normal	Alert	Serious	Emergency			
Strengthening	DPHO HFOMC	At each supervision, supervisors meet with the HFOMC to discuss and provide feedback			x	x	x		NPR _	NPR _	
	DPHO	At the end of each supervision, supervision reports are completed and submitted to DPHO			x	x	x		NPR _	NPR _	
	HF	Develop SSM checklist of HFs level	Monitor and regularize use of checklist		x				NPR _	NPR _	
	DPHO	Advocate to central level, for supervisions and trainings to be a priority in the health agenda			x				NPR 75,000	NPR 75,000	
	DPHO	Advocate to central level for the yearly update of checklists			x	x			NPR 75,000	NPR 75,000	
	DPHO	Advocate to the National Health Training Center (NHTC) for quality supervisor training on supervision methods and technicalities			x	x			NPR 75,000	NPR 75,000	
Support	DPHO Hospital EDPs	Print and provide supervision checklists based on the planning of supervisions			x	x	x		NPR 300,000	NPR 300,000	
	DPHO Supervisors EDPs Supervisors	Systematic and proper use of supervision checklists		Quarterly meeting to follow-up the feedbacks & taken actions	x	x	x		NPR _	NPR _	
	DPHO EDPs	Create a Supervision & Training Steering Committee (STSC) chaired by DPHO & co-chaired by EDP members to follow-up feedbacks & taken actions at HFs level on a quarterly basis			x	x			NPR 60,000	NPR 60,000	
	DPHO EDPs	On a quarterly basis, provide trainings on the technical topics of the supervisions to all supervisors concerned			x	x			NPR 4,000/ pers./day for training	NPR _	
Substitution	DPHO EDPs	Provide annual trainings of supervisors/ trainers on the supervision process & methods, follow-up, guidelines, checklists			x	x			NPR 4,000/ pers./day for training	NPR _	
	DPHO Hospital EDPs	Provide trainings to the supervisors on the present shock and how to cope with it					x	x	NPR 150,000	NPR 150,000	
	EDPs	Provide supportive supervisions and monitoring checklists for the present shock					x	x	NPR 200,000	NPR 200,000	
									Total R1	NPR 935,000	

Within 3 years, adequate formative supervisions and trainings of Health managers (HM) and Health workers (HW) are ensured every year and in all health facilities											
Regular and sufficient numbers of supervisions/ trainings											
HSS objective 5 Result 2	Responsible	Year 1		Year 2	Year 3	Phases				Budget	Budget for calculations
		Normal	Alert			Serious	Emergency				
Strengthening	HFOMC DPHO	HFOMC members take part in the annual planning preparation for supervisions & trainings, by presenting their TNAs and follow-up on it during the year				x	x			NPR 300,000	NPR 300,000
	HF	Develop and implement an annual planning of trainings and supervisions at the community level				x				NPR 300,000	
	HF	Adjust the annual planning of trainings and supervisions at the community level to the present shocks, and implement it						x		NPR 300,000	
	DPHO	DPHO allocates the adequate budget to implement the annual training and supervisions planning				x	x			Context dependent	
	DPHO EDPs	In the development of the contingency plan, include a chapter on emergency supervisions	Update & implement the contingency plan on emergency supervisions			x	x		x	NPR 550,000	NPR 550,000
Support	DPHO EDPs	Orient the HFOMC on the contingency plan				x	x		x	NPR 1,255,000	NPR 1,255,000
	DPHO EDPs	Prepare and implement an annual planning for joint, integrated formative supervisions which includes all the actors of the District, accounts for TNAs, and is distributed to all HFs				x				NPR 300,000	NPR 300,000
	DPHO EDPs	Adjust the annual planning for joint, integrated formative supervisions to the present shock and implement it						x	x	preparation	
	HF EDPs	Mobilize RRT at HF level to provide supervision on the present shock to the staff of the HF and the community concerned by the shock						x	x	Context dependent	
Substitution	EDPs	Provide logistics means to ensure sufficient supervisions and coaching in all HFs that are concerned by the shock							x	NPR 300,000	NPR 300,000
						Total R2					NPR 3,005,000

