Fragile States: Building Health Systems in Humanitarian Crises

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by

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Abbreviations

BEmONC	Basic Emergency Obstetric and Neonatal Services
BPHNS	Basic package of Health and Nutrition services
BMI	Boma Health Initiative
CEmONC	Comprehensive Emergency Obstetric and Neonatal Services
CHD	County Health Directorate
DHIS2	District Health Information Software 2
DHO	District Health Office
DR	Drug Resistant
DRC	Democratic Republic of Congo
EPHS	Essential Package of Health Services
FBOs	Faith Based Organisations
FCAS	Fragile and Conflict Affected States
FFP	Fund For Peace
FGS	Federal Government of Somalia
FMS	Federal Member States
FSI	Fragile State Index
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GHI	Government Health Initiative
GHO	Governorate Health Office
GoS	Government of Syria
GOSS	Government of South Sudan
HC	Health Centre
HD	Health Directorates
HeRAMS	Health Resources and Services Availability Monitoring System
HF	Health Facilities
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPF	Health Pooled Fund
HRH	Human Resources For Health
HSS	Health System Strengthening
HSSP	Health Sector Strategic Plan
HSSRP	Health Systems Stabilization and Recovery Plan
IDP	Internally Displaced Person
IGO	Inter-Governmental Organisation
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
INGO	International Non-Governmental Organisation
IPV	Intimate Partner Violence
IRG	Internationally Recognised Government
KI	Key Informant
LMIC	Low-middle income countries
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio

MSP	Minimum Service Package
MoH	Ministry of Health
MoPHP	Ministry of Public Health and Population
MoHP	Ministry of Health and Population
NCD	Non-Communicable Diseases
NE	Northeast
NGOs	Non-Governmental Organisations
NMR	Neonatal Mortality Rate
NSA	Non-State Actors
NTC	Neglected Tropical Diseases
NW	Northwest
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-Pocket
PHC	Primary Health Care
PHU	Primary Health Unit
RHC	Referral Health Centre
SARA	Service Availability and Readiness Assessment
SGBV	Sexual-Gender Based Violence
SDGs	Sustainable Development Goals
TB	Tuberculosis
UHC	Universal Health Coverage
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
WASH	Water and Sanitation
WHO	World Health Organisation

Glossary

Arab Spring: A series of anti-government and pro-democracy uprisings, that took place in the Middle East and North Africa in the 2010s (1). Multiple conflicts like Syria, Yemen as well as return of refugees from these countries to other fragile countries like Somalia are continuing as a result of the Arab spring in 2022.

BMI: A nationwide strategy adapted in South Sudan to improve access to essential health services by harmonising various community health services supported by NSAs (2).

Coordination: Coordination is bringing together distinct agencies with different agendas with the aim to harmonise their efforts to ensure equity, effectiveness and efficiency, the absence of which risks chaos (3).

DHIS 2: A web-based health management information system (HMIS), used for reporting, analysis and dissemination of data for all health programs, freely available for use and modification by States and NSAs (4).

FFP: An independent NGO and think tank, headquartered in Washington DC, and its aim is to develop practical tools and approaches for reducing conflict, measuring state fragility, and monitoring security and human rights (5).

FSI: A tool developed by The Fund for Peace to measure the vulnerabilities contributing to state fragility by using content analysis, quantitative and qualitative data reviews (6).

HeRAMS: Main objective is to "ensure that core information on essential health resources and services is readily available to decision makers at country, regional and global levels. This is achieved by, "standardization and continuous collection, analysis and dissemination of information on the availability of essential health services and resources down to the point of service delivery" (7).

HMIS: A tool used to record information on health events by tracking certain dimensions of service delivery to gauge quality of services at different levels of care (8).

HPFSouth Sudan: Three staged "multi-donor programme led by the United Kingdom's Foreign Commonwealth and Development Office (FCDO), with contributions from the United States Agency for International Development (USAID); the Canadian Government; the Government of Sweden; Gavi, the Vaccine Alliance; and the European Union (EU)" working in collaboration with the Ministry of Health in South Sudan with the aim to provide essential health services to majority of the population (9).

HSS: Term used to refer to, "a well-functioning health system working in harmony, is built on having trained and motivated health workers, a well-maintained infrastructure, and a reliable supply of medicines and technologies, backed by adequate funding, strong health plans and evidence-based policies" (10).

UNOCHA: A United Nations body established to strengthen global response to complex emergencies and is "responsible for bringing together humanitarian actors to ensure a coherent response to emergencies" (11).

OECD: An intergovernmental organization with 38 member countries founded with the goal for global economic and trade progress (12). It acts as a platform for policy comparisons between member states and for coordinating domestic and international policies.

Abstract

Background: Health systems in fragile states lose their resilience to shocks and overall capacity to serve their populations. Rebuilding them requires concentrated efforts by both the state and non-state actors (NSAs). However, weak state capacity often renders NSAs to take on more responsibility than the state and widen their involvement in building health systems in these states. Understanding the influence of NSAs' interventions on the health systems of fragile states is vital towards building resilient and self-sustaining health systems which is the main goal of this thesis. This will be done in the context of the top five fragile states (Yemen, Somalia, Syria, South Sudan, and the Democratic Republic of Congo) according to the Fragile State Index 2021.

Methods: Literature review and semi-structured interviews with Key informants (KIs) were the main methods used to extrapolate and triangulate information on how NSAs' programs in fragile states influence the health systems of these states. Data was collected over periods in April, May, and between June-August 2022. KIs were public health professionals working with the state or with NSAs in Yemen, Somalia, South Sudan and DRC, and a Health systems expert.

Findings: Service delivery and funding are fragmented with involvement of multiple stakeholders leading to various inefficiencies and inequities in provision and continuity of care. Diversion of health workers from state to NSA undermines the health system while reducing responsiveness and affecting motivation. Although data is collected abundantly, it is inconsistent, duplicated and not shared between partners or used for informed decision making. Policy-making power is often shifted from the state to donors and NSAs further risking state legitimacy.

Conclusion: There are no clear-cut answers to building health systems in fragile states however there are better ways of strengthening while supporting the health systems of these states. Overall coordination and collaboration at various levels of service delivery and funding between the state and NSAs, improving data sharing and involving local stakeholders in decision-making process are key to building resilient health systems in these states.

Key words: Health system, Strengthening, HSS, Fragile, Fragile States, Service delivery, Health Financing, Governance, Yemen, Somalia, Syria, South Sudan, Democratic Republic of Congo, Humanitarian, Non-State actors, NGOs

Word count: 13,163

Chapter 1

Background

Globally, over 1.8 billion people live in fragile states (13). While many countries are making progress toward achieving the Sustainable Development Goals (SDGs), a group of 39 countries is severely falling behind (14). Fragile states refer to countries in social, economic, political, or environmental crises. A combination of weak resilience to shocks, weak state legitimacy, weak state fiscal and legal capability, results in reduced capacity of the state (15). Furthermore, social, economic, political, and security crises in fragile states can also threaten security and economic stability in neighbouring countries (16).

In 2006, World Bank established a yearly listing of such vulnerable countries, and they came to be known as Fragile and Conflict Affected-States (FCAS) (17)**.** The majority of FCAS are in Africa or the Middle East, also deemed as low and middle-income countries (LMICs) (18). Two-thirds of the world's extreme poor[1] live in FCAS (18). Another index for measuring fragility is the Fragile State Index (FSI) developed by the Fund for Peace (FFP) (19). Twelve conflict risk indicators accounting for social, political, economic, and security conditions calculated from pre-existing quantitative data sets, content analysis, and qualitative expert analysis are used to measure the fragility of a state (19). According to the 2021 Fragile State Index (FSI), the top five fragile states are Yemen, Somalia, the Syrian Arab Republic (Syria), South Sudan, and the Democratic Republic of Congo (DRC) (19). See Figure I for overall trends in fragility over the last 15 years in these countries (20).

