

# **Factors that influence delivery and uptake of the Basic Package of Health Service in primary healthcare in the context of the Republic of South Sudan**

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# **Factors that influence delivery and uptake of the Basic Package of Health Service in primary healthcare in the context of the Republic of South Sudan**

A thesis submitted in partial fulfilment of the requirement for the degree of  
Master of Science in International Health

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## **Declaration:**

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis "Factors that influence delivery and uptake of the BPHS in primary healthcare in the context of the Republic of South Sudan" is my own work.

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## List of Abbreviations

BPHS	Basic Package of Health and Nutrition Services*
BSF	Basic Service Fund
CBO	Community Based Organizations
CHD	County Health Department
CPA	Comprehensive Peace Agreement
DAH	Development Assistance for Health
DFID	Department For International Development
FBO	Faith-based organizations
GBD	Global Burden of Disease
GOSS	Government of Southern Sudan
HCI	Human Capital Index
HCiD	Healthcare in Danger
HHP	Home Health Promoter
HPF	Health Pooled Fund
HRP	Humanitarian Response Plan
HRRP	Health Rapid Results Project
HSDP	Health Sector Development Plan
ICRC	International Committee of Red Cross
IHME	Institute for Health Metrics and Evaluation
MDTF	Multi-donor Trust Fund
MISP	Minimum Initial Service Package
MoH	Ministry of Health
NGO	Non-Governmental Organization
OCHA	Office of Coordination of Humanitarian Assistance
OOP	Out-of-pocket
PHCC	Primary Healthcare Centers
PHCU	Primary Healthcare Units
R-ARCSS	Revitalized Agreement on the Resolution of Conflict in South Sudan
ROSS	Republic of South Sudan
SA	Spatial Accessibility
SMOH	State Ministry of Health
SPLA	Sudan People's Liberation Army
SPLM	Sudan People's Liberation Movement
SPLA-IO	Sudan People's Liberation Army – In Opposition
SPLM-IG	Sudan People's Liberation Army – In Government
SS	South Sudan,
STAR	Strategic Assessment of Risk
TBA	Traditional Birth Attendant
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

\* Although MoH of the RoSS has developed and adapted Basic Package of Health and Nutrition Services document, only BPHS is used in practice as an acronym of the document.

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## Glossary

**Basic Package of Health Services** is a policy that aim to concentrate scarce resources on interventions which provide the best 'value for money'. By doing this, BPHSs are often expected to achieve multiple goals: improved efficiency; equity; political empowerment, accountability, and altogether more effective care (WHO 2008).

**Fragile States:** a state that is fragile has several attributes, and such fragility may manifest itself in various ways. Nevertheless, some of the most common attributes of state fragility may include: a) The loss of physical control of its territory or a monopoly on the legitimate use of force; b) The erosion of legitimate authority to make collective decisions; c) An inability to provide reasonable public services; d) The inability to interact with other states as a full member of the international community (Fund for Peace, 2019).

**Primary health care** is a whole-of-society approach to health and well-being centred on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental and social health and wellbeing.

**Word Count:** 12,500

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## **Abstract**

The widespread violence in the Republic of South Sudan (RoSS) has had a detrimental effect on the already weakened healthcare service delivery, including Basic Package of Health Services (BPHS). The conflict has led to high number of forcibly displaced population and imposed limits to access healthcare facilities providing BPHS. As result, 1 in 3 South Sudanese forcibly displaced and 22% of the health facilities non-functional and half of them functioned at only 10% of their capacity(1).

Various non-state health actors, such as international Non-Governmental Organizations (iNGOs), Faith-Based Organizations (FBOs) and Community-Based Organizations (CBOs), support delivery of the BPHS following to decentralized governance system(2,3). Nevertheless, the health status of South Sudanese remains precarious that is manifested by the following indicators: DTP 3 immunization coverage among 1 years old is 26 %, maternal mortality is 1,150 per 100,000 live births, only 19 % of births attended by skilled birth attendants (4). The aim of the study is to find out factors influencing access and use of BPHS in the Republic of South Sudan.

**Study Objective:** To explore factors that influence delivery and uptake of the BPHS in primary healthcare in the context of the Republic of South Sudan (ROSS).

**Methodology:** Desk review of the scientific literature about the features of the healthcare system, BPHS implementation in fragile contexts and particularly in ROSS. The following sources were used: PubMed, VU e-library, Google scholar search engine and "snowballing" technique.

**Findings:** Non-functional health facilities due to volatility and violent attacks; brutality against healthcare workers; high number of forcibly displaced population with deprived access to BPHS; denied access to deliver BPHS in certain locations; burden of the expenses to access BPHS to families in rural areas; cultural and traditional beliefs and community perception of pregnancy and birth. Other findings include: high dependence of the health sector on external funding/actors to deliver BPHS.

**Recommendations:** The BPHS package should be treated equally as a technical tool as well as the political instrument to improve access to services. National and state level Ministries of Health and key health actors need to take a joint effort to raise awareness of stakeholders outside the health sector on BPHS. This include, politicians, military commanders and informal leaders at the national and local levels and head of villages/communities, who need to recognize BPHS as one of the key policy to ensure the good governance by improving delivery of healthcare services to the population. Rollout the Strategic Assessment of Risks (STAR) workshops to further strengthen capacity of the stakeholders by sensitizing and increasing awareness about the health hazards. Combine Healthcare in Danger (HCiD) messaging into STAR workshops to ensure safety and immunity of the healthcare facilities and personnel at all times.

**Key words:** Basic Package of Health Services, Fragile Context, Health in conflict settings / humanitarian context, South Sudan.



## **Introduction**

This paper provides an overview of the development of BPHS in the Republic of South Sudan (RoSS) and describes factors that influence delivery and uptake of services in the country context.

There several reasons behind selecting this topic for my research, the first one is the fact that the study course I participated in, as part of the Erasmus + master's program at KIT, had a special focus on Conflict and Health. The RoSS is the country that has been experiencing an internal conflict since it became independent in 2011 and demonstrating poor health indicators of the population(4,5).

Furthermore, during the study course, we took different modules on relevant topics and two of them covered issues around Rebuilding Disrupted Health System (RDHS). These modules provided insights of the disrupted health systems in fragile states and strategies applied by the health actors to rebuild those systems. We learned that one of the most common strategies implemented by the global health actors in conflict setting, to rebuild the health system, includes development and introduction of the Basic Packages of Health Services (BPHS). The strategy that allows prioritizing interventions to increase the impact on health status of the population.

This combination of the conflict setting and disrupted health system that has been applying BPHS strategy in the context of RoSS, were the perfect match to further strengthen gained knowledge by exploring the topic more in-depth via literature review.

In addition to that, I had a chance to gain a real-life experience while working with ICRC in the RoSS, where I was involved in implementation of Primary Healthcare activities in Equatoria region of the country. This experience enabled to get acquainted with the country context and witness the challenges with delivery of BPHS to the population in the field. This is where one can see in reality what have learned in theory about conflict and health and justification for implementation of BPHS: cost-effective intervention, poverty/vulnerability reduction, equity purposes, accountability and state-building purpose that is particularly relevant in the context of RoSS.

## I. Background

More than eight years have passed since July 2011 referendum in Southern Sudan, held under the terms of the Comprehensive Peace Agreement (CPA) signed between Northern and Southern Sudan in 2005. The great majority of Southern Sudanese in this referendum voted for independence from the Government of Sudan in the Northern part of the country(6,7). After decades of Sudan's civil war, this was the first step towards building a sovereign state in the Southern part of the country. Few days after the referendum, the UN admitted the new Republic of South Sudan (ROSS) as a 193<sup>rd</sup> member of the United Nations (8).

However, soon after becoming independent, the country plunged into a new round of violent events - this time an internal conflict (civil war) between the country leaders in a pursuit of power and control over the resources(9). The conflict between opposing factions has been progressively affecting different states of the ROSS and reached its peak in July 2016 when the fighting broke out in Juba, the capital city. This new wave of armed clashes affected the country by causing disruption in delivery of basic public services, destruction of the health infrastructures, high numbers of population displacement (over 4 million) and thus further contributed to the country's fragility(10). In September 2018, the leaders of transitional government, opposition groups and other political parties, signed Revitalized Agreement on the Resolution of Conflict in South Sudan (R-ARCSS) facilitated by international community. This new peace deal entailed formation of the Revitalized Transitional Government of National Unity (RTGoNU) within eight months to implement the R-ARCSS. The process, however, was postponed twice and should take place now in February 2020 (11,12).

The Republic of South Sudan (ROSS) is a landlocked country located in North-Eastern Africa region and shares borders with six countries, including: clockwise - Sudan to the North, the Federal Republic of Ethiopia to the East, Kenya to the Southeast Uganda to the South, the Democratic Republic of Congo (DRC) to the Southwest, and the Central African Republic (CAR) to the West. See the map below for details, figure 1.

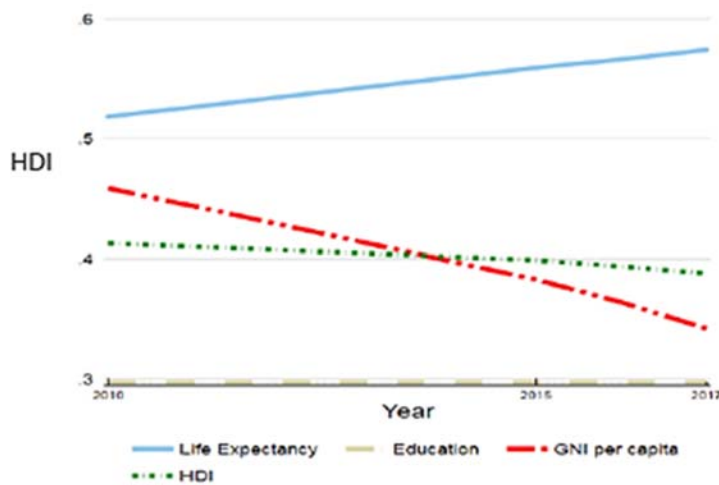
The estimated total population in 2016 was about 12.2 million and consists of 64 distinct ethnic groups. The country has a land area of 640,000 square kilometers of which about 15 % are swamplands(13,14).

*Figure 1: South Sudan Country Map (15)*



According to estimations applied by various global actors, the development data of the Republic of South Sudan continue demonstrating low level of development and in some instances get even poorer. Thus, as per UNDP Human Development Index (HDI) calculated in 2018, the Republic of South Sudan (RoSS) is classified as the country with low human development(16). With a HDI value of 0.413, the RoSS is positioned at 186 of 189 countries and territories of the world. The index composition is based on the three basic dimensions of human development, which includes i) life expectancy, ii) access to knowledge and iii) standard of living based on the Gross National Income (GNI). See the graph below for the trends in all three dimensions.