Within 3 years, adequate formative supervisions and trainings of Health managers (HM) and Health workers (HW) are ensured every year and in all health facilities										
Result 3	Relevant supervisions/ trainings topics									
	Responsible	Year 1	Year 2	Year 3	Phases				Budget	Budget for calculations
					Normal	Alert	Serious	Emergency		
Strengthening	HF	Identify gaps and needs of HW for supervisions/ trainings during monthly staff meeting			x	x	x		NPR	NPR
	HF	Identify gaps and needs of FCHV and community for supervisions/ trainings during monthly FCHV meeting			x	x	x		NPR	NPR
	DPHO	Advocate to central level to better use the TMIS, to do the Training Needs Assessment (TNA), and develop trainings plan on this basis			x				NPR 75,000	NPR 75,000
	DPHO HF Hospital EDPs	Workshop on TNA, trainings and supervisions		Refresher training on TNA	x				NPR 4,000/ pers/day for training	NPR
Support	DPHO HF EDPs	Conduct trainings, supervisions and coaching for all HWs of HFs and Hospital, FCHVs and community as per mentioned in the TNA and the annual planning. During serious and emergency phases, supervisions focus on the present shock			x	x		x	NPR 4,000/ pers/day for training	NPR
	DPHO Hospital EDPs	Conduct management training/refresher training to health managers of HFs and Hospital as per mentioned in the TNA and in the annual planning. During serious and emergency phases, supervisions focus on the present shock			x	x	x		NPR 4,000/ pers/day for training	NPR
Substitution	EDPs	Quickly assess the needs of trainings and supervisions of the HWs to cope with the shock as per the contingency plan recommends						x	NPR 90,000	NPR 90,000
	EDPs	Provide trainings, coachings and supervisions on the present shock to HWs & HMs of all HFs concerned and Hospital						x	NPR 4,000/ pers/day for training	NPR
									Total R3	NPR 165,000
									TOTAL OBJ 5	NPR 4,105,000

ENDNOTES

- ¹ A health system consists of all the organizations, institutions, resources and people whose primary purpose is to improve health. This includes efforts to influence determinants of health as well as more direct health-improvement activities. (World Health Organization, 2010: *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*)
- ² Makawanpur, a central hill district, lies in province number 3 and south of capital city Kathmandu. It has a population of 420,477 and has 86,127 households. Tamang, an indigenous community, make up 47.8% of the population.
- ³ Sabal is a five-year project (2014-2019) aiming to improve food security and nutrition outcomes at the individual, household, and community levels in eight districts of Nepal. A multi-sector consortium project includes activities relating to agriculture, livelihood diversification, nutrition and health, and disaster risk reduction.
- ⁴ <http://nutritioncluster.net/resources/health-systems-strengthening-guide-acf/>
- ⁵ The Coverage Monitoring Network (CMN) is an inter-agency initiative established in 2012 in order improve nutrition programs through the promotion of quality coverage assessment tools, capacity building and information sharing.
- ⁶ Integrated Management of Acute Malnutrition (IMAM) program is a regular health program of the Ministry of Health, Government of Nepal. It is responsible for prevention as well as clinical and therapeutic management of severely malnourished children. It entails management of acute malnutrition to become part of basic health service; is within the framework of a multi-sectoral approach aimed at confronting the determinants of under-nutrition targeting the 1000 days period.
- ⁷ World Health Organization, 2009. Systems Thinking for Health Systems Strengthening. Available at <http://www.who.int/alliance-hpsr/resources/9789241563895/en/>
- ⁸ Workshop 1 was held on 27-28 Apr 2017 in Hotel Avocado in Hetauda, Makawanpur district.
- ⁹ Workshop 2 was held on 27 to 29 May 2017 in Hotel Gaurishankar, Daman, Makawanpur.
- ¹⁰ Outpatient Therapeutic Care Center is the point of service for the IMAM program. It is present within a government health facility as a separate room or a desk in conjunction with other child health and nutrition program. The services provided by the center includes nutritional assessment through anthropometric measurements and/or Mid-Upper Arm Circumference (MUAC), counseling mothers and caretakers on infant and young child feeding practice which includes breastfeeding, variety and frequency of meal, active feeding, care of sick child and regular follow-up visit to health facility, and Ready-to-Use Therapeutic Food (RUTF).
- ¹¹ DAG is a composite index score going from lowest to highest which informs the concentration of disadvantaged groups residing in an area who are deprived of the following seven indicators
 - I. HHs with food sufficiency less than 3 months
 - II. Concentration of marginalized HHs
 - III. Condition of primary schools
 - IV. Condition of health posts
 - V. Participation of women, Dalit & Janjati in planning, execution & decision-making
 - VI. Prevalence of gender discrimination
 - VII. Prevalence of vulnerable HHs
- ¹² World Health Organization, 2010: *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*.
- ¹³ Government of Nepal, Ministry of Health. National health policy 2071 <http://nhsp.org.np/national-health-policy-2014-3/>
- ¹⁴ Nepal votes in second round of crucial local election: <http://www.reuters.com/article/us-nepal-election-idUSKBN19J0DO>
- ¹⁵ Government of Nepal, Ministry of Federal Affairs and Local Development, 2017: Order on local governance: Available at <http://mofald.gov.np/en/node/1829>
- ¹⁶ Nutrition Section, Child Health Division, Department of Health Service, 2004: National Nutrition Policy and Strategy. Available at: http://dohs.gov.np/wp-content/uploads/chd/Nutrition/Nutrition_Policy_and_Strategy_2004.pdf