[1] Defined as living on less than $1.90 US dollars per day.

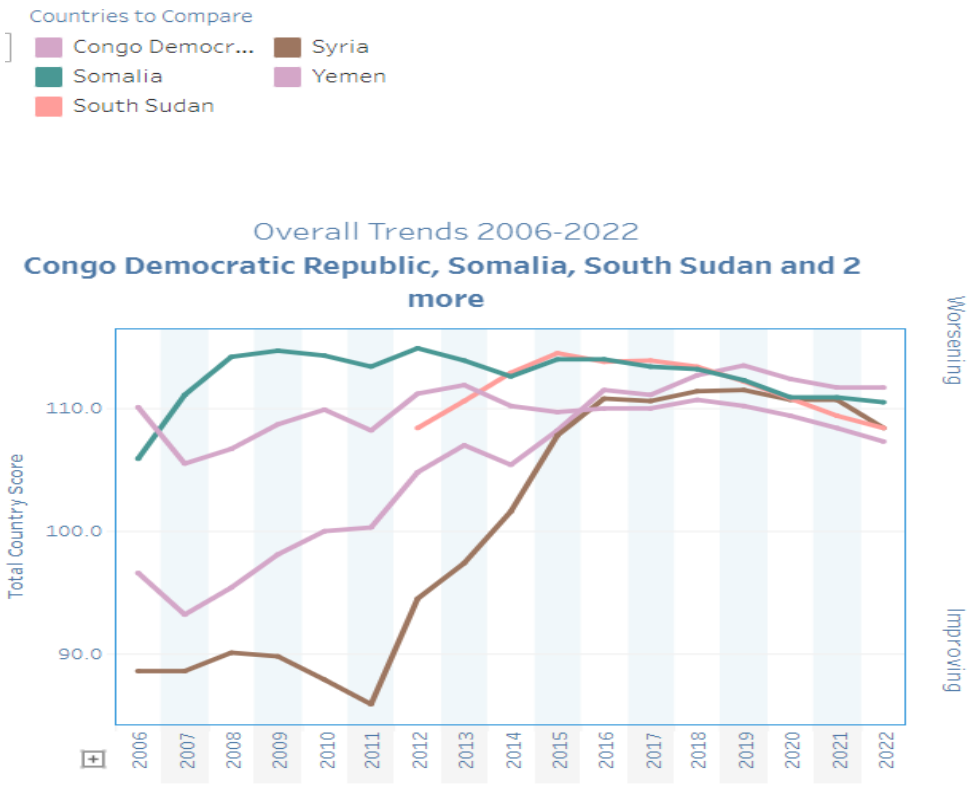

Figure 1. Overall fragility trends for Yemen, Somalia, Syria, South Sudan and DRC. Source: Fund for Peace[2](20)

1.1 Yemen

Yemen with a population of approx. 30.5 million is considered the most fragile country in the world (21). Following the steps of the Arab spring, a civil war broke out in Yemen in late 2014 against the internationally recognized government (IRG). By 2015, a full-scale conflict between the IRG and the opposition-side known as the Houthis/Ansar Allah ensued.

Prior to the conflict, Yemen was the poorest country in the middle east region "with significant political, economic, structural and health sector vulnerabilities" and approximately 50% of the population lived below the poverty line (22, p.912). Health care was fragmented with service providers operating without coordination and with separate agendas (23). The health sector constituted of four levels: health units, health centres, district or governorate hospitals, and referral hospitals and was heavily reliant on out-of-pocket (OOP) expenditures. Despite these challenges, key health indicators including the Millennium Development Goals (MDGs) prior to 2015 were showing significant improvement (24).

However, the protracted conflict has since transformed the country into one of the worst humanitarian crises of this century with "an estimated 233,000 deaths, including 131,000 from indirect causes such as complications arising from lack of food, health services, and

infrastructure" (25). Over 4 million people are internally displaced (26). More than 50% of the population is food insecure and the already weak health system is being pushed to its limit with two of three Yemenis needing humanitarian or protection assistance (27,28). One of the largest Cholera and Diphtheria outbreaks of the 21st century occurred in Yemen in 2016 and 2018 respectively which were a direct reflection of reduced access to health services and breakdown of essential infrastructure including Water, Sanitation and Hygiene (WASH) conditions (28). 208 national and international agencies are on the ground to provide assistance (29). Additionally, further fragmentation of the health services in the country, under the control of two separate political groups and various local and international humanitarian agencies has resulted in a weak and discordant health information system (HIS) with the irregular collection, analysis, and dissemination of data.

1.2 Somalia

Somalia, a country of approx. 16 million as of 2021 lies at the horn of Africa (30). The conflict in Somalia has evolved from a civil war in the 1980s to inter-clan disputes developing into a full-scale conflict and in 1991 overthrowing of the ruling government (31). Somalian society divided into various clans, form its principal cultural and social foundation. The country has been witnessing continuous inter-clan fighting over resources, power, and territory, complicated due to the presence of Al-Shabaab, an Al-Qaeda affiliate terrorist groups in the Central and Southern regions (32). The Government of Somalia made progress toward establishing a unified government structure known as the Federal Government of Somalia (FGS) in 2012 with the emergence of new Federal Member States (FMS), including Puntland (north-west) and Somaliland (north-east) which have non-recognized semi-autonomous governments (33).

Somalia was rated 178th out of 180 countries globally according to the Corruption Perceptions Index 2021 (34). Often referred to as a 'failed state', Somalia has remained a fragile state for three decades. 750,000 Somali refugees fled in the last three decades with over 2.6 million Somalis internally displaced and 7.7 million in need of humanitarian assistance (35,36). Based on the regions within Somalia, between 26-70% of Somalians live in poverty (37). Somalia is also at the forefront of the climate change crisis and is vulnerable to droughts, famines, and floods (36). This has further weakened and, in some cases, damaged the health system. Severe drought leading to reduction in crop production, and rising food prices are increasingly understood as a major driver of conflict in the country as the fight over scarce resources exacerbates inter-clan conflict.

With a life expectancy for male/female of 54/59 years, one of the lowest in the world and an overwhelming maternal mortality ratio (MMR) of 692 deaths per 100,000 live births, under 5 mortality(U5M) of 114.6 per 1000 live births, Somalia's health indicators rank as one of the weakest in the world[3] (38,39). The national health system has been fragmented and

[3] Somalia National Bureau of Statistics. The Somali Health & Demographic Survey 2020. Available at fdbb04e360624913938ac77983a2dcda.pdf (nbs.gov.so) [Accessed 05 July 2022]

dysfunctional due to the disjointed regional governance although since 2012 a federal MoH has been reinstated. Health service provision is largely privatized and confined to urban areas resulting in less than 30% of the Somali population with access to health services (40). The burden of disease continues to be dominated by communicable diseases (respiratory infections, Tuberculosis, Malaria) and malnutrition. Immunization coverage is only 12% (41). Service delivery is structured around the framework of an Essential Package of Health Services (EPHS) and includes Community-based services, Health Units (HUs), Health Centres (HCs), District and Referral Hospitals. According to the WHO 2016 Service Availability and Readiness Assessment (SARA), there are 1074 health facilities in the country, out of which 799 are functional (42). Overall, only one percent of the health facilities in the country had all the necessary health system amenities. 272 agencies are on the ground working in Somalia (36).