Figure 2: Trends in South Sudan's HDI component indices (16)



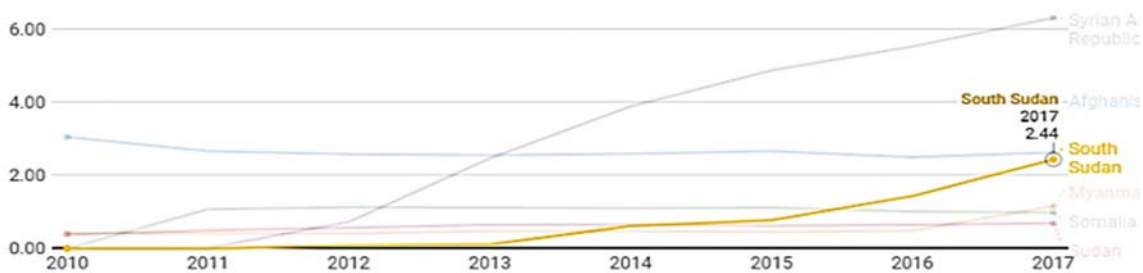
Since 2010 the life expectancy at birth has slightly increased from 53.7 to 57.3 in 2017, the years of schooling did not change, and the GNI per capita decreased by 54 % during this period. In sum, this led to a decrease in HDI from 0.413 to 0.388.

Furthermore, the World Bank (WB)'s Human Capital Index (HCI), constructed for 157 countries in October 2018, ranked the RoSS as 156<sup>th</sup>. The calculation of the index is based on two dimensions, complete education and full health, and measures the amount of human capital that a child born today can expect to attain by the age of 18(17).

The 2019 Fragile State Index (FSI), a report by Fund for Peace, has ranked ROSS as the third most fragile state of the world. The country holds the top three positions of the list since 2014(18,19) and its public service indicators of the fragility index, which includes essential health services, have been reported as retaining the first position (most fragile) since 2014(20,21).

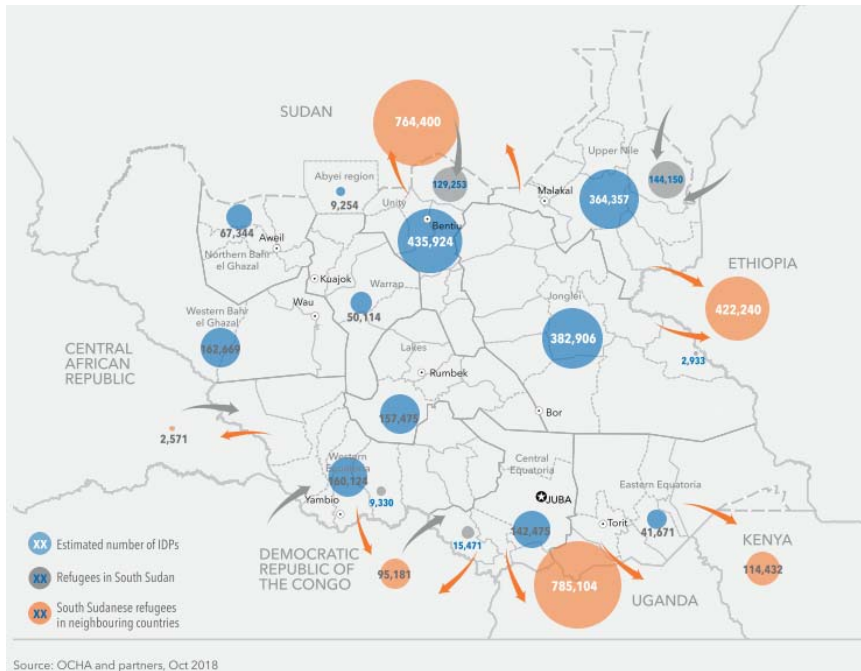
Protracted armed clashes between government forces and various opposition groups has destroyed the routine life of millions and resulted in displacement of more than 4 million people, including 2 million of internally displaced ones and almost 2.2 million of people who fled the country as a refugee. The majority of these refugees, departed to neighboring countries after the violence renewed in July 2016(1,10,22). See Figures 3 for details.

Figure 3: Refugee population from South Sudan (in millions)(23)



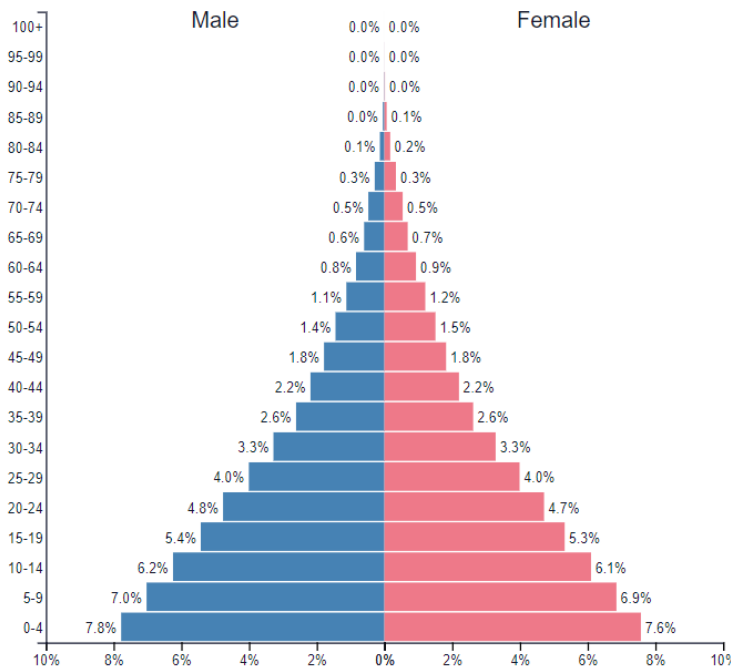
At the same time, the ROSS hosts about 300 thousands refugees from nearby countries. See below map for details on the numbers of the internally displaced and refugee population in ROSS (1):

Figure 4 Forcibly displaced population of South Sudan, October 2018(1)



In terms of the age distribution of the South Sudan’s population, 53 % of them are under 15 years old and only 2.6 % above 65 years old which makes the country the youngest population in the world (13). The population pyramid of the ROSS (below, figure 2) clearly indicates an expansive shape of the pyramid with large percentage of the young female and male population in the country at its base.

Figure 5: South Sudan population pyramid based on the estimation for 2016 (24)



## II. Problem statement, Justification, Objectives, Research Questions and Methodology

Historically, the Republic of South Sudan and prior to becoming independent in July 2011, the Southern region of Sudan, had one of the worst health indicators in Africa and in the world. The estimations made in 2016 indicate the highest figures for under-five mortality rates in Africa, 164 per 1,000 under-fives. Its infant mortality and maternal mortality ratios are among the top 10 countries of Africa with the highest rates. Infant mortality rate 78 per 1,000 live-birth children and maternal mortality ratio about 1,150 per 100,000 live births. Although the infant and maternal mortality has halved since the early 2000 period and under-five mortality reduced by slightly more than 1/3 (see table below), these critical indicators remain still quite high comparing to other countries in Eastern Africa where the average infant mortality rate is 53 per 1,000 live birth(25).

*Table 1: Data on maternal/child mortalities in South Sudan*

Indicator	2000	2015
Under-five mortality rate	250	164
Infant mortality rate	150	78
Maternal mortality ratio	1700	1,150

\*data for 1999-2001 period

The majority (83 %) of the population lives in rural areas with limited access to healthcare services, due to lack of facilities, shortage of trained health personal and constrained physical access. This situation eventually cause delays with receiving BPHS that as result leads to poor health indicators(26–28).

In addition to above, the government budgetary allocations are not sufficient to ensure equitable access to health services. The health sector in South Sudan is chronically under-funded and as per the analysis conducted by the Institute of Health Metrics and Evaluation (IHME) in 2016, government health spending covered 21 % of the total health spending, out-of-pocket (OOP) payment corresponds to 40.7 % and funds coming from development assistance for health (DAH) 38.3 % of total health spending(29,30). Thus, out-of-pocket spending and DAH constitute the main sources of total health spending in support of delivery of healthcare services that as per the constitution should be delivered to the population for free (31,32).

The latest available data on healthcare coverage are also quite low. All this results in poor indicators like a life expectancy at birth of 56 years, maternal mortality is 1,150 per 100,000 live births, DTP 3 immunization coverage among 1 years old 26 % and only 19 % of births attended by skilled birth attendants (4,33).

Along with political developments of the country, the healthcare system in Southern Sudan evolved over these last decades in three different periods, namely: i) before signing the CPA (Comprehensive Peace Agreement) in 2005, ii) after signing the CPA and until declaration of independency in 2011 (2005 – 2011) and iii) after declaration of independency in 2011 and to date(10,27).

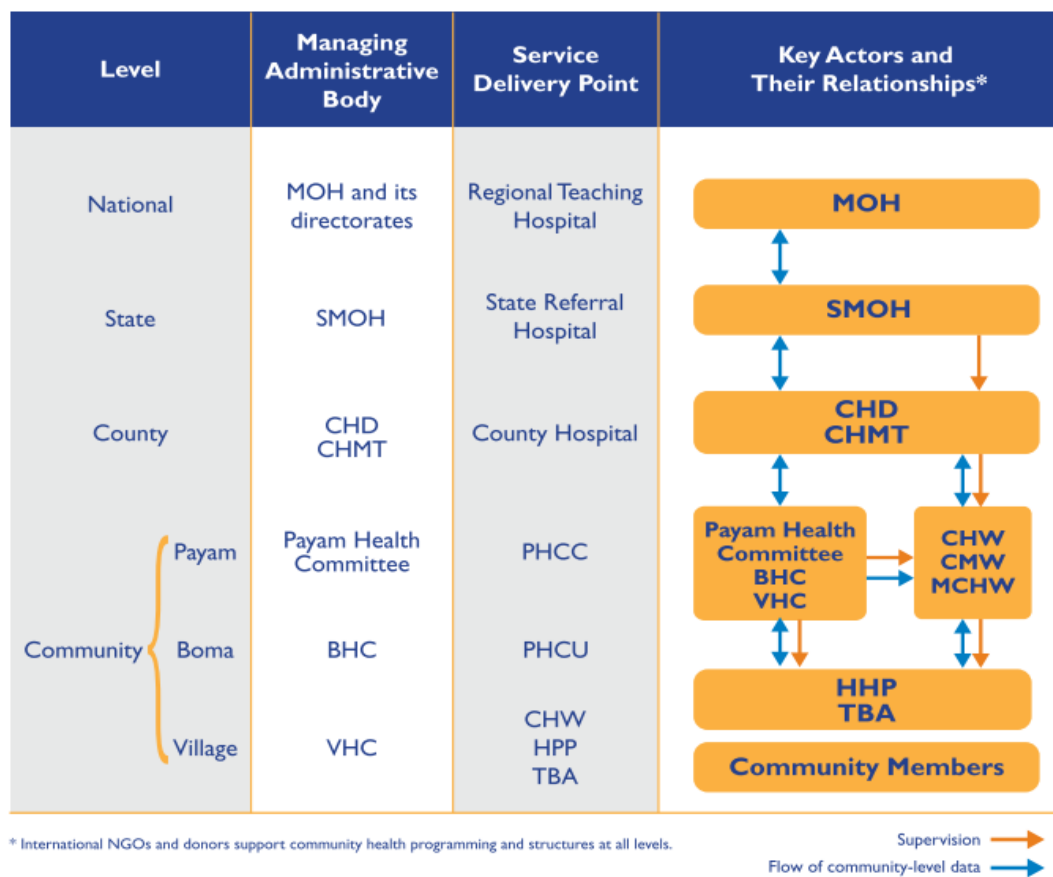
Before 2005, basic healthcare services to the civilian population in Southern part of Sudan, were delivered by different International Non-governmental Organizations (iNGOs) in an autonomous way and under the watch of the Secretariat of Health of the Sudan People`s Liberation Army/Movement (SPLA/M), the main military and political constituent of Southern Sudan(34).