- ¹⁷ Health Sector Reform Unit, Ministry of Health, 2007: Second long term health plan 1997-2017 perspective plan for health sector development. Available at: <http://www.mohp.gov.np/app/webroot/upload/files/Second%20Long%20Term%20Health%20Plan.pdf>
- ¹⁸ Government of Nepal, National Planning Commission, 2012: Multi-sectoral nutrition plan - For accelerating the reduction of maternal and child undernutrition in Nepal - 2013/2017. Available at: https://scalingupnutrition.org/wp-content/uploads/2013/03/Nepal_MSNP_2013-2017.pdf
- ¹⁹ UNICEF, The World Bank Group, 2013: Capacity Building to strengthen local government and community participation in multisectoral nutrition programs in Nepal. Available at <http://wphna.org/wp-content/uploads/2013/10/multisectoral-nutrition-programs-NEPAL.pdf>
- ²⁰ Government of Nepal, Ministry of Health, Department of Health Services Health Sector Strategy for Addressing Maternal Undernutrition (2013-17). Available at: http://www.chd.gov.np/downloads/National_Strategy_Maternal_Undernutrition.pdf
- ²¹ World Health Organization, 2010: Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.
- ²² In 2005, WHO Member States endorsed a resolution urging governments to develop health financing systems aimed at attaining and maintaining “universal coverage” — described as raising sufficient funds for health in a way that allows access to needed services without the risk of a financial catastrophe.
- ²³ Program budget approved by the national planning commission and Ministry of health 2016/17
- ²⁴ World health organization 2006: The World Health Report 2006 - Working together for health. Available at: <http://www.who.int/whr/2006/en/>
- ²⁵ World health organization 2017: Health workforce. Available at: http://who.int/topics/health_workforce/en/
- ²⁶ World Health Organization, 2010: Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.
- ²⁷ Ministry of Health, Human resource for health technical working group 2013. Human resource of health Nepal country profile. Available at http://www.nhssp.org.np/human_resources/HRH%20profile%20%28QA%29.pdf
- ²⁸ Ministry of Health, Human resource for health technical working group 2013. Human resource of health Nepal country profile. Available at http://www.nhssp.org.np/human_resources/HRH%20profile%20%28QA%29.pdf
- ²⁹ Shrestha C, Bhandari R. Insight into human resources for health status in Nepal. Health Prospect. 2013 Jan 21;11:40-1.
- ³⁰ District public health office, Makawanpur, Annual report-2014/15
- ³¹ Ministry of Health, 2003. strategic plan for human resources for health (2003-2017). Available at: <http://apps.who.int/medicinedocs/en/d/Js18827en/>
- ³³ Department of health service, Child health division, 2004: National nutrition policy and strategy. Available at http://dohs.gov.np/wp-content/uploads/chd/Nutrition/Nutrition_Policy_and_Strategy_2004.pdf
- ³⁴ Program budget approved by the National Planning commission and ministry of health 2016/17.
- ³⁵ World Health Organization, 2010: Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.
- ³⁶ Ministry of health, 2004: Nepal health sector program-implementation plan (NHSP-IP) (2004-2009). Available at http://dohs.gov.np/wp-content/uploads/2014/04/NHSP_IP.pdf
- ³⁷ Ministry of health, 2010. Nepal Health Sector Programme II - Implementation Plan, 2010-2015. Available at: <http://www.nnfsp.gov.np/PortalContent.aspx?Doctype=Resources&ID=88>
- ³⁸ Health system strengthening achievements and challenges of Nepal based on WHO's six building blocks for health system.
- ³⁹ Government of Nepal, Ministry of health, 2016: National health facility survey 2015. Available at: <https://dhsprogram.com/pubs/pdf/SPA24/SPA24.pdf>
- ⁴⁰ District public health office, Makawanpur, Annual report -2015/16
- ⁴¹ Government of Nepal, 2010. Social service unit implementation guideline-zonal to central level hospitals.
- ⁴² USAID, 2015. Essential package of health services country snapshot: Nepal: Available at: <https://www.hfgproject.org/essential-package-of-health-services-country-snapshot-nepal/>
- ⁴³ Mishra SR, Khanal P, Karki DK, Kallestrup P, Enemark U. National health insurance policy in Nepal: challenges for implementation. Global health action. 2015 Dec 1;8(1):28763.