1.3 Syrian Arab Republic (Syria)

Syria, a country of approx. 18.3 million lies in Southwest Asia (43). Like Yemen, following on the footsteps of the Arab Spring, months of protests were followed by civil war and eventually a full-scale conflict involving multiple nations. Prior to the conflict, for 40 years Syria experienced relative political and economic stability. Since the crisis began, 6.9 million people continue to be internally displaced, and 5.6 million people fled the country as refugees (44).

Pre-conflict (2011) life expectancy for Syrian males/females was 73/77 years, reducing to a life expectancy of 65.5/75 years for males/females in 2017 (45). In the decade prior to the conflict, childhood mortality rates (neonatal, infant, and U5) fell by nearly one-third whereas maternal mortality fell by 40% (46). Globally, Syria has one of the highest rates of trauma and disabilities due to war related injuries (47). In 2021, it was estimated that 25% of the population (5 million) have a disability, a figure significantly higher than the global average of 15% (47).

At present, nearly 70% of the population is in urgent need of health assistance, over 12 million are food insecure with half a million children chronically malnourished (48,49). This has not just been a result of war and displacement but a compounded effect of the war on the agricultural sector and rising food prices. According to World Bank data, losses due to the impact of the conflict on the Syrian economy were significantly higher (by a factor of 20) compared to losses caused by physical destruction (50).

Prior to the conflict, the health system in Syria consisted of primary health care (PHC) services supported by the government, and most secondary and tertiary facilities were privately run and concentrated in the major cities of Damascus and Aleppo (51). Since the conflict, Damascus, under the control of the Government of Syria (GoS) has had a largely functional health system including public and private providers yet the rest of the country's health system is fragmented and majorly dependent on private providers and international actors. 75% of the 1951 fixed primary health care centres monitored were reported as either fully or partially functioning while 25% were reported to be completely non-functional (52). The fragmented HIS results in limited access to reliable data on health facilities and health

indicators. However, North-west (NW) and North-east (NE) Syria remain the areas most affected and in need of assistance, especially HRH, medical equipment and medicines (53).

The vulnerabilities in the pre-crisis health system have been compounded by the widespread destruction of the health system. In some governorates, 92% of ambulances and 70% of health facilities have been damaged or are not functional (54). This destruction in many instances has been a result of systematically targeted attacks on medical staff and facilities (54). Attacks have caused facilities to reduce services or close and for health workers to flee. The health system has been severely damaged from 'the weaponization of health,' which besides attacks on health facilities and health workers, included blocking humanitarian assistance and government funding in the opposition-controlled areas (55). OOP expenditures amounted to 60% of health spending amongst Syrians prior to the war and this financial burden has only further been exacerbated by the conflict (56). The Syrian pharmaceutical industry, once responsible for producing 90% of medicines for the country collapsed resulting in a shortage of critical and lifesaving medications and contributing to the country's health crisis (57). Presently local production is not sufficient to meet even domestic needs for essential medicines. Six (five of them in NE and NW Syria) of the 14 governorates fall short of emergency standards of 18 hospital beds per 10,000 population (52). As of 2022, there are 112 agencies are on ground in GOS controlled areas, while 133 agencies are in opposition-controlled areas (53).

1.4 South Sudan

South Sudan, with a population of 11 million, is the youngest country in the world and was established in 2011 after gaining independence from Sudan (58). As part of Sudan, the region went through long periods of internal conflicts since 1955. Following independence, a civil conflict resumed in South Sudan in late 2013 as the president and prime minister from dominant and opposing ethnic groups, *Nuer* and *Dinka*, fell out (59). Since 2 million people internally displaced, and approx. 2.4 million living as refugees in neighbouring countries (59). Two-thirds of the population are affected by food insecurity and malnutrition with an estimated 8.9 million South Sudanese including refugees expected to experience severe food insecurity in 2022 (60). Like Somalia, extreme weather events along with the armed conflict have had a devastating impact on agriculture, mobility and livelihood and further increased displacements.

South Sudan has one of the worst health indicators globally with MMR of 1150 per 100,000 live births and under 5 mortality of 97.8 per 1000 live births (61). Life expectancy for males/females is 60/64 years (62). Gender-Based Violence (GBV) is widespread and has remained a critical threat with 5.6 million people in South Sudan in need of some form of protection (60). Over 50% of the women have been affected by intimate partner violence (IPV) and 25% of cases of sexual violence victims are children (63).

The health system is decentralized with the MoH responsible for policymaking while the Community Health Directorate (CHDs) oversee implementation. Government spending on health is less than 2% of the national budget with OOP expenditure accounting for over 54% of total health expenditure (64). A donor funding mechanism known as the Health Pooled Fund (HPF) for South Sudan has financed 80% of primary health services across South Sudan since 2012 (65). 185 local and international agencies are on the ground (60). Boma Health initiative (BHI) was launched in 2017 to integrate community health services across the country along with the Health Sector Strategic Plan (HSSP) to prioritize basic health care delivery with the aim to develop the health sector (64).

1.5 Democratic Republic of Congo (DRC)

DRC with a population of 87.7 million as of 2019, remains one of the most complex and protracted humanitarian crises in the world (66). The origins of the current violence are a spillover from the 1994 Rwandan genocide with a massive refugee influx including those of genocidaires who formed armed groups. Between 1998-2008, the death toll reached over 5.4 million people (67). A peace deal in 2002 led to the formation of a transitional government in 2003. However, armed conflict along ethnic lines in the eastern region especially North and South Kivu has continued and has mainly been linked to marginalization based on tribe, disputes over resource allocation, and representation at the local and central levels. Recurring clashes in North and South Kivu have led to an estimated 2.6 million IDPs and 27 million people in need of humanitarian assistance (68). Attacks on health facilities and workers by various armed groups are rampant. Insecurity and reduced physical access during rainy seasons affect the health workforce availability and drug/equipment accessibility.

Whereas overall mortality has decreased from the appalling levels during the Congolese wars, the MMR is 473 per 100,000 live births, and U5M is 81 per 1000 live births (69). 41% of the children under the age of 5 years are stunted (69). Life expectancy at birth for males/females is 60/64 years (70). Sexual violence has unrestrainedly been used as a weapon of war and has seeped into Congolese society (71).

The health sector in DRC is decentralised and functions at central, provincial and zonal level, in collaboration with various NSAs (72). The central level is responsible for sector-wide policies and tertiary hospitals, the provincial level is responsible for administration, technical support, and supervision of implemented policies, and at the lowest level, health zones are responsible for the implementation of the national health plan focussing on primary and secondary health care (72). Both public and private sectors provide health service delivery. Health service packages include an essential package (Paquet minimum d'activités) including family planning, BEmONC services, integrated management of childhood illness (IMCI), and Nutrition services (72). A complimentary package (Paquet complementaire d'activités) is provided at the hospital and includes emergency, inpatient, and Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) services (72). The implementation of the packages varies between health zones depending on the presence of NSAs. The country has less than

one doctor per 10,000 people highlighting the significantly understaffed health facilities, with more qualified staff in urban areas (73). 144 agencies are on ground (70).

Although Yemen shares commonalities with other recent conflicts, especially in Syria, where health facilities and health workers have been subject to attacks. The trends in morbidity and mortality in Yemen bear closer resemblance to conflicts in sub-Saharan Africa. Whereas non-communicable diseases (NCDs) form the major burden of disease in Syria, in Yemen malnutrition and communicable diseases account for higher burden of diseases (74). An important feature of the Yemeni conflict has been lower number of external displacements compared to internal displacements, much different than Somalia, Syria, South Sudan, Somalia, and DRC (75). This has possibly enhanced the burden on the Yemeni health system.

Various context-specific factors further contribute to fragility and ultimately to poor health outcomes. This leads to a vicious cycle where poor health of the population further contributes to the fragility of the state. The effects of the COVID-19 pandemic have exacerbated these difficulties.

Consequently, due to the limited state capacities, fragile states rely on external assistance for service provision. IGOs and NSAs implement developmental or emergency response programs in collaboration with the Ministry of Health or in stand-alone programs. As various challenges are presented, opportunities in lieu of developing and putting in place systems that enhance the resilience of health systems are also presented. Thus, the engagement of external actors within a country's health system can play a critical role in determining its long-term development and sustainability.

Chapter 2

2.1 Problem statement

Health systems are all the processes and resources that meet the health needs of a population (76). They encompass more than just access to health services and include everything needed to prevent people from getting sick. Ideally, states are responsible for the health of their population and well-functioning health systems. However, due to varied factors and vulnerabilities, states, especially those deemed fragile, require support from external/international actors.

Prior to 1900, over 80% of all actors with a role in international health were mainly religious orders and coordination of health measures on an international scale began in the mid-19th century (77). These actors were often separate from the state and designated as non-state actors (NSAs) (78). NSAs in the context of this research include non-governmental organizations (NGOs), FBOs, and other civil society organizations. WHO, United Nations (UN), and Global Health initiatives (GHIs) are funded by governments who are members) and are referred to as Intergovernmental Organizations (IGOs). Although there is a significant overlap between activities, funding sources, and collaboration as implementation partners with NSAs, IGOs are separate from NSAs.

The engagement of NSAs in fragile states is expected to play a crucial role in building health systems and determining their progress. Approaches may be guided by the general principles of the WHO's health system framework since "adequate health services, a well-performing health workforce, a well-functioning health information system, equitable access to medical products, vaccines, and technologies, good health financing, and strong leadership and governance are often deficient in a fragile health system" (79, p. 640). However, interventions by the NSAs are driven by various factors of context, actors' motivations, the criticality of need, available resources, target groups, and involvement of the Ministries of Health. Additionally, the operationality of intervention in terms of vertical and horizontal approaches must be determined. Vertical approaches require specific measures to be implemented to address a given health problem (80). The assumption is that by focussing on specific interventions, time and effort are maximized rather than waiting for changes in the health system overall. Examples are standalone Drug-resistant Tuberculosis (DR TB) programs, HIV/TB control, Sexual and Gender Based (SGBV), and various Neglected Tropical Disease (NTC) programs. Horizontal programs also known as integrated health services encompass multifunctional health service delivery, to address overall health problems on a longer-term basis (80).

In line with vertical and horizontal approaches, it is also crucial to ensure clarity between humanitarian action and development. Humanitarian action is driven by the population's needs and the main purpose is to save lives and minimize suffering by directly mitigating excess mortality and morbidity (81). Humanitarian actors focus on vulnerable people, instead of the needs of all people. Development focuses not only on addressing the population's

needs but also aims to strengthen state capacity, albeit over a period (81). However, the purpose of addressing the needs of people and building state capacity are not always aligned and at times, needs may be in areas outside of state control. For example, in Syria and Yemen, the population with the highest needs lies outside state-controlled areas. In situations where urgent action is needed, development processes are considered to be too slow. A similar argument is made in favour of vertical approaches where delay in priority disease intervention while waiting for building health systems is cited as a concern. However, lack of sustainability, duplication of efforts and negative spill over effects on non-targeted populations are considered as the main challenges (80,82). It is increasingly being acknowledged that robust health systems are required for vertical programs to succeed (83).

For NSAs, operational and fundamental decisions based on humanitarian or development assistance and vertical or horizontal approaches are critical. However, this is challenged by the fact that the exit from fragility takes time, "the policy space for reforms is constrained and trade-offs between short and long-run policy objectives are difficult to make" (p.4, 84). This leaves NSAs with much to consider in terms of short-term benefits of saving lives over longer-term gains of supporting the development of sustainable health systems(84). Evidence that informs these potential conflicts between short-term needs and long-term outcomes is limited (85). It is pertinent therefore to examine the approach of service delivery adopted by NSAs in various situations.

Additionally, as some NSAs receive their funding from governments, their operational autonomy is expected to be compromised. The decisions on the kind and type of interventions are not solely the actor's decision or in alignment with the health system needs of these states. Some argue that these actors become 'subcontractors' in implementing the foreign policy of donor governments (86, pg. 1). It is thus important to understand how the health financing of fragile states is influenced by the involvement of NSAs, and how this relationship plays into the overall health system.

Due to weak governance mechanisms, fragile state governments may not be in the position to decide on their health systems. As is seen in some instances, NSAs may adopt strategies that substitute a non-state agency for the state. This is more so evident during humanitarian emergencies as has been seen in South Sudan in the previous decades where NSAs have been managing the health services of entire counties without any or much supervision by the state (87). Additionally, service and support provision by NSAs varies in quality, duration, and monitoring. Accountability of NSAs is complex, often due to reporting to multiple groups and interests. Furthermore, coordination between actors in fragile states is challenging. "Poor coordination in the field may lead to inefficiencies in the short-term but less is known about the long-term impacts in, for example, contexts where parallel systems are established" (88). Thus, it is prudent to assess the functioning of the state's governance and regulation mechanisms with multiple NSAs working in the state.

Achieving UHC with the aim of quality service provision without financial hardship is gaining momentum. As NSA's are major stakeholders in the health systems of fragile states, it's vital to understand the influence of NSAs in fragile states and their role in the Health System Strengthening (HSS) of the state.

2.2 Justification

There is insufficient evidence to understand the interactions between NSAs and health systems. The evidence to inform decision-making is improving but remains limited and not necessarily be shared, creating a disconnect between policy and practice, especially with multiple actors working in these states (88). Billions of dollars are spent by NSAs every year to meet the immediate demands of the most vulnerable groups in fragile states. In 2022 alone, it is estimated that 41 billion USD is required as humanitarian assistance to cover the most vulnerable groups in these states (89). The yearly cost of operating the humanitarian system now exceeds $35 billion compared to $2 billion from three decades ago (90). Although, this is also an important reason why there's been a 40% funding shortfall for the last 5 years (90).

Money spent on humanitarian and development assistance has increased multiple folds since the conception of various NSAs, yet the health systems in fragile states have failed to become sustainable, self-reliant, and robust. It is estimated that foreign aid flow to Africa significantly increased between 1970-1998 while poverty rose from 11 to 66% during the same period, which some argue is a direct correlation between increased aid and underdevelopment of African countries (91).

Since before the conception of South Sudan, the region has been reliant on NSAs. For over three decades, NSAs have poured in resources and time, without significant development of the country's health system. Comparable has been the case in Somalia and DRC. Positively, all health indicators including MMR and U5M, although fluctuating and at times increasing during periods of active conflict, have decreased in these states (92). Although many contextual factors play a role and the ongoing conflict in Yemen, Somalia, Syria, South Sudan, and DRC deter development, it is critical to understand how NSAs in these contexts influence the health systems and consider the possibility of whether their interference might, in fact, undermine or strengthen the health system of the country.

2.3 Objectives

To explore whether interventions by NSAs in fragile states strengthen or undermine the health systems of the top five fragile states (Yemen, Somalia, Syria, South Sudan, and DRC).

Specific Objectives:

1) Evaluate the influence of NSAs in service provision in the top five fragile states.
2) Evaluate health financing of fragile states and the influence of NSAs in this regard.
3) Examine the functioning of the state's governance systems in terms of regulation, coordination, and partnership with multiple NSAs working in the state.
4) Provide recommendations to international agencies and ministries of health towards developing policies supporting sustainability and resilience in health systems.

Chapter 3

Methodology

3.1 Study type

Mixed methods (descriptive and analytical) through Literature review and semi-structured interviews. This study type was used to explore the interactions and connections between NSAs and health systems in the top five fragile states, to be able to understand the reasons for suboptimal health systems functioning in these states and to get insight into possible sustainable models of care.

3.2 Study Area

The reason for choosing the top five fragile states (Yemen, Somalia, Syria, South Sudan, and DRC) was thus to identify similar health system related challenges with multiple NSAs present in the state. And how the involvement of the NSAs influenced the health systems which were at different stages of functionality. These states are afflicted by long-standing conflict and although the duration of the conflict and contextual factors vary, all five have numerous interventions and investments by NSAs. Prior to the start of conflicts, Yemen, Somalia, Syria, and DRC had existing health systems, functional to a large degree (especially Syria) and were rendered largely dysfunctional from the protracted conflicts. South Sudan's health system was in nascent stages even prior to the conflict and struggled to develop during the conflict.

3.3 Data collection and processing methods.

This literature review is based on a wide-ranging data search including a combination of peer and non-peer reviewed literature searches, unpublished research, articles (scientific and journalistic), and government and international agency reports. Literature published in English between 1 January 2000 and 31 July 2022 was used and identified through keyword searches on PubMed, Cochrane, VU library, Medline, Google, WHO databases, ScienceDirect, ResearchGate).

Although research in Arabic and French exists (the main languages spoken in the top five fragile states), and could have added power to the study, knowledge of Arabic and French language, and appropriate translation into English were beyond the scope of the author. Time constraint was another factor. Exception were, three papers from DRC which were in French

were quoted from (translated via google translate and specific sections checked by a native French speaker).

The conflict in Yemen started in 2015 and in Syria started in 2011, and protracted conflicts in South Sudan, Somalia, and DRC warranted at times use of papers published prior to the 2010s. This was used at times to compare trends with present levels and to ensure that the effect on the health system due to the changing geopolitical and economic situation in the country was appropriately gauged.

Literature searches were carried out between 01-10 January 2022, 05 April-15 May 2022 and between 03 June- 08 August 2022. A list of keywords is provided in Annex I. A structured approach of systematic review approach was not done due to paucity of available data, limited time—requiring a broader approach to data inclusion and analysis.

Additionally, appropriate semi-structured interviews with key informant using purposive sampling were done for triangulation of data. Interviewees were limited to six and were public health professionals working within the MoH or with NSAs in fragile states (Yemen, South Sudan, Somalia, DRC) and a HSS in Fragile States expert who has worked in four of the five mentioned countries. All except one interview (done face to face) were done virtually through Microsoft teams. They were recruited by contacting known contacts through my professional network and snowballing henceforth. Interview questions were limited to the interviewees' knowledge, perceptions, and experiences within their professional capacity to the health systems of their countries of work (See Annex II for Topic guide). Audio recording of interviews and notes were taken to ensure a verbatim record of conversations. The Data was then transcribed, transferred, and stored in password-protected word files on the researcher's computer.

3.4 Data Analysis

3.4.1 Conceptual Framework

The conceptual framework used for this paper is titled as **Health systems strengthening towards Universal Coverage** (93)(See Figure 2). It is from the UHC2030 paper - *Health Systems for Universal Health Coverage- a joint vision for a healthy life* published in collaboration between WHO and World Bank in 2017(93). The model is a simplified version of 2007 WHO HSS framework and besides considering factors influencing health systems (service delivery, health financing, and governance), also focuses on five elements of health system performance: equity, quality, responsiveness, efficiency, and resilience (93).

Although the 2007 has been widely used in research, it presents segmented building blocks for HSS without acknowledging the interactions between them (94). This impedes the understanding of complex and interlinked impacts of the blocks between each other and the health system overall. It is recognized that each building block in a silo does not constitute an

effective health system and the interactions among the blocks convert them into a system (94)

The 2017 framework described below provides scope for interaction between the blocks henceforth known as dimensions, while collating the health workforce, medicines, vaccines, and technology under service delivery, and information under governance. It also covers the missing area of the demand and person-centric approach from the 2007 framework by including Responsiveness as one of the performance indicators linked to the three building blocks.

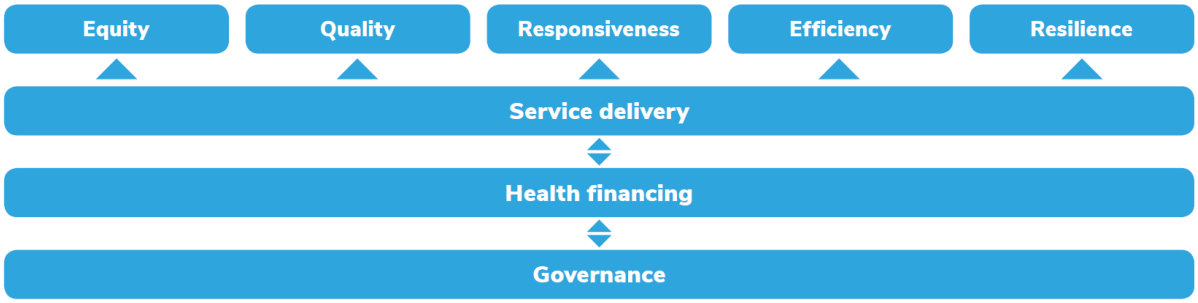

Figure 2: Schematic representation of HSS towards Universal Coverage framework
Source: UHC 2030 (93)

Health systems in FCAS need to be strengthened at the national and global level by focusing on three interdependent policy areas or building blocks: Service delivery, health financing, and governance. And understanding the various complexities and interactions between them is key to a systematic approach to building equitable, quality, responsive, efficient, and resilient health systems.

For this research, all three dimensions and their interactions will be analyzed.

i) Service Delivery

Service delivery is one of main dimensions connecting health systems with people. It includes all providers and bodies responsible for the provision of health, medicines, and other health-related items, and a skilled health workforce (93). In addition, the foundation of health systems is its health workforce. And investment in the development of an adequate skilled workforce to meet the health needs of the population is critical for the long-term sustainability of health systems. Access to medicines and health technologies is also an important subsystem. Although all dimensions affect service provision, this block will be analyzed for the five fragile states, to answer objective one which focuses on the influence of NSAs in service provision.

ii) Health financing

Health financing includes resource mobilization, resource pooling, and strategic purchasing of services, either through direct provision or contracting of health services(93). It is required to ensure that health needs are met and financial risks to the population mitigated. This dimension will be analysed to answer objective two by evaluating health financing mechanisms of NSAs within the health systems of fragile states.

iii) Governance

Governance ensures all processes and institutions involved in collective decision-making and includes all providers, stakeholders, beneficiaries, and the state (93). Policy development, monitoring and regulatory bodies, standard, financial management, anti-corruption measures, and ensuring community involvement are part of governance. Good governance is key to ensuring transparency and accountability within the health system. Additionally, it is equally critical to have good quality data and evidence to guide policy decisions, as well as ensure a transparent flow of information to the population. One important way to do so is by strengthening national health information systems. This block will be analysed to answer Objective 2, which focuses on examining the functioning of the state's governance systems in terms of regulation, coordination, and partnership with multiple non-state actors working in the state.

The three dimensions were evaluated and summarised in the discussion section based on the performance indicators of Responsiveness, Efficiency, and Resilience.

Responsiveness is the ability of the health system to respond to health and non-health related needs and demands of the population(93). This includes confidentiality, respect towards socio-cultural beliefs, patient dignity, and autonomy. **Efficiency** in a health system is, "the extent to which available inputs (for example, expenditures and other health system resources) generate the highest possible level of health outcomes" (93, pg. 12). **Resilience** is "the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learned during the crisis, reorganize if conditions require it" (95, p.1910).

For the Semi-structured interviews, the interview transcripts were analysed based on the headings (used as themes) of the conceptual framework (Service Delivery, Health Financing and Governance). Findings were summarised based on the commonality of themes or in some cases as additional evidence to substantiate arguments.

3.5 Ethical considerations

It was well understood that the study areas are complex and varied factors, both internal and external, play a role in how the health systems function. Identifying and rejecting biased research due to political leaning, propaganda or colonial mindset was ensured as much as possible for maintaining objectivity of the research.

A waiver of ethical clearance was obtained from the Research Ethics Committee (REC) at the KIT Royal Tropical Institute, Amsterdam. It was critical to ensure that the interview data collected was in a safe and secure space, confidentiality of participants maintained, anonymity provided, and that participants were not put at any mental, physical, or social risks. The purpose of the study and the order of questions was explained to all participants. An informed consent form (ICF), available in English was provided and explained (See Annex III for ICF). No incentives were offered to the interviewees.

3.6 Quality assurance

Before commencing interviews for the study, pretesting of the topic guides was done with an expert in health systems to ensure the usability of topic guides for the study. Concomitant data collection and analysis were done to ensure timely monitoring of data quality parameters and for preliminary analysis.

Chapter 4

4.1 Findings

This chapter will focus on the findings of the study by using the conceptual framework to categorize and answer the objectives.

One overarching finding has been that it is imperative to spell out at the start of intervention in fragile states, the difference between Supporting and Strengthening programs. Supporting health systems has a narrow focus and often involves a short-term commitment, aiding in addressing current constraints by increasing inputs (96). For example, NCD programmes by NSAs in Syria where Hypertension medication (for a chronic disorder) is provided to the population for the duration of the project or incentivisation of MoH staff is done for a defined duration. On the other hand, HSS leads to change in the health system, making it self-sufficient to address these constraints in the future (96). HSS entails that interventions have cross-cutting benefits beyond a single disease and are tailored to country-specific constraints, policy, and governance limitations (97). It is important to clarify the difference in the planning stage as failing to do so "leads to unmet expectations of stronger health systems, as well as neglect of critical system strengthening activities" (96, p.87).

The dimensions for building stronger health systems are same for all states, however the interactions and relations between them vary from context to context.

4.1.1 Service Delivery

Service delivery in **Yemen** has been fragmented and was characterized by significant inequalities in availability and access between urban and rural areas (28). The health system divided into primary, secondary and tertiary levels, was also supplemented by vertical programs supported by IGOs and NSAs (22). The 2020 Health Resources and Services Availability Monitoring System (HeRAMS) survey noted that 49% of health facilities are not functional or partially functional while 35% of Yemeni districts have no functioning hospitals at all (99). Almost all the functional health facilities are run with the support of IGOs and NSAs with multiple actors supporting various components of care. For example, Nutrition by UNICEF, Integrated Management of Childhood Illness (IMCI) by Save the Children (SCI), Mother and Child Health by International Medical Corps (IMC) etc. In facilities, solely managed by MoH, service delivery is severely compromised with private pharmacies functioning in the facility. Challenges with shortage of health workers and disrupted medical supply have worsened due to attacks on medical facilities. Payment of incentives by NSAs although appreciated over low, delayed or no salary payments from the MoH has had negative repercussions by diverting crucial health staff towards NSAs (99). Bridging the gap between state and NSA requires a transition towards an integrated and adaptable service

delivery modality. A step in this direction has been the Minimum Service Package (MSP)[4] launched by a collaboration of IGOs, NSAs and MoH in the opposition-controlled area however it has been criticised for excluding outbreak response, a critical need in the war-torn country.

Health service delivery is a key challenge in **Somalia**. Implementation of EPHS is not uniform and covers less than half of the federal states due to various factors, most importantly insecurity (100). In the uncovered regions, health service delivery is inconsistent and dependent solely on the presence of NSAs. KI II stressed the importance of NSAs in service delivery and their capacity to manage programs in an insecure and ever-changing context. There has been significant growth of the private health sector at every level with both for profit (concentrated in urban areas) and not for profit facilities.
The conflict has also led to the collapse of the country's medical supply systems and is dependent on IGOs and NSAs, who meet 20–25% of the total supply need in the country (101). These actors largely operated parallel supply chains, previously as pre-packed kit systems and more recently a pull system was introduced. The supply systems amongst the various NSAs work with little coordination often resulting in both stock-outs and oversupply of unsuitable medicines and equipment (102). No regulatory system for safety and quality check of the pharmaceutical sector exists especially as 80% of the country's medicines are procured by importation and distributed through private pharmacies (102). HRH deficiencies are another key challenge. Somalia is also one of the most restrictive and insecure contexts for NSAs to function and with security threats for expatriate workers, health service delivery in many areas relies on Somali national staff (102,103). Lack of infrastructure and limited teaching staff capacity deter increase in the production of health workers although private institutions are increasing (104). Additionally increased diversion of public sector workers most of whom engage in private practice during office hours affect service provision as do low MoH salaries and higher NSA salaries, diverting health workers from the public sector(102).

The fragile health system in **Syria** continues to face simultaneous emergencies and chronic challenges such as severe shortages of medical personnel, destroyed health infrastructure, and supply chain disruption, further exacerbated by the current COVID-19 pandemic. While the GOS controlled areas are moving forward with rebuilding and rehabilitation of the health system with support from IGOs (WHO and UN bodies mainly), opposition-controlled areas are almost completely dependent on NSAs with informal cross-border operations (through Turkey, Jordan, Lebanon, and Iraq) (53). IGOs are working with a Whole-of-Syria coordination and response approach, however, are limited by reach in NE Syria, southern Syria, and Turkish-controlled areas of northern Syria (105). Health systems are almost entirely

[4] Includes critical interventions at each level of care, general services and trauma care, childcare, nutrition, communicable and non-communicable diseases, and WASH interventions

supported by NSAs in opposition-controlled areas leading to the entire dimension of service delivery managed by NSA (105). This is demonstrative of the critical role NSAs play in providing services and reaching vulnerable population groups.

Routine targeted attacks by the regime on health facilities in opposition-held areas also continues to worsen instability leading to personnel loss, migration of health workers, closure of health facilities, and reduced services and capacity (106). Yemen has faced similar challenges however the scale of attacks in Syria are far greater with 485 facility attacks in Syria since 2014 compared to 160 in Yemen since 2015 (107,108).

The ratio of health workers to population remains low across the country and has crossed emergency thresholds in more than half of all subdistricts in Syria especially in NE Syria(53). Power shortage force health facilities to depend on generators and solar energy systems providing minimum power requirement, increasing risks to continuity of health services, including surgery (including CEmONC), cold chain storage, sterilization, safe blood storage and laboratory facilities (110). The constrained access to water in some areas, especially in NE Syria poses a continuous threat of outbreak especially in the IDP camps. NCDs account for 45 per cent of all deaths in Syria (109). This is a 40 per cent increase compared to pre-conflict rates, possibly linked to the collective damage to the health infrastructure, HRH shortage and import restrictions for medical supplies, reducing overall availability and accessibility of health services (109). Due to the dire lack of health services, funding, and contextual constraints in opposition-controlled areas, NSAs have largely focussed on managing acute crisis and short-term projects focussed on providing basic healthcare and emergency services which is assumed to have contributed to the worsening NCD burden in the country.

South Sudan has been attempting increased alignment in service provision between IGO, NSAs and GOSS's PHC priorities. The aim has been to transition from a focus on humanitarian relief to longer-term development of the health sector through development of PHC by integrating community health services. This was done through the development of the 2017 BHI. The HSSP 2017–2022 was developed to aid the delivery of a basic package of health and nutrition services (BPHNS) with a shorter-term Health Systems Stabilization and Recovery Plan (HSSRP) for the period 2020–2022 intended to push these initiatives. These plans are still at nascent stage and Covid-19 has severely hampered the progress. There are also differences in priority-setting between the local and national level due to the interests of existing stakeholders, monetary constraints, and conflict related contextual challenges (110,111). Even with increased coordination between NSAs and the state, majority of health services in the country are run by IGOs and NSAs with 80% of PHC contracted by Health Pooled Fund (HPF) (65). KI confirmed that although many programs start with collaboration between the state and NSAs, it is the NSAs who end up running the programs both operationally and financially. He continued that some states have minimal to no MoH presence and secondary health services are almost all managed by NSAs including private for-profit providers. This has resulted in varied service availability across the country. Additionally, there is the critical shortage of skilled health workers resulting in NSAs employing large number of expatriate

staff (112). KI added that although many training schools for medical staff are coming up in the country, the qualifications of staff and quality of training is questionable. He added that there has however been an increase in the number of qualified local staff trained in neighbouring countries (Sudan, Uganda, Kenya) returning to South Sudan, however remain largely concentrated in the capital.

Service provision in **DRC**, especially emergency response in the country, particularly in the conflict-ridden eastern side has been supported mainly by NSAs. In the private sector, Non-Governmental Organisations (NGOs) and Faith-based organizations (FBOs) account for 40% of service provision while for-profit service providers including private clinics, pharmacies, and traditional healers cover the rest (113). This is due to the lack of emergency response work plans, shortage of trained health workers, limited health infrastructure, weak health communication and lack of functional laboratory networks, aided by the overwhelming demand on the existing health system due to emergencies from the conflict and Ebola Viral Disease (EVD) (114). Dependence on NSAs has at times created parallel coordination systems for emergency response and conflicting policies which have exacerbated the fragmentation of the system (115). On the other hand, some mother and child indicators in the conflict stricken eastern side are better compared to provinces without conflict, primarily due to donor and NSA support (115). Challenges with HRH resulting from irregular and low salary payments to health workers in MoH supported facilities, high turn-over as health workers move to work with other actors for better remunerated jobs have worsened (116,117). In the latest EVD outbreak (2018-2020) which was the 10th for the country, international staff were overwhelmingly used compared to local staff. This increased involvement of international staff was considered a reason for increased community resistance, witnessed in the destruction of Ebola treatment facilities and attacks on health workers (118).

Despite varying geo-politics and histories, these five countries share chronic disruption of service provision, limited state investment in health systems, and low expectations of quality and availability of care. DRC and South Sudan are moving towards increased coordination between humanitarian and development actors, yet service provision continues to be majorly dependent on NSAs. KI mentioned that due to the short duration of intervention and large funds, most NSAs provide higher quality of care compared to the MoH which people get used to. Importantly, all six KIs agreed that had the NSAs not intervened in these countries, service provision would have completely collapsed resulting in increased morbidity and mortality. The benefits however have not been without challenges. All six KIs expressed challenges due to differences in MoH and NSA salaries, causing friction between employees and affecting long term provision of service delivery. This according to them was due to the limited duration of funding of NSAs and inability of the MoH to maintain the same level of salaries once the NSAs stopped service provision. A solution to this could be harmonisation of salaries between state and various non-state actors according to two key KIs. They mentioned this was being

attempted in Yemen, where the health cluster was working on ensuring that the NSA salaries were only 10-15% higher than MoH salaries and harmonised amongst all actors. Additionally, two KIs acknowledged that NSAs supported capacity building of health staff, however once the NSA withdrew support, these staff often migrated to another location or job instead of staying in the facility and transferring knowledge, resulting in gaps in service provision and capacity building. One KI mentioned challenges with NSAs bringing in lab and medical equipment not available in the country, which after the exit of the NSAs are difficult to maintain due to challenges with procurement of reagents and spare parts.

4.1.2 Health Financing

There has been increased commitment to addressing the decline in aid to fragile states that often require sustained Development Assistance for Health (DAH). However, the transition of external **financing** towards increased effectiveness and efficiency of domestic resources and ultimate self-sufficiency in fragile states remains a major challenge.

Prior to the conflict in **Yemen**, public expenditure on health as a percentage of GDP decreased from 1.16 percent to 0.43 percent between 2005 and 2015(22)(22). During that same period, OOP expenditure increased from 74 to 81 percent (22). Between 4-6% of the population incurred catastrophic expenditures on health with 16% of the population spending more than 10% of their household income on OOP expenditure (22). Lack of facilities in rural areas, underutilisation of primary care and high transport costs were key access barriers. The baseline status of health financing in Yemen pointed towards a constrained supply and demand side (119). Since 2015, Yemen's health system has been overly reliant on external funding for service provision rendering it vulnerable to instabilities. External financing for health increased progressively, peaking at approximately 5.2 billion USD in 2018 and since has continued to decline to about 3.2 billion USD in 2021 (120). Funding has however been fragmented since before the conflict as the approach of NSAs was more vertical than system wide (22). Furthermore, since the conflict, health funding has been channelled exclusively through NSAs even though it is widely recognized that they cannot substitute for national authorities. Allocation of resources is often not equitable and distributed based on the donors and NSAs mandate rather than the recipient's interest (121). Considering the scarcity of financial resources available to the Ministry of Public Health and Population (MoPHP) and dependence on IGOs and NSAs, directing and defining health agendas have shifted to these organizations (121). Local NSAs also then adapt to the requirements of funding and supporting partners and implement programs serving specific mandates (121).

Health financing for **Somalia** has been limited by the collapsed Somali economy for three decades. 69% of the population live below the poverty line (122). Most funding for health is external and 'off-budget' meaning "it is routed directly to service providers through a patchwork of projects and instruments, rather than through government systems and budgets" (123). Bypassing the government financial systems has been due to limited donor

confidence in the state, diminishing state accountability over time (123). In addition, the political economy of aid in Somalia has led to erosion of trust between stakeholders as well as increased insecurity for health workers (124). This has reduced humanitarian space resulting in concentrated support leaving a significant number of people without access to health services (124). OOP expenditure form the largest source of health expenditures accounting for 46% of total health spending (125). KI highlighted the role of communities in health financing by collecting money to construct new health structures, buying, and donating medical supplies and equipment. He elaborated that local governance systems don't generate much revenue and the contribution of communities is not structured or mandatory resulting in an unorganised health financing system.

Health financing in **Syria** is increasingly complex and influenced by multiple systemic drivers of need. Health financing is fragmented with no single risk pool and highly dependent on OOP expenditure (126). The banking sector has been severely destabilised and consequently the Syrian pound has collapsed. The data on GOS's total expenditure on health is not available from since 2012 (127). Budgetary gaps continue to be plugged through co-opting aid mechanisms, manipulation of aid exchange rate, expatriate Syrians sending money and through civil society (128). Rising inflation, failing agricultural production, and the systemic collapse of the nation's economic sectors has worsened poverty and driven up food insecurity (129). These challenges are exacerbated in the areas outside GOS control where funding is largely from donors and NSAs. Reduced health spending of Syrians has resulted in increased delay in seeking medical care, loss of patient contact and prioritising acute illness over chronic, worsening the NCD related morbidities and mortalities.

GOSS's spending on health is less than 2% while OOP expenditure accounts for 59% of the total health expenditures (130). The major chunk of health funding in **South Sudan** is external. Even though the donors and NSAs "work in collaboration with the MoH, the contracting mechanism, through an external fund manager, shifts a significant amount of power over the funds away from the MoH" (111. pg.8). HPF and World Bank fund almost all the primary health and nutrition services in the country (111). Moreover, various vertical programs, including programs for HIV, Malaria, and Tuberculosis by the Global Fund, a Nutrition program funded by UNICEF, supplementary feeding supplies by the World Food Program, and a program for family planning and reproductive health by the UNFPA function through bilateral agreements with the MoH (111). This contrast of actors and funding challenges the aim of integrated service delivery. KI mentioned that initially the Donors and NSAs tried working by transferring funds to the GoSS however due to rampant corruption, misuse and diversion of funds, financing is directly managed by NSAs and donors to the extent that even local staff in counties are paid directly by the NSAs.

DRC's per capita health expenditure is one of the lowest in the world, at $21 per capita, lower than the low-income country average of $35 per capita (131). Health financing is fragmented and highly dependent on external aid and OOP expenditure (132). Efforts to implement a voluntary health insurance system have been attempted since 2005 but struggles with

sustainability and low coverage (133). Performance-based financing (PBF) mechanisms have also been implemented via incentives to health facilities however coverage is limited to 5 out of 34 health zones (134). NSAs supported health facilities majorly provide free health services as 73% of the population are under the poverty line (135). This results in a discordant system as the approach of free care is difficult to integrate with the national policy of fee for service (136). Particularly challenging is reintroducing user fees after a period of free care (137).

The dynamic nature of the conflict in Yemen and Syria has complicated efforts to prioritise direct assistance especially due to the lack of substantial data. Decrease in funding, lack of domestic financing, coupled with increased demand because of COVID-19, have further compromised the stability of the health system. Additionally, low trust environment leads to unwillingness to prepay for voluntary insurance schemes like in DRC results in fragmented risk pools. All KIs mentioned the challenges of project-based funding and funding decisions being erratic in terms of duration and location of intervention. They agreed that funding was based on donor or NSAs mandate which didn't match with the needs on the ground or priorities set by the MoH. There is a clear need for innovation in Health Financing while harmonising policies and prioritising coordinated actions using domestic system wherever possible (trust funds, co-sovereignty between state and NSAs).

4.1.3 Governance

Before the conflict, **Yemen's** health system was afflicted with weak governance and corruption. The Transparency Index repeatedly ranked Yemen near the bottom among 168 countries for corruption (138). Prior to the conflict, health was overseen by the MoPHP at the central level, by the Governorate health offices (GHOs) at the governorate level, and locally by District Health Offices (DHO). GHO and DHO were the implementing and supervisory offices for the central ministry. Health system governance in Yemen has deteriorated further as the conflict has divided the country into two separate governing regions. Although, there are no clear governance mechanisms in place, the central health governance is divided between the opposition groups and IRG, while GHO and DHO offices continue to function with unclear allegiance and varying capacities (139). Intersectoral coordination between MoPHP and NSA are suboptimal to say the least while the existence of two MoH in the country, at times in the same governorate, has further exacerbated health system fragmentation (140).Complicated by the relationship with authorities, the decision-making power on service delivery and duration is largely with donors and NSAs who are key players in service delivery provision in collaboration with authorities or in silo(22). For example, KI mentioned that a certain NSA would support a health centre for six months to a year and then move to another health centre in another location, breaking momentum of support and

capacity building. He added that disagreement could result in NSAs withdrawing support, leaving the state at a disadvantaged position where the option of “something is better than nothing” was often presented. However, the collaboration between the MoPHP has supported improvement in critically needed surveillance and HMIS systems in the country. District Health Information System 2 (DHIS2) was rolled out in 700 health facilities by the state with support from WHO and World Bank.

The lack of a unified federal government has been a critical factor for weak governance in the health system of **Somalia.** The existence of MoH has been in name with limited to no functioning from its side (141). Additionally, the ambiguity of the various health authorities' relationship with each other with allegiance to separate clans has also been a challenge (141). Although a range of policies have been developed at federal level to provide a structure for health system functioning, the capacity to provide necessary oversight is often missing. Due to the existence of semi-autonomous states and lack of resources, the collection of national statistics has been dismal (142). For example, birth registration of children under-five is estimated to be only 3% (142). HMIS is mostly functional in the Federal MOH, Somaliland and Puntland, while functionality in the rest of the country varies (142). DHIS2 was introduced before 2017, but NSAs ‘took control’ and did not always follow or share data according to KI. This has however improved in the last few years with NSAs aiming to collaborate with the MoH.

Governance in **Syria**, like Yemen, is divided between GOS controlled areas and opposition-controlled areas. The loss of state and WHO support in opposition-controlled areas led to a power vacuum filled by a variety of NSAs. However, governance in opposition-controlled areas is not completely disorganised with the existence of police, judiciary, education, and health directorates (HDs) (143,144). Health services are provided by HDs with support from NSAs. HDs in opposition-controlled areas although designated as governance entities, have had to focus mainly on service delivery due to the high need (144). They also lack political recognition by various IGOs and donors, creating challenges with receiving, and managing funds, affecting their overall legitimacy (145). Most positions in HDs have been filled by people with limited experience and expertise in management as they worked different positions before (146). Another challenge has been the lack of explicit strategic vision amongst the NSAs and strategies for intersectoral coordination. NSAs lack of coordination in project planning and implementation with HDs has further affected their legitimacy (144). In the last few years, a few NSAs have focussed on developing service provision guidelines and supporting local governance.

South Sudan’s formal institutional lines in terms of decision-making with regards to funding and operations are blurred. This is because of weak governance structures, especially within the MoH, limited coordination with other sectors and states, poor technical capacity, and past misuse of funds (111). Although the MoH are fundamental to formal governing structures, the donors, IGOs, and NSAs maintain most control over funding, evident in their push for

policy decisions (111). Furthermore, the communication between national MoH with state- and county-level authorities is compromised due to the division of governance of states, based on power dynamics. The lack of sustained consultation between national and local health authorities results in underrepresentation of local priorities and ineffective communication of national policy changes and decision-making (111). While the ownership of the health system lies with the MoH, external accountability of NSAs often complicates this ownership. Power asymmetries between donors, NSAs and State are not unique to South Sudan and reported in other fragile states(111,148). This is largely driven by agendas of donors and NSAs, and an often-unexpressed concern regarding government corruption and capacity (148). For example, HPF in South Sudan works with the MoH through a contractual agreement which is structured "to shift significant amount of decision-making authority away from the MoH and blurs the extent to which the MoH is involved in the priority-setting process" (111). Key informant V mentioned that co-allocating NSA staff with MoH staff especially at the CHD level to transfer knowledge and build governance capacity has been initiated by HPF.

The government of **DRC**, with support from Donors and NSA is working to reduce funding fragmentation and increasing partner alignment (149). However, coordination and agendas are not always aligned between the state and NSAs. And in practice "given the extensive needs in the provinces and the limited public funding available, the government has little leverage to impose its plan of action and has to accept external priorities" (150, pg.918). Another consequence of the state's limited role in service provision is the population's mistrust in the state and growing dependence on NSAs. As in many fragile states, the culture of accountability in DRC is weak with limited budget transparency (151, 152). This leads to corruption, lack of motivation and non-attendance by health staff, and inadequate implementation of health policies (153). Local authorities often highlight lack of support from NSAs while NSAs and donors highlight lack of competency of authorities (153). Communities, and often service providers themselves, lack information about national health guidelines and policies limiting their capacity to utilise and monitor service delivery respectively (154). Community engagement represents a major challenge to HSS in DRC especially due to access related challenges as in Somalia.

Monitoring progress, improving decision-making and accountability require a strong functioning HIS, without adequate policymaking