After signing the CPA in 2005, the adapted Interim National Constitution of Sudan recognized autonomy of the Southern Sudan with its own government and decentralized type of the governance throughout the country at four levels – central government, state, county and community levels. The interim constitution of the autonomous Southern Sudan articulated also a free primary healthcare for all citizens(32).

Following a decentralized framework of governance, the GoSS initially defined its healthcare system at four levels to carry out the health policy, manage healthcare and deliver services:

The highest one is the central Ministry of Health, followed by state level Ministries of Health (MoH), then County Health Departments (CHD) and at the local level the primary healthcare facilities (Primary Healthcare Centers – PHCC, Primary Healthcare Units – PHCUs). Devlin et al in their paper summarized the health system structure in a graph that reflects diverse dimensions of the system as well as the relationship between actors. See figure below for details of the roles and responsibilities at each level of governance as defined in 2005(35).

Figure 6: Health System Structure of ROSS(35)



Along with autonomy, the Government of Southern Sudan (GOSS) inherited very basic institutions and infrastructures to govern the region. Due to severely limited human resources, the newly established government was not able to fill all the positions within the ministries (36).

Starting from 2005 the international donors mobilized financial resources under various funds, like World Bank's Multi-Donor Trust fund (WB MDTF) and Department for International Development's Basic Service Fund (DFID BSF), trying to organize delivery of healthcare services in a more structured way and by applying a contracting out mechanism(37,38). In order to provide a roadmap for donors to harmonize their efforts, WHO and the international community proposed application of a Basic Package of Health Services (BPHS). Although the BPHS document provides a framework for planning and delivery of the healthcare services at different levels of healthcare, in the context of South Sudan it was seen also as an opportunity to standardize practices applied by variety of actors delivering services across the country that included international NGOs/agencies, faith-based organizations, missionaries and Community Based Organizations (CBOs) (39).

This period also entailed transition from humanitarian to development operation that led to withdrawal of many NGOs from health facilities in 2007, due to reduction of fund allocations for humanitarian operation. In some cases, the NGOs had to hand over service delivery functions to health authorities at the state level (MoH) and county level (CHDs) and in some cases other NGOs took over from them. It is believed that the most successful transition occurred when other NGOs took over service delivery function as they managed to maintain and even improve services, although some gaps were still observed. Less successful transition took place when the health authorities took over the function without having appropriate resources – human, financial and medical supplies(40). In a situation with transition of delivery of services from one to another actor, it was expected that introduction of the BPHS will increase government ownership and will lead to better donor coordination with further improvement of funding transparency and accountability. Introduction of the BPHS also entailed to set out a framework for shifting “project-based” service delivery under a national umbrella(39).

The first outline of the Basic Package of Health and Nutrition Services (BPHS) was developed during this period with support of the international community and aimed to provide a framework for planning and delivery of primary healthcare services(41).

Thus, taking into account the context and development trends in ROSS, the BPHS was designed to not just provide technical guidance, but also to set the policy for delivery of basic healthcare services by harmonizing approach, mobilization and utilization of pooled donor funds. It is also acknowledged that recognition of the package as a political instrument contributes to dialogue on health priorities and decisions on what services should be accessible by whom and where(42).

The figure in below illustrates the key milestones of selected political events, health leadership and development of BPHS package throughout the indicated period.

*Figure 7: Key milestones of Political Events, Leadership and Development of BPHS policy.(31,38,43–45)*



**Key Milestones of Political Events, Leadership and Development of the BPHS**

Key political Events	Conflict between Northern Sudan (NS) and Southern Sudan (SS)	Comprehensive Peace Agreement between NS and SS	Transition Period with fragile peace	Declaration of Independence	Outbreak of the first civil conflict in December	Outbreak of the second civil conflict in July
Health Leadership	SPLM/A Secretariat of Health office in exile oversee Healthcare from Nairobi, Kenya	MoH Established in South Sudan	Decentralized framework of healthcare system MoH, State MoH, County Health Departments		Decentralization of services by MoH - State Ministry of Health and Environment	Further decentralization to the new State MoH
Evolvement of BPHS	Healthcare services delivered in a fragmented manner by different health actors	Delivery of BPHS by different health actors in South Sudan approved. WB MDTF established.	First BPHS outline prepared	Adoption of the BPHS	Disruption of health /public services	Further disruption of public/health services
	before to 2005	2005	2005-2011	2011	2013	2016

Volatile context due to widespread violence has had a detrimental effect on the already weakened healthcare service delivery, including primary healthcare that provides the BPHS to the population(5). The package emphasized delivery of key primary health services that were developed based on the identified priority diseases and internationally accepted cost-effective interventions taking into account the resources available for the services(39,46,47).

In 2019, more than half of health facilities were non-functional due to the effect of the volatile situation on healthcare. This situation has eventually hampered delivery of BPHS to the population that resulted in an increase of preventable diseases(1). 4 out of 5 functioning health facilities are managed by non-governmental organizations (NGOs) that makes state`s healthcare system heavily dependent on the external actors and resources. An estimated 3,6 million people are in need to access healthcare services and the country is highly vulnerable to different communicable diseases. During the 2016-2017 period, outbreaks of cholera (20,000 suspected cases and 436 deaths), measles (937 suspected cases and 7 deaths), malaria (1.3 million suspected cases and 2,200 deaths) and kala-azar (32,000 suspected cases and 1,200 deaths) have been observed across the country(48-50).

As of 2016, only 26% of children were covered with Penta 3 vaccine that could prevent most of the common communicable diseases(10). It is estimated that about 860,000 children under age of five (U5), 600,000 pregnant and lactating women (PLW) and 4,000 elderlies are suffering from acute malnutrition and require life-saving nutrition services that are delivered primarily via BPHS(1).

A study conducted in 2015 reported that human resources for health were insufficient to meet the BPHS standards. Shortage of mid-level personnel (nurses, midwives, clinical officers) that constitute the backbone of BPHS, have been reported in particular(51). The shortage of trained health staff prompted health authorities to develop and prioritize additional coping strategy to address the issue. The number of midwives practicing in the Southern region was only 20 when it became autonomous in 2005 and the estimates in 2012 indicate that the country had altogether 150 community midwives(31,52). As per the MoH human resources for health (HRH) plan developed for 2012-2016 period, the total number of all the available human resources for health was 2,025 and the country planned to increase it to reach 15,071 by the end of the period. However, in 2016 a gap of more than 11,000 priority staff was observed(53). In order to meet the healthcare needs of the population, health authorities

jointly with the international community, prioritized training of additional Clinical Officers and Midwives(31).

Although the country has achieved certain tangible results in formulation and implementation of BPHS policy, which became possible due to willingness and commitment of the RoSS government/MoH authorities with continuous support from international community, the facts and figures stipulated in above, reflect critical gaps in achievement of the planned results. The population in RoSS remain highly vulnerable to the diseases that are by large preventable and curable by the services outlined in BPHS. This eventually an indication of insufficient delivery and or/uptake of the BPHS.

### **III. Overall objective**

To explore factors that influence delivery and uptake of the BPHS in primary healthcare in the context of the Republic of South Sudan

#### **Specific Objectives**

- 1 - To explore the origin and use of 'Basic Package of Health Services' in post-conflict health reconstruction.
- 2 - To unveil the evolvement of the Basic Package of Health and Nutrition Services along the Healthcare System of the Republic of South Sudan.
- 3 - To describe factors that influence delivery and utilization of the BPHS in South Sudan.
- 4 - To describe strategies implemented by key stakeholders to address the emerging needs with delivery and utilization of the Basic Package of Health and Nutrition Services in the Republic of South Sudan.
- 5 - Provide recommendations to MOHSP of the RoSS and key international health actors (ICRC, WHO) with enhancement of delivery and utilization of the Basic Package of Health and Nutrition Services in the Republic of South Sudan.

### **IV. Methodology**

Literature review

Desk review of the scientific literature about the features of the healthcare system in fragile contexts and particularly in ROSS have been conducted. Corresponding scientific literature were mainly accessed from the following libraries: PubMed and VU e-Library. The content of the African Index Medicus Database (WHO AFRO platform) was explored to find the relevant materials. Additionally, the articles and reports related to the subject were accessed using the Google Scholar academic search engine and "snowball" technique, by reviewing the materials from the reference lists of the accessed documents.

The literature search was completed in English, an official language of the RoSS as per the transitional constitution of 2011. The dates of publications were filtered based on the key periods of establishment of the country, from being a Southern region of Sudan (until 2005) to establishment of the Government of South Sudan (GoSS, 2005-2011) and after declaration of independency in 2011.

Combination of relevant terms was used to complete the search in the literature databases and included: "South Sudan", "Basic Package of Health Services", "Accessibility to healthcare", "Healthcare in fragile states", "Healthcare in conflict settings», «Health Actors" and the other ones. See Annex I for details of the search terms, the combinations and key words used to complete the search.

Although various sources were used to access scientific literature on the subject, a limited number of materials found available to study factors that affect delivery and uptake of BPHS in RoSS. It is therefore studies on BPHS from similar fragile contexts (Liberia, Afghanistan, DRC) were used in order to compliment the research.

Information materials and periodic reports available through the websites of the key national and global health actors supporting the government of the ROSS with planning and delivery of the basic package of health services to the population, including MoH, ICRC, WHO, UNOCHA, and other UN agencies were used to capture up to date information.

In this paper, the basic package of health services (BPHS) is viewed within the framework of the minimum set of services delivered to the population via primary healthcare only. The set of services that are delivered via secondary and specialized level of services are not considered here.

## **V. Framework for analysis**

This study will discuss the implementation of BPHS policy in fragile contexts and particularly how it evolved in the context of South Sudan. Further it will analyze the factors influencing delivery and utilization of BPHS at PHC level in the context of the ROSS and describe strategies applied by different stakeholders to organize delivery of services.

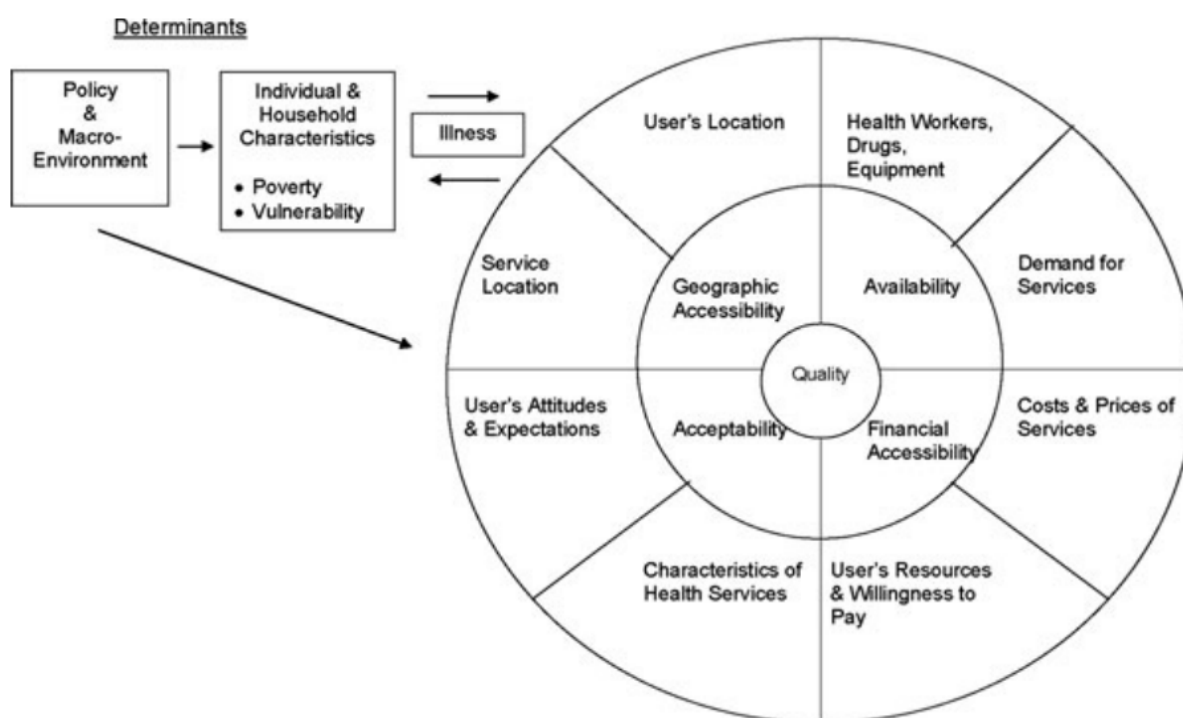
A conceptual framework will be used to analyze the factors influencing delivery and utilization of services and strategies applied by stakeholders to deliver them (SO3 and SO 4). The model used in the thesis was developed by Peters et al and covers both demand (utilization by population) and supply (delivery by providers) aspects and includes the following dimensions(54):

4 "A"s:

- (1) Geographical Accessibility, including - service location and user's location.
- (2) Acceptability, that covers: user's attitudes and expectations, characteristics of health services
- (3) Financial Acceptability: cost and prices of services and user's resources and willingness to pay.
- (4) Availability, which includes: health workers, drugs and equipment and demand for services

This model provides an opportunity to analyze the barriers to services from the population (demand) and service providers' (supply) perspectives based on each of the listed dimensions, as reflected in below graph. It also includes the following overall determinants, as Policy & Macro-Environment, Individual and Household (HH) Characteristics (poverty and vulnerability) and Illness. The determinants from the framework have been partly covered in background section of the paper and will be further reflected while providing details on the history and evolution of BPHS in RoSS.

Figure 8: Conceptual framework for assessing access to health services (54).



Since the ROSS BPHS 2011 primarily focused on priority interventions delivered and utilized via primary healthcare system and less at the higher secondary level, the analysis is therefore focused on accessibility to basic services delivered at the PHC level only (55).

## VI. Study Results/Findings

### 1. BPHS in post-conflict health reconstruction

Basic Package of Health Service (BPHS) as an agenda for planning and delivery of healthcare to the population was introduced primarily with the purpose to maximize effects of sector spending in countries with scarce resources. The package of services includes preventative and curative activities that address healthcare issues affecting larger groups of population, particularly the ones that are believed to be at higher risk, like children and women(56,57).

Since the commencement of the approach in the 1990`s, the BPHS as a tool to design and deliver primary healthcare services was applied in a number of low/middle-income countries, also during the times when some of these countries have been experiencing or just recovering from complex political events, including armed conflicts (Afghanistan, the DRC, South Sudan and etc)(46).

### **1.1. Rational for BPHS**

In October 2018, the world came together for the global conference on primary healthcare in Astana, Kazakhstan to celebrate the 40 years anniversary of the adoption of the Almaty Declaration on Primary Healthcare (PHC) and reaffirm once again commitment to primary healthcare as a fundamental human right featuring its universal access for individuals and families(58,59). The earlier Almaty declaration identified Primary Health care as *"... the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process"* (60).

At the end of the conference, the leaders endorsed a new Astana declaration to revitalize primary health care for the 21st century. This declaration includes a number of vigorous and straightforward statements that cover various socio-economic and political facets necessary to attain the universal access. These are: acknowledgment of PHC as a cornerstone of a sustainable health system for universal health coverage (UHC) and health-related Sustainable Development Goals, recognizing continuous inequalities in health of developed and developing countries. By addressing inequity, the stakeholders aim to ensure accessibility to healthcare services for all regardless the state of economic development of the country(61).

Since the adoption of the Almaty declaration in 1978, the healthcare practitioners debated widely the modality of assuring universal healthcare coverage of the population. However, the reality on the ground in countries with limited resources (low and middle income country) and complex environments, led practitioners to the idea of introduction of selective primary healthcare services, as an interim strategy to achieve universal health coverage down the road, when the country`s resources will permit to assure universal health coverage(62). The notion of selective primary healthcare later on turned into the concept of a basic package of health services that is also often referred to as essential or minimum healthcare services(56).

In 1993, the World Development Report, published by the World Bank (WB), provided an in-depth analysis of the association of the investments into health and economic development. It concluded that state investment on health contributes positively to economic development(63).

This report had a number of key messages for health actors. One of them urged to redirect financing from specialized care at the tertiary level to public health care services, particularly in developing countries. Analysis of health spending in this report showed that most of the funds allocated to health sector are utilized by the specialized care that yields less gains for

the money spent in comparison to control and treatment of communicable diseases and malnutrition. This was backed by the economic estimation of the burden of disease using DALY (disability-adjusted life years) that allowed to calculate healthy life years lost due to early mortality and as result of disability(63). One of the most cost-effective interventions found to be immunization that is included as a core activity and made available via all BPHS programs. The other most cost-effective activities also essentially fall within the public health interventions aiming at improving access to services and increasing awareness on communicable diseases(64).

Waddington in her paper has put together the four most common justifications, identified in relevant literatures, for essential (also basic) healthcare package (EHPs or BPHS) that support the following notions(56):

- Cost-effective intervention, i.e. prioritize interventions to increase the impact on health status of the population.  
One of the objectives of the South Sudan BPHS is to address the priority health problems and the package has been developed based on the burden of diseases. It is therefore very crucial to ensure that these prioritized interventions are available to be delivered to the population as projected (55);
- Equity, same package of services available to all with the same need, irrespective of gender, location and age.  
This is very important and relevant to the context of South Sudan and yet another dimension that can be added here to assure the equity is the diversity of service providers. As the recent UNOCHA report indicate, 4 out of 5 health facilities are managed by NGOs (1);
- BPHSs contribution to poverty reduction by prevention of health spending and support to maintain the health.  
This enables individuals to remain physically/economically active and healthy and thus prevent them from falling into poverty;
- Political empowerment and accountability. Identification of concrete set of services available via BPHS enables to hold key stakeholders accountable for meeting those requirements, particularly in the context of South Sudan where decentralized type of governance is adapted and recent transitions from 10 to first 28 and then 32 states system of governance took place(65,66).

In addition to above reasons for applying BPHS approach, the role of BPHS in building the health system and thus contributing to "state-building" process, particularly in fragile context where the government fails to deliver public services has been widely recognized as well(67,68). This also is very relevant to the context of the ROSS(69).

All these various reasons given above, support the idea of development and application of the BPHS and can be considered as the strengths of the approach, especially in fragile contexts where the government (supply side) resources are limited and aid-dependent by large(70).

Nevertheless, in a fragile context when the routine/normal life of the state is disrupted, health care delivery gets affected from many perspectives. Political crisis, armed clashes, poor rule of law, and failure of the government to deliver public services – all of these may compromise the geographical accessibility, acceptability by users, financial acceptability and availability of the BPHS (4 "A"s) from both services providers (supply) and population (demand) perspectives (70).

## **II. BPHS in the context of Republic of South Sudan**

BPHS in the context of ROSS has been introduced along with setting up and development of the healthcare system (including primary healthcare), literally from scratch, at the beginning of autonomy for the Southern region and after gaining independence in 2011 for the emerging country. The concept played one of the key roles in the process of defining a package of “basic services” delivered at different levels of primary health care – community, PHCUs, PHCC and county hospitals (39). Unlike in other complex humanitarian emergencies contexts (Afghanistan, DRC) where the package was integrated into the system, in SS it was used alongside building the system itself(69,71). Prior to that South Sudan had a two-tiered healthcare system: NGOs-managed facilities and MoH managed facilities(72).

In July 2011, the MoH of the Republic of South Sudan (ROSS) with support of WHO and the International Community adopted renewed Basic Package of Health and Nutrition Services (BPHS). The document describes the scope of the services that should be accessible at primary levels and secondary levels of the decentralized health care system for all population groups in general and particularly for women and children (35). Although different levels of service delivery are covered by the package, to a great degree the package is focused on a PHC-oriented approach to service delivery(55). Adoption of the renewed document followed the declaration of independency on 9 July 2011 and aimed in a way to lay the grounds for development of the health care system in the new country. In 2019, the MOH of ROSS initiated a review of the BPHS document to separate the standard services delivered at primary healthcare from the ones at the higher levels (secondary/tertiary). However, at the time of writing this paper, the updated document has not been released for formal dissemination and use(73).

Effective delivery of the BPHS remains quite high on the national health policy agenda for the 2016-2025 period, which aims to strengthen national health system and partnership to deliver and make a package of services accessible (74). The RoSS’s BPHS defines the main objective of the document as guidance for those who are involved in delivery (providers, staff and management) and utilization (users) of the services with an operational reference for various roles and responsibilities throughout different layers of the health care system. The objective also emphasizes strategic application of the policy to address priority health problems, highlighting in particular maternal and child health(55).

Furthermore, the BPHS document outlines in more detail the service delivery system and the structure of the system at the local level. In total, the RoSS BPHS includes 173 various services and activities recommended to be provided at PHC level, which include public health activities (awareness raising, Information, Education, Communication(IEC)), prevention, curative services and referral to the next level of healthcare. Reporting and monitoring & evaluation of services are integrated for implementation for each group of activities. In addition, the document identifies about 17 services and activities that are solely to be delivered at the secondary level via County Hospitals(55).

Although not specified explicitly, the decentralized modality of the healthcare delivery system is reflected in BPHS and National Health Policy document by indicating the role of State Ministries of Health (SMOH), in total 10 at the time of development of the BPHS in 2011, in coordination, supervision of activities and implementation of policies and resource allocation for health care at the state level(74). Furthermore, the unilateral decision taken by the President of ROSS in 2017, to increase the number of states from 10 to first 28 and later 32 states, as part of the decentralization process, implied establishment of additional SMOHs. All of this involved upgrade of the existing governance structure at the state level with corresponding human and financial resources. However, the creation of additional states in

fact at this point did not result in devolution of power and greater resource allocation to the state(65,75).

Within the state, the County Health Departments remain responsible for the management of BPHS implementation, covering preventive, curative and community-based health interventions implemented via primary health facilities – PHCUs, PHCCs(35). The BPHS document also has a review of the disease patterns of the country starts with reference to Maternal and Child mortality indicators and is further grouped under the following specific thematic areas(76):

- 1 - Maternal and Newborn Health
- 2 - Child Health
- 3 - Most common diseases, like: Malaria, TB and acute/chronic childhood malnutrition are emphasized specifically here
- 4 - Non-communicable diseases
- 5 - Mental Health
- 6 - Community engagement, IEC and Health Promotion
- 7 - Emergencies and Emergency preparedness

The description of diseases falling under each thematic area begins with an overview of the prevalence of the cases followed by targets to be achieved by 2012. Slightly expanded descriptions are given for the most common diseases which include: Malaria, Diarrhea, Acute Respiratory Infections (ARI), TB, sexually transmitted diseases and HIV. For this group of diseases, the BPHS provides details on the objectives and strategies that aim to reduce the burden of disease with reference to specific measurers (indicators)(77).

The table below provides an overview of the general basic package of health services. In additions, the BPHS document also refers to specific service packages delivered at the primary healthcare level, such as: minimum initial service package for reproductive health (MISP), a community-based child survival package, and a basic package of health and nutrition services for schools.

*Table 2: The RoSS BPHS and activities grouped by service areas(77)*

Services and activities		Number of activities at various levels of PHC	
<b>I. Safe Motherhood and reproductive health</b>	1	Focused antenatal care	13
	2	Care of uncomplicated delivery	8
	3	Emergency obstetric and Neonatal care	7
	4	Focused postnatal care	7
	5	Sexual reproductive health and Family planning	9
	6	Men's RH	9
<b>Sub-total:</b>	6		<b>53</b>
<b>II. Child health</b>	1	Immunization EPI services	8
	2	Essential Nutrition action	10
	3	Integrated Management of Childhood Illnesses	14
<b>Sub-total:</b>	3		<b>32</b>



<b>III. Most common diseases and public Health Risks</b>	1	Malaria	10
	2	Tuberculosis*	13*
	3	STI/HIV/AIDS	8
	4	Diarrheal, enteric infections and infestations	13
	5	Acute respiratory infection	5
	6	Neglected tropical diseases	12**
<b>Sub-total</b>	6		<b>51</b>

\* including follow up activity at PHC level

\*\* Activities related to Schistosomiasis and Onchocerciasis control are listed specifically

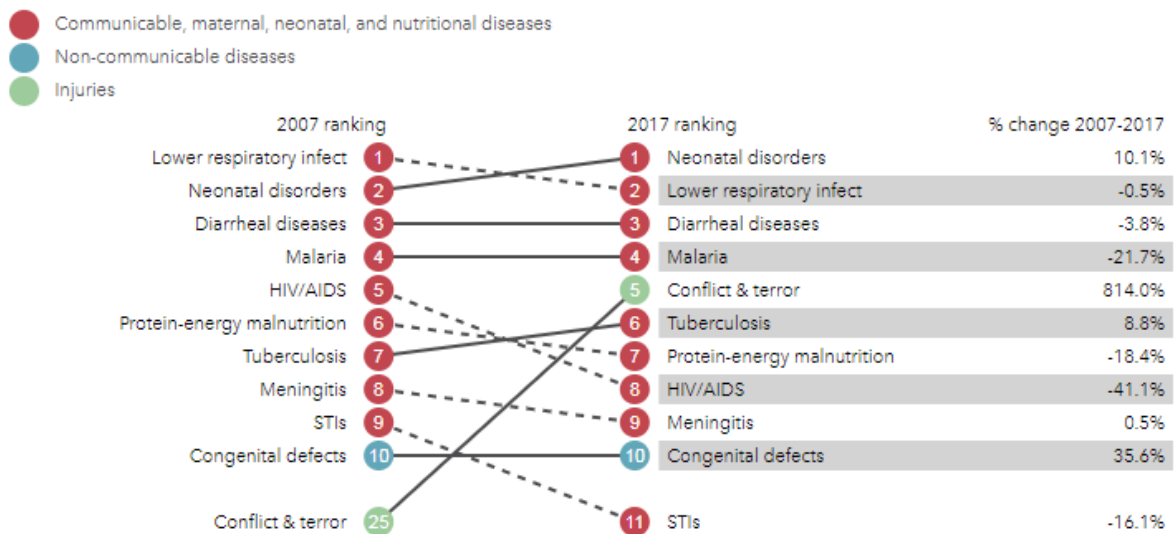
<b>IV. Non-Communicable, High Priority Diseases and Conditions</b>	1	Diabetes and hypertension	9
	2	Mental health	11
	3	Disability (physical)	6*
	4	Primary eye care	11
<b>Sub-total</b>	4		<b>37</b>

\*4 out of 6 activities entail referral to the secondary level of services

<b>Total:</b>	<b>19</b>		<b>173</b>
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By and large, the services and activities emphasized in the BPHS document in 2011 enable to address the healthcare issues observed in the Republic of South Sudan in 2017. For instance, if the package is viewed against the top 10 causes of life lost (YLLs) based on the estimation made by the Institute for Health Metrics and Evaluation (IHME, see the graph in below), then most of the top causes of premature death fit well with the identified priority services/activities described in the package(30). 8 out of 10 causes of the list are attributed to communicable, maternal, neonatal and nutritional diseases, one cause is due to non-communicable disease (congenital defects) and the other one due to injuries received as a result of conflict and terror.

*Figure 9: Top 10 causes of years of life lost (YLLs) in 2017 and percentage change, 2007-2017, all ages, number (30).*

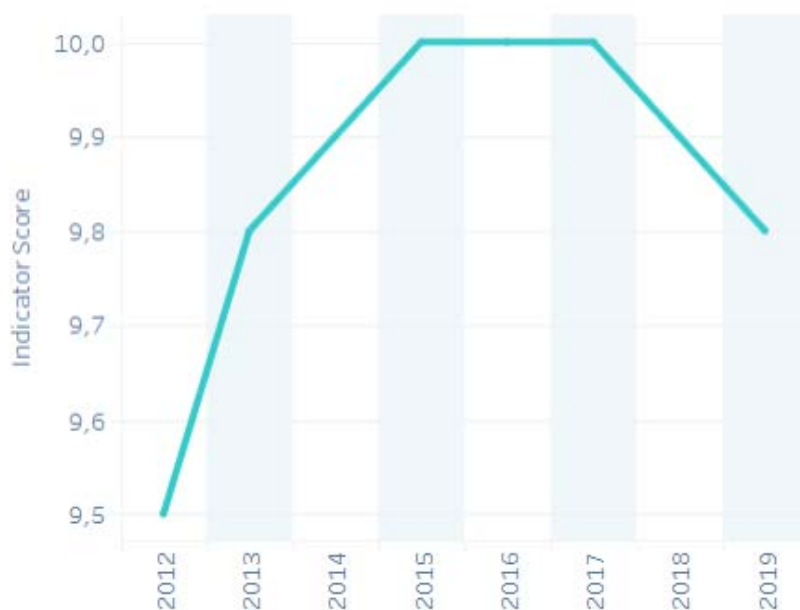


Comparison of causes of YLL data for 2007 and 2017, presented in IHME report, indicates that 9 out of 10 causes of premature death in 2017 remained the same as they were back in 2007, although with some difference in ranking order. The top four of them remained within the same range during this period, including malaria, which according to WHO reports accounts for about 60 % of morbidity and mortality cases during the raining season(78). In general, these diseases are known as the most common causes of death in complex humanitarian emergencies(64).

Internal conflict and outbreak of violence contributed significantly to increase of YLL and ranked as the fifth top cause in 2017, while in 2007 it was 25<sup>th</sup>. As the country enters the new period, after revitalizing of the peace agreement, there is a hope that contribution of the conflict & terror to YLL will be less comparing to what was observed in 2017. However, at this point of time, although the peace agreement was revitalized by fighting parties in September 2018, the country still continue to witness the occurrences of violence, in particular due to local and intercommunal conflicts as are captured by the regular reports of the humanitarian actors operating in the country and monitoring the situation(1,78–81). Such context eventually contributes to further build-up of fragility(19).

The fragile index score, produced by the Fund for Peace, is based on the 12 different indicators that include Public Service as well. This indicator refers to existence of basic state functions that serve the population and entails delivery of various essential services like: health, education, water and sanitation, transport, protection of population and etc. In 2019, the ROSS with its score of 9.8 out of 10 ranked as the 3<sup>rd</sup> most fragile state that fails to deliver public services to its population. The graph in below illustrates trends of the public service indicator for 2012-2019 period(21).

Figure 10: South Sudan Public Services Indicator trends(21)



As a whole, this is quite common in fragile settings where the states fail to deliver public services to meet the needs of the population(82). More than two thirds of respondents of the WB’s High Frequency Survey, conducted in 2017 in ROSS, regarded negatively government’s performance with respect to provision of basic health and education services(83).

The healthcare system in fragile states suffer from mixture of challenges – high burden of disease, inequity in service delivery to different social groups (poor vs. rich) and locations (rural vs. urban), inadequate resources (human, material, medicines and other supplies) and malfunctioning information system and etc. Additionally, high exposure to conflict and political instability makes the country to focus on security issues rather than development of healthcare system (70).The situation in RoSS reflects the healthcare system that is common to fragile setting with barriers for service providers to deliver and population to access the basic healthcare services(1,84).

### **III. Factors that influence delivery and utilization of the BPHS.**

This section of the paper explores various accessibility factors from supply and demand perspective which influence access to and utilization of BPHS. The sub-sections follow the structure of the adapted conceptual framework to analyze the access to health services.

The health actors operating in the country, report following key barriers that are limiting access to healthcare services in general from both demand and supply side – insecure situation followed by population displacement and destroyed/dilapidated infrastructures, lack of health facilities in general and insufficient workforce. The cumulative effect of the conflict in South Sudan have exacerbated delivery of the reasonable healthcare service to the population that was almost non-existent prior gaining independence(1,5,10,85). Despite all of these barriers, the international community continue to support and remain the main

source of financing and delivery of BPHS in communities and places of concentration (PoCs) of displaced population(86,87).

### **3.1. Geographical Accessibility**

#### **3.1.1 Service location**

As per the analysis conducted in 2017, on the provider-to-population ratio, the ratio of functional health facility to population across the country was about 1 facility for 7,947 people. The distribution at different levels of services, reported to be as followings: each functional hospital serves 312,000 people, PHCC 40,373 and each PHCU 10,218 people. Such distribution seems to be within the ranges identified in BPHS document(55,85). Nevertheless, in terms of the distance to the nearest provider, the study conducted to assess spatial accessibility, revealed that in average across the country, only 28.6% of the population is living within the 5km of range and more than 71% reside in the areas outside of 5km, which equals to approximately 1 hour of walking to a public health facility(85). The other study on access to MCH services in Juba county, reported that interviewed women had to travel 1-2 hours by public transport to reach the nearby health facility(84).

Study on spatial analysis concludes, that such a very low accessibility is explained by inadequate distribution and inoperability of health facilities, particularly in such war affected states of RoSS as Jonglei, Lakes and Upper Nile, and Unity State (85). The study was completed based on the geospatial data of 1,466 health facilities, out of which the great majority (over 97 % or 1,409) were primary healthcare facilities (PHCC and PHCUs) (85). Some of these facilities were looted and burned during the armed clashes between the government and non-state forces before the peace agreement was revitalized(5,88). Nonetheless, the health facilities continue to be targeted after that, due to inter-communal conflicts that are reported regularly by actors operating on the ground (79,89).

Referral of patients from one level of healthcare service to the higher or the similar one is exercised with the aim to access the better resources (drugs, equipment, and skills) that enable to ensure continuum of care and access to quality services. This also helps to prevent overcrowding of the higher level facilities that may occur when the patients bypass the facilities at the lower level where they can receive required service(90,91). According to BPHS document, depending on the required services and designated functions of the healthcare facility, the patients referred from the lowest level of care (at the village/community) to PHCU and then to PHCC and further to the secondary/tertiary levels of healthcare, when required(55). Here again the factor of geographical accessibility plays a role in referral of the patients.

Long distances in the context of South Sudan, where people have to walk hours to access services, are associated with the higher transportation cost as well as the risks of encountering incidents related to insecurity(1,84). As per the data collected during the mapping survey of health facilities in ROSS, conducted in 2018 and updated on a regular basis, only 38% of PHCUs and 31% of PHCCs are located within less than 15 km of the referral facilities. At the same time, only 1.4% of the PHCUs and 23% of PHCCs are able to organize emergency transportation to the patients. In terms of the communication supplies only 12% of PHCUs and 21% of PHCCs have necessary communication equipment in their possession(92).

According to HSDP for 2012-2016, the government had an ambition to reach 70% of population with public healthcare services within 5km of distance(31).

*Table 3: Data on referrals, communication and transportation of PHCUs/PHCCs.*

<b>Variables</b>	<b>PHCU</b>	<b>PHCC</b>
Distance between the referral facilities < 15 km	31%	38%
Communication equipment	12%	21%
Emergency transportation	1.4%	23%

In a country where only 2 % of all roads are paved, in the area of 650 thousand square kilometers, this makes challenging accessing roads, especially during the rainy season from about June to October (93,94).

### **3.1.2. User's location.**

More than 80 % of the RoSS population reside in rural areas that is characterized by the very poor condition of the road networks, lack of public services, dilapidated health infrastructure heavily affected by the conflict (26,95,96). In addition to that, the volatile situation has forcibly displaced 2 million people residing mainly in rural areas of the country. Most of the forcibly displaced population constitute women (80%) and children who require regular access to basic healthcare services (1,97).

Furthermore, the international community often report denial of physical access to rural areas by the local authorities. Before the peace agreement revitalized in September 2018, it was common that the local authorities imposed restrictions to access the areas controlled by the opposition. This eventually prevented from delivering resources required to provide the health services within BPHS framework. Nevertheless, even after revitalizing the peace agreement, the international community continue receiving denial access to certain locations, as it happened with UN team in June 2019 that planned to conduct Ebola Virus Diseases (EVD) preparedness activities in Central Equatoria. The team was not allowed to proceed further at the security checkpoint, allegedly for not obtaining the required security clearance(98,99).

## **3.2 Acceptability:**

### **3.2.1. User's attitudes and expectations**

The studies conducted to assess the acceptability of the health services conclude the urgent need for improvements of the quality of the delivered health services(84,100). One of these studies collected feedback from the community members (female and male respondents), about MCH services, one of the core components of the BPHS. Findings of this study indicate inadequate quality of maternal healthcare because of the poor and inconvenient public facilities that in addition managed by unqualified health personal, such as traditional birth attendants (TBAs). Such situation is viewed by respondents as a particularly risky for a pregnant women that experience complications, as there no specialists to provide professional support to her when needed(84).

Survey respondents also mentioned dietary restriction as another traditional belief that allows prevention of delivery complications by discouraging women from consumption of certain type of foods, such as eggs and cheese. They believed that it will lead to high blood pressure, pre-eclampsia and giving a birth to a big babe (84). In general, poor awareness of the communities about the advantages of immunization program is recognized as one of the key challenges to the EPI program in the RoSS(101)

### **3.2.2 Characteristics of health services**

A qualitative study among the international practitioners working in health facilities of ROSS, reports that the tension between various tribes of ROSS, particularly between two major opposing tribes as Dinka and Nuer and their supporting tribes, created barriers to access healthcare services in certain locations. Thus, as the Nuer population do not feel secure to receive healthcare services in a health facility managed by Dinka staff, they avoid coming to it to receive the required services. Even the international practitioners working in the facility, would not take Nuer patients there, due to lack of trust in domestic doctors and security guards working there(51).

The other study indicates that the population residing in rural areas of the ROSS are deprived from receiving quality healthcare services, due to lack of trained healthcare personal, dilapidated infrastructure and medical equipment, particularly in remote and hard-to-reach locations(84). Forcibly displaced population, except the ones settled in PoCs supported by international humanitarian actors, is another group of population that are constantly lacking adequate basic healthcare services(1).

Traditional norms and cultural believes among communities of RoSS are yet another barrier to seek health care. Lack of husband's support and lack of women's autonomy in decision making about her health are examples of existing community norms that restrict access to maternal healthcare services(84).

### **3.3. Financial Acceptability:**

#### **3.3.1. Cost and prices of services**

The government of the RoSS has a strong commitment to deliver healthcare services at various levels in general and BPHS in particular, to its population on a free-basis. This position of the government is reflected in the interim constitution of the RoSS and the other health policy documents(32,102). Taking into account that 82 % of the population in 2016 was living under the international poverty line of \$ 1.90 per day the free-delivery of health services is quite justified(103). Nevertheless, the government also plans to introduce gradually user fees for healthcare services above the primary one (BPHS) once the economic condition of the population is improved (102).

Meanwhile, according to IHME report from 2016, more than 40 % of the national health spending in ROSS were made out-of-pocket (OOP) of the population(29). The OOP payments are used to cover the cost of admission by healthcare staff (clinical officer or physician), pharmaceutical expenditures and laboratory tests. These payments are reported common in health facilities run by the state and without international assistance, where delays with payment of salaries is observed(2). In some instances, these payments are not announced as a prerequisite for receiving services, but rather as a cost to cover expenses of the

stationaries that are used to register clients at the clinics and prescribe medicines for treatment (5,84). On the contrary, the health facilities managed with international funds, deliver healthcare services and provide medical supplies for free(2).

### **3.3.2. User's resources and willingness to pay**

A qualitative study conducted in 2017, to assess the access to maternal healthcare services that are part of the BPHS, in addition to barriers indicated in above, highlighted limited financial ability of the households as one of the barriers to seek care, including vaccination services(84).

The study also revealed that although paying a small user fees deemed reasonable, the household was not comfortable to spend the funds in possession for something else beyond just food. In some instances, it restricted access to follow-up with antenatal care services. The expenses associated with transportation to health facilities and payment for consultation of the specialists was still reported as an additional financial burden to the households that had to cope with reduced income and irregular salary payments (84).

### **3.4. Availability**

This chapter of the paper discusses the availability of the human resources and medical supplies at health facilities to deliver BPHS in the contest of ROSS.

#### **3.4.1. Healthcare workforce, drugs and equipment.**

The volatile environment has imposed limits to safe access to healthcare facilities. By the end of 2019, less than half of the health facilities were functional. However, functionality of health facilities does not always imply availability of qualified personal to receive the required care. This happens due to shortage of trained health personal and migration of the existing healthcare-workers (1,104).

Shortage of healthcare workforce is another widely recognized key challenge of the system in complex emergencies(105). In the context of RoSS this one believed to be the most challenging to organize delivery of services. Number of factors has led to scarcity of healthcare workforce that includes historically low number of trained healthcare workers, insecure / volatile situation, economic collapse and the other ones. In 2005 when the Southern part established its own Government, the region had only 20 midwives and in general less than one healthcare worker per 1,000 of population (106,107). Later on, as the internal conflict evolved after declaring independence in 2011, the brutality against the healthcare workers forced them to depart their places or migrate in a search of a secure and better life (1,5,88). Severe shortage of the mid-level cadres (nurses, midwives, clinical officer) in the ROSS that constitute the backbone of the primary health care and thus delivery of BPHS has been reported by the study conducted in 2015(51). The study on quality of maternal healthcare services reported inadequate quality of services due to unqualified trained traditional birth attendants (TBAs)(84).

High attrition of health workers due to poor motivation is yet another reasons that can be observed in the country(101). The majority of health workers receive less than \$ 12 per month that is paid inconsistently and not kept up to the increasing inflation. This makes a

full-time employment in government run health sector non-sustainable(75). The study on access to MCH services indicates that lack of staff causes long waiting time and as result perceived by users as a barrier to receive vaccination services(84).

The assessment of quality of care (QoC) in health facilities of RoSS, which mostly covered PHCC and PHCUs (over 90 %), reported lack of health workers in 84 % of facilities. The report also indicates that researchers just assessed the number and level of staff employed, but did not observe the actual presence of staff on a survey day that could be even less due to absenteeism(100). The same assessment revealed that about half of all HFs have acceptable essential infrastructure (52 %) and drug availability (53%). It is also reported that minority of HFs had sufficient equipment and supplies to support child health (18%) and newborn health (26%)(100).

Stock-out of essential medicines, including vaccines, is another key challenge highlighted in various reports and studies about availability of basic healthcare services in ROSS. Lack of medical supplies eventually influence the health seeking behavior of the population, including uptake of ante-natal care by pregnant women and immunization of children. This particularly is observed in conflict affected areas, where facilities are attacked and medicines and equipment were looted(87). Furthermore, the central MOH uses “push” mechanism to supply health facilities across the country with medicines. This approach is based on forecasting of medical supplies and does not take into account the actual demand and needs of the local facility. Thus, the facility may receive medicines against leishmaniosis, while there are no cases of the diseases in the area covered by facility. Although the national MOH is responsible to supply all facilities in the country with medicines and equipment, in some occasions the officials are reluctant of doing so for areas controlled by the opposition to the government(51).

### **3.4.2. Demand for services**

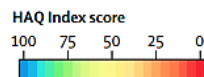
In 2018, IHME assessed the personal healthcare access and quality (HAQ) in 195 countries and territories using the data on Global Burden of Diseases (GBD) for 2016. The RoSS with its HAQ index score of 27, on a scale of 0-100, was ranked as 188<sup>th</sup> country with the low level of personal healthcare access and quality. The index was calculated based on the 32 causes from which death should not occur in the presence of effective health services. This include variety of health services provided at different levels of care - vaccine-preventable diseases; infectious diseases and maternal and child health; non-communicable diseases and other non-communicable diseases from which surgery can easily avert death(108).

As the findings of this study indicate, the population of ROSS deal with number of serious barriers on the way of actual utilization of the available health services in ROSS. Most of these barriers are caused by the recurring volatility across the country that adversely affects not just utilization but also delivery of healthcare services.

*Figure 11: Performance on the HAQ Index and 32 individual causes, for 15 countries with the lowest score in 2016, including South Sudan(108)*



	HAQ Index	Tuberculosis	Diarrhoeal diseases	LRIs	URIs	Diphtheria	Whooping cough	Tetanus	Measles	Maternal disorders	Neonatal disorders	MM skin cancer (SCC)	Breast cancer	Cervical cancer	Uterine cancer	Colon cancer	Testicular cancer	Hodgkin's lymphoma	Leukaemia	Rheumatic HD	Ischaemic HD	Stroke	Hypertensive HD	Chronic respiratory	Peptic ulcer	Appendicitis	Hernia	Gallbladder	Epilepsy	Diabetes	Chronic kidney	Congenital heart	Adverse med treat
Democratic Republic of the Congo [181]	30	9	26	26	78	100	28	66	60	9	16	13	16	28	15	35	9	11	27	41	66	32	27	43	21	21	31	15	48	50	58	53	35
Zambia [182]	29	11	28	16	97	100	47	46	51	29	24	9	18	20	12	12	7	4	5	53	55	38	24	49	26	21	17	16	38	41	46	90	26
Niger [183]	28	25	13	23	75	100	31	48	53	8	22	24	11	20	13	8	3	7	19	40	58	39	47	46	35	23	27	45	31	53	42	53	20
Ethiopia [184]	28	19	29	27	96	100	20	48	31	19	27	9	10	13	6	9	4	5	7	54	53	36	31	59	29	31	28	26	36	47	49	99	34
Eritrea [185]	28	13	23	15	83	100	53	43	50	13	29	9	13	15	10	9	4	4	6	47	57	24	26	46	26	25	21	23	34	43	54	95	29
Burundi [186]	27	8	13	25	66	100	38	45	55	14	17	8	17	24	10	16	6	8	12	46	66	37	28	37	21	28	22	24	46	46	56	77	30
Côte d'Ivoire [187]	27	25	17	16	96	100	43	64	54	13	15	20	10	5	9	4	1	1	4	43	42	25	39	54	32	19	23	39	32	41	31	33	13
South Sudan [188]	27	16	26	20	97	59	24	19	25	10	21	10	17	25	15	19	7	12	23	51	66	38	32	43	29	32	24	42	37	48	57	97	32
Kiribati [189]	26	24	39	33	82	100	43	100	30	38	21	30	8	25	5	7	7	2	5	9	40	12	21	15	17	9	39	21	29	1	14	30	0
Guinea [190]	26	21	27	14	81	100	23	52	34	11	15	27	11	23	12	7	2	6	12	44	51	24	41	49	34	20	25	42	30	51	42	37	17
Afghanistan [191]	26	19	33	30	78	100	27	57	54	14	20	15	8	14	1	8	6	4	5	27	2	7	33	40	18	28	54	36	30	22	2	9	10
Chad [192]	25	24	9	17	87	66	21	39	30	6	16	27	13	22	18	10	4	7	14	45	62	43	46	41	35	22	28	43	36	55	37	48	16
Guinea-Bissau [193]	23	15	23	17	76	100	32	51	27	19	17	22	8	14	6	4	1	1	3	36	41	22	36	49	25	14	16	44	26	38	26	42	10
Somalia [194]	19	8	24	10	42	41	7	12	40	6	19	8	12	17	8	13	5	7	11	38	42	22	22	35	20	20	17	20	27	39	45	95	24
Central African Republic [195]	19	0	13	12	46	87	17	33	14	4	8	11	22	37	17	22	12	14	29	24	40	14	16	32	4	6	9	4	40	38	44	50	23



In 2018, for the first time since declaring of its independence, the country continued being affected by an outbreak of cholera during the dry season that expanded to new areas and became the longest and most widespread outbreak(5).

#### IV. Strategies implemented by key stakeholders to address the emerging needs with delivery and utilization of the Basic Package of Health and Nutrition Services in the Republic of South Sudan

The healthcare system in RoSS remains highly reliable on external assistance to meet the health needs of the population. Various actors take part in supporting and maintaining the healthcare system in RoSS in general and implementation of BPHS in particular. The primary healthcare facilities (center/units) operating across the country are supported by the non-governmental organizations mainly with the funds mobilized via two large funding mechanisms – Health Pooled Fund (HPF) managed by DFID and Health Rapid Result Project of the WB (HRRP) (1,87).

##### 4.1. Geographical Accessibility

###### 4.1.1 Service Location

Organizations that support functionality of the health facilities include local and international non-government organizations, civil-society organizations, multi-lateral agencies and faith-based organizations(109,110). Depending on the mandate / mission of the organization and objectives of the implementing activities, these actors provide support with financial, material and human resources to deliver health services at different levels of care. Activities implemented by these actors address various issues on the way of delivery of the BPHS and

include – capacity building of health workers (technical personal, clinicians and managers), provision of medical supplies and where needed, organization of delivery of direct services to the population. In some areas that are under control of the opposition, international actors are the only service providers that deliver BPHS to population(110,111).

A partner mapping study conducted in early 2018, discovered that the majority of healthcare activities implemented by local/international NGOs and faith-based organizations supported by HPF and other donors, focused on supporting primary healthcare at PHCC (36 %) and PHCU (38 %) levels that by large provide services to population in rural areas(2).

The health cluster of RoSS is one of the main platforms for coordination of activities in the sector that is led by WHO and involves 54 partners operating within the common Humanitarian Response Plan (HRP) framework. The other group of key health actors that operate outside the HRP framework include implementing partners of the Health Pooled Fund (HPF), Health Rapid Results Project (HRRP) and neutral organizations as ICRC and MSF. These organizations cover delivery of BPHS services across the whole country (112). Some of these organizations, like ICRC, Medair, NAC and MSF have been present on the ground for more than decades to provide medical support in both government and opposition controlled sites(110,113).

#### **4.1.2. User's location.**

One of the key and relevant to the context (conflict, poor infrastructure, lack of human resources for health) activity, which is implemented extensively across the RoSS by health actors, includes provision of health services in a mobile mode. In most of the cases the health actors in partnership with MoH involve local health workers to organize mobile medical teams and/or mobile clinics(114). The mobile medical teams entails provision of health services by health personal to the population in hard to reach areas where they deprived from access to healthcare or in locations where the health services are disrupted. In such arrangement, the medical teams travel back and forth to the sites, whereas the mobile clinics follow the population flow by assembling/disassembling the semi-permanent clinics. The services provided via such arrangements include consultation, treatment, vaccination and other services(73,115). In 2018, the mobile medical teams of WHO reached over 100,000 people with preventive vaccination campaigns and preparedness and response to such communicable disease as measles, Rift Valley fever and cholera(73).

South Sudanese seeking safety in "Protection of Civilian" (PoCs) sites, operated by the United Nation's peacekeeping mission in South Sudan (UNMISS), are also provided with an access to healthcare services. Currently, the UNMISS maintain six settlement camps across the country under the "Protection of Civilian" (PoCs) framework. More than 180,000 civilians have been seeking safety in these sites. Originally designed to provide temporary protection to civilians, it is now operates as a settlement camp for internally displaced population (IDPs), although the "PoC" concept is used to operate the sites(116,117). The displaced population that are settled in these camps, along with other humanitarian needs covered by UNMISS and humanitarian partners are provided with access to health services that by large includes consultations and treatment against the diseases covered by BPHS. (118,119). Definite structure and boundaries of the PoCs allow humanitarian actors to plan and deliver free BPHS in a more organized way and secure environment than outside the sites. This also makes health services more accessible to the population of the PoCs(120).

## **4.2. Acceptability**

### **4.2.1. User's attitudes and expectations**

The health actors operating in the country, in addition to clinical activities also implement outreach activities, to raise awareness of communities about the communicable diseases, and provide information on the benefits and expectations from the immunization campaigns, as part of the BPHS. This enables targeted population to take corresponding measures to prevent contracting and further spread of communicable diseases. Like in case of cholera is to follow the basic hygiene practices and for malaria it includes education sessions on the use of insecticide treated nets (ITNs) and indoor residual sprays (IRS) to prevent malaria(121,122).

At this point in time, when the fighting parties revitalized peace agreement, but the country is still suffering from inter-communal clashes, the health actors report only figures representing actual coverage by various BPHS services. Complex humanitarian context (unstable political situation and widespread violence) limits the opportunity to conduct the rigorous studies to document the achievements at the higher level results (121,123).

### **4.2.2 Characteristics of health services**

One of the most common type of activity implemented by health actors includes delivery of BPHS with engagement of the international and local health workers. In general, the nature of services are multifaceted and address diverse healthcare needs of the population within the BPHS framework – preventive, diagnostic and curative one(2,114). Even-though a good number of health actors involved in delivery of basic health services across the country, the availability of services remains quite limited. As of April 2018, only 3.7 % of the 1,332 primary health facilities provide the full-service package as per the BPHS and only 52.4 % of reporting facilities were providing half of the required services(124).

The health cluster partners of the RoSS, has identified three priority diseases that are tracked and reported via weekly Integrated Diseases Surveillance and Response (IDSR) system. This include, Acute Respiratory Infections (ARIs), Malaria and Acute Watery Diarrhea (AWD) that jointly account for more than 70 % of morbidity(118). Accordingly, the mobilized resources are utilized to address these priority diseases to boost capacities of the national health workers, ensure availability of the medical supplies (diagnostic tests, medicines) and access to medical consultations(118).

As part of the epidemic preparedness to the possible outbreak of communicable diseases and in order to provide immediate assistance to victims of sexual-violence that has a common occurrence in RoSS context, the health partners preposition various module kits in different parts of the country(121,125). These kits, Malaria/Cholera/PEP/MISP and the other ones, as part of the Interagency Emergency Health Kit (IEHK) initiative include medical supplies recommended for procurement and supply by partners implementing emergency preparedness and response activities(126,127). Strategical prepositioning of medical kits enable health actors to access as quickly as possible the medicines and medical supplies necessary for timely diagnostic and treatment purposes. This strategy is particularly important in a context as RoSS, where about 60 % of roads are inaccessible during the rainy seasons, from April to October, which hampers delivery of humanitarian operation in rural areas. Even during the dry season, many of these roads are accessible by 6x6 all-terrain vehicles(94,95).

In order to identify risks and hazards that may affect delivery of public health services, WHO supported the central government of ROSS to conduct Strategic Assessment of Risks (STAR) workshop with participation of stakeholders from various government sectors. As result of the workshop, participants came up with the priority public health threats and developed detailed profile to be able to address them better when occurred(128).

### **4.3. Financial Acceptability**

#### **4.3.1. Cost and prices of services**

The HPF and HRRP funding mechanisms indicated in previous section of the paper are examples of the multi-million, multi-years funding arrangements that have been developed and adapted to the context of the RoSS, mainly by DFID and WB respectively. Taking into account the complexity of the environment, diverse humanitarian/development needs of the health sector and presence of multiple actors, the international community established these mechanisms with the aim to mobilize funds and effectively coordinate and harmonize aid programs. These two funding arrangements emerged from the previously implemented funding mechanisms, such as Basic Service Fund (BSF of DFID) and Multi-donor Trust Fund (MDTF of WB). The funds from these two sources are utilized to contract out various implementing partners to deliver BPHS services to the population across the whole country(129,130).

Both HPF and HRRP have an objective that is focused on promotion and support of delivery of the BPHS that is specified explicitly in HPF document and in HRRP documents referred to as supporting a “high impact” interventions on the basis of the BPHS policy(129,130). Nevertheless, both mechanisms use metrics specific to MNCH care to track the progress and report overall results of activities(131,132).

These main funding mechanisms support health partners to cover the expenses associated with provision of BPHS to the population that includes payment of incentives to staff, provision of medical supplies (medicines, stationaries, diagnostic tests) that enable to deliver health services on a free-basis. Although, some studies indicate that the patients pay a very nominal fee to receive the consultation(84).

HPF is currently in its 3<sup>rd</sup> phase of implementation until 2023 and supports activities via implementing partners in 8 states of the RoSS. HRRP completed another round of activities in April 2019 that was implemented by MoH in 2 states of RoSS(133,134). Altogether the 10 states covered by these two funding arrangements represent the whole country based on the former administrative division before it was changed to 32 states (31+ 1 disputed Abyei state) in January 2017(135). The decision to increase the number of states, made unilaterally by the president of ROSS, was objected by the opposition and remains as one of the key issues to be resolved through the revitalized in September 2018 peace deal(12).

#### **4.3.2. User’s resources and willingness to pay**

As the RoSS continue to experience complex humanitarian crisis, the health actors operating in the country provide BPHS to the population taking into the account the context, i.e. on a

free basis. The assistance with health workforce, medicines and medical equipments that secured via the funds allocated by donor and aid agencies entail provision of services at no cost. This is particularly the case for immunization programs run by state and non-state health actors and in PoC sites that host part of the internationally displaced population and in health facilities run by non-state actors(112,136).

These efforts by international community enable to prevent the burden of BPHS on the households. Nevertheless, there are reports that some health facilities providing primary health care have introduced user fees and/or practice under-the-counter payments(84).

#### **4.4. Availability**

In this chapter, the strategies related to availability of the Basic Package of Health and Nutrition Services implemented will be discussed, which includes – health workers, drugs and equipment as well as demand for services.

##### **4.4.1. Health workers, drugs and equipment**

The international community engaged in supporting the health sector of the RoSS, utilize mobilized resources to meet the BPHS standards as identified in the package document(55). Implementing partners of the two large funding schemes (HPF, HRRP) carry out activities that aim to boost capacity of the health personal by organizing trainings on priority health issues, procure medicines and medical equipment to deliver BPHS. It is estimated that about 70 % of the health services in RoSS are covered by external funds (2).

In addition to providing with short-term trainings on specific topics, the UN and iNGOs, also support health training institutions established across the country, by recruiting tutors to prepare health personal based on the priorities identified in the national strategic documents(31). This particularly concerns preparation of the nurses and midwives necessary to improve the MCH indicators (110).

On the pharmaceutical supply, under HPF, the medicines procured at the national level are stored in HPF warehouses. Further, the program team jointly with MoH of the RoSS deliver medicines to states/counties for further distribution via CHD to PHC facilities(137). While under HRRP, another large funding mechanism, the state MoH contracts implementing partners (iNGOs) to deliver and distribute medicines supplied by the program(138). In terms of availability of vaccines in HFs at the country level, only in 27 % of them existence of all essential vaccines and a working fridge have been reported. As the majority of PHCCs lacking electricity, it does not allow to stock vaccines for further provision of immunization services(100).

##### **4.4.2. Demand for services**

WHO jointly with health partners has introduced and managing regular production of the IDSR that allow to track the burden of diseases and monitoring it over the certain period. This way,

the health partners are in position to make informed-decision and plan activities accordingly to detect and response to the leading causes of illness, death and disability. The IDSR enable to recognize the most common diseases that affect South Sudanese and mobilize resources accordingly, including human, material and financial. According to the recent reports, the three illnesses that cause higher incidence of morbidity among the population are prioritized for continuous tracking and include followings: Malaria, AWD and ARI (119).

The services that are provided by default to the population and known as low-cost and high impact interventions, includes immunization and MCH ones (ante/post-natal care) to prevent the spread of communicable diseases and reduce maternal/child morbidity and mortality(101,139).

## **V. Discussion**

The situation in ROSS demonstrates a typical example of a fragile state that is facing challenges common to such context – armed conflict, political instability, economic collapse, limited capacity of the government, widespread poverty, high exposure to burden of disease etc. The collective effect of the context has certainly impeded development initiatives in all sectors, including healthcare. In overall, the international community has been providing humanitarian assistance and development support to the country before it gained independence and after that. This also included assistance with planning, organization and delivery of healthcare services to the population.

Nevertheless, in addition to the challenges indicated in above, the situation in ROSS is constrained by the ongoing process of state-building. The country that has gained its independence almost 9 years ago, has been struggling in reaching political consensus between the key political movements to form a government coalition which then resulted in the outbreak of extensive violent events twice during this period. While the new peace deal signed by the government and opposition in September 2018, is yet to be implemented, the country continues to witness intercommunal clashes that disrupt deliver of public services, including BPHS.

Development of the BPHS and its introduction into practice in the context of ROSS was initiated during CPA period (2005-211) before the country become independent. Initially, when the international community along with the GoSS identified the needs in the area of healthcare services, they deemed development of the BPHS package as a good opportunity to harmonize practices among various actors participating in delivery of basic health services to the population. Introduction of the package also entailed to shift from “project-based” interventions implemented by NGOs/CBOs and faith-based organizations to longer term program intervention under the multiple donor pooled funding mechanisms. The package also allowed identifying a set of standard basic healthcare services to be provided at the different levels of primary care which then can be tracked and monitored accountability purpose.

Although the multi-donor funding framework (MDTF) was established to mobilize appropriate resources, further mechanisms for engagement of various actors to utilize the funds and implement the program via the government led contracting arrangements were not well elaborated. This constrained roll-out of the approach and took some time before the international community and health authorities adapted other large funding arrangements (like HPF and HRRP) to ensure access to BPHS at primary healthcare level via implementing partners (IPs) and in close collaboration with the national stakeholders at the state and central levels. Establishment of the refined model of funding mechanism followed a formal adoption

of the BPHS package in 2011 and can be considered as a starting point for wide implementation of BPHS.

Altogether, the launch of new funding arrangements addressed the issues with resource mobilization mechanisms to better delivery of healthcare service and positively contribute to improve the 4 "A"s of the BPHS. Unfortunately, the occurrence of armed conflicts and consecutive violence throughout the country prevents from observing the evolvement of delivery of services in a normal situation. The consequences of volatile events in ROSS results in forced migration of population and health workers (internal and external), destruction of infrastructure, looting of health facilities and in general disruption of normal life that eventually constrains access to services. In such situation, the government ultimately shifts its focus on security rather than health and other social needs of the population. Nevertheless, the international community continues to support planning and delivery of the BPHS to ensure access for the most vulnerable population. This includes support to health facilities at primary levels and higher to maintain its operation by provision of medicines and medical supplies, paying incentives to health workers, organization and delivery of capacity building events.

All of these have positively contributed to address the supply-side barriers particularly with assuring geographical accessibility and availability of services by making medicines and other consumables available, training personnel and motivating them to work in a facility. Activities at the community level that has been intensified recently through the community health initiative that aims to address the barriers at the demand side by increasing awareness, providing information about health care services and providers.

Furthermore, the political decision to change from 10 states to first 28 states and later on 31+1 states federal system of governance, which is drawn up on an ethnicity basis, may fit the notion of federalism and greater decentralization when the local authorities take ownership and have greater responsibility for the development of their state. In reality, in the context of South Sudan particularly in relation to healthcare, this impedes further development of the sector due to scarcity of the appropriate resources (human and financial) at the state level. Although in theory it entails to have a positive impact on delivery of healthcare services, by bringing services "closer to people" and adjusting the policies and practices based on the local context, lack of leadership and management resources as well as constrained financial resources can cause adverse effect. In practice, such transition even in a normal situation that is not disrupted by conflict requires quite a good level of preparation by adopting the new systems and re-distribution of resources (human and materials). In the context of ROSS this unfortunately is a burden to an already weak governance system.

## **VI. Conclusions and recommendations**

The reviewed scientific materials and reports of the key stakeholders on access to BPHS services in ROSS, indicate a number of critical barriers from both supply and demand sides caused by the volatile situation. The political crisis that triggered armed conflict has led to increase of volatility that followed by attacks to health facilities, brutality against health workers and high number of forcibly displaced population. All of these in combination influenced access to BPHS in ROSS context.

While the issues with the shortage of resources (human, material, infrastructure) required to deliver BPHS are being addressed by international aid agencies supporting health sector, the effects of the conflict on delivery of services remain beyond the control. It is therefore at first

it is crucial to maintain the achieved peace deal by the opposing parties. Further development of the health sector in general and BPHS in particular, cannot be achieved without a strong commitment of the Transitional Government of National Unity (TGNU) to implement the terms and conditions of the R-ARCSS and prevent eruption of armed clashes in the future.

There is a strong commitment from international donor community to continue strengthening capacity of the health authorities in meeting the basic healthcare needs of the population by delivering BPHS. Furthermore, in order to succeed with BPHS delivery, the document should be treated equally as a technical tool as well as the political instrument to improve access to healthcare services to the population. Health authorities at the national and state levels of MoH, should promote BPHS policy to:

- Harmonize practices of various stakeholders engaged in delivery of BPHS via primary health care, by promoting further the policy and regular coordination of activities.
- Mobilize local and international resources to address priority diseases via BPHS, by ensuring technical soundness of the policy.

At the same time, the national and state MoHs along with key international actors working in health sector, such as WHO, HPF, HRRP need to:

- Promote BPHS as a mean to achieve the good governance by politicians. Ensuring accessibility and availability of the basic services can be presented as a demonstration of the peace and stability. This eventually contribute to the legitimacy of government.
- As the risk of the conflict and instability remains high and taking into account the attacks on health facilities and brutality against health-workers in the past, it is recommended to roll-out Healthcare in Danger campaigns at the state levels with participation of the local authorities, military commanders, informal leaders and etc to ensure safety and immunity of the healthcare facilities and personnel at all times, including during the conflict.
- To further strengthen capacity of the local authorities by increasing awareness about the health hazards, measures available to mitigate the risk and identifying the needs to address the gaps.
- WHO has developed and adapted Strategic Assessment of Risks (STAR) tool that enables to identify and prioritize health risks jointly with other stakeholders, state and non-state actors, in a participatory manner. Taking into account the decentralized system of governance it will be helpful, if the workshops will be conducted at the state levels with engagement of various stakeholders from multiple sectors as well as representatives of communities. This way, the process will allow to prioritize the health risks and along the way will serve as the process of sensitization of the health risks and raising awareness among various stakeholders on BPHS policy(140).



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## Annex 1: Literature search strategy

Combination of terms used to search in databases included: "BPHS AND FRAGILE CONTEXT", "BPHS AND SOUTH SUDAN" and the other ones. See table below for the full list of combinations used to find the publications.

Terms	Combination	Key Words
BPHS (Basic Package of Health Services)	AND Fragile context	Fragile, BPHS
	AND South Sudan	South Sudan
Healthcare service	AND Fragile Context	Fragile, healthcare services
	AND South Sudan	South Sudan
	AND Conflict settings	
Accessibility to healthcare	AND Fragile context	Fragile context
	AND South Sudan	South Sudan
Conflict	AND Fragile Context	Fragile, Conflict
	AND South Sudan	Conflict, South Sudan
History	AND Sudan	History, Sudan
	AND South Sudan	History, South Sudan
Health actors	AND Fragile context	Fragile, Actors
	AND South Sudan	South Sudan, Actors
Health indicators	AND Fragile Context	Fragile, indicators
	AND South Sudan	South Sudan, indicators