- ⁴⁴ Ministry of Health, 2015. Nepal health sector strategy, 2015-2020: Available at: <http://nhsp.org.np/nepal-health-sector-strategy-2015-2020/>
- ⁴⁵ District public health office, Makawanpur, Annual report -2015/16
- ⁴⁶ United Nations Children's Fund, 2012: Evaluation of community management of acute malnutrition (CMAM): Nepal country case study. Available at: https://www.unicef.org/evaldatabase/index_69858.html
- ⁴⁷ USAID Sabal Project, 2017. Semi-quantitative evaluation of access and coverage, final report- Makawanpur district.
- ⁴⁸ United Nations Children's Fund, 2012: Evaluation of community management of acute malnutrition (CMAM): Nepal country case study. Available at: https://www.unicef.org/evaldatabase/index_69858.html
- ⁴⁹ Official List of Millennium Development Indicators, effective 15 January 2008. <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>, accessed 15 April 2010.
- ⁵⁰ World Health Organization, 2010: Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.
- ⁵¹ District public health office, Makawanpur, 2016. Annual report-2015/16.
- ⁵² Health system strengthening achievements and challenges of Nepal based on WHO's six building blocks for health system.
- ⁵³ Government of Nepal, Ministry of Health, 2009. Public procurement guidelines
- ⁵⁴ USAID, 2012. Nepal: Transforming Decision making with Web -based LMIS. Available at: <http://nfhp.jsi.com/Res/Docs/NPLMISFinal.pdf>
- ⁵⁵ Ministry of Health, 2014: Procurement Improvement Plan (PIP) - FY 2013/14 to FY 2015/16. Available at: http://www.nhssp.org.np/health_financing/Procurement_improvement_plan_april2014.pdf
- ⁵⁶ World Health Organization, 2010: Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.
- ⁵⁷ Health Metrics Network. Framework and standards for country health information systems. Geneva, World Health Organization, 2008 (<http://www.healthmetricsnetwork.org>, accessed 1 April 2010).
- ⁵⁸ Administrative data system of Ministry of health, 2007.
- ⁵⁹ Ministry of health. Health sector information system national strategy. Available at: <http://www.mohp.gov.np/app/webroot/upload/files/HSIS%20National%20strategy.pdf>
- ⁶⁰ Guideline for health management information system recording and reporting tool, 2010.
- ⁶¹ Ministry of health, 2007. Administrative data system.
- ⁶² Strengthening of the monitoring and review component of the national health strategy
- ⁶³ Ministry of health. Health sector information system national strategy. Available at: <http://www.mohp.gov.np/app/webroot/upload/files/HSIS%20National%20strategy.pdf>
- ⁶⁴ Chee, Grace et al. "Why Differentiating between Health System Support and Health System Strengthening Is Needed." The International Journal of Health Planning and Management 28.1 (2013): 85-94
- ⁶⁵ Planning workshop was held on 2 to 3 Mar 2017 in Hotel Shankar, Palung, Makawanpur.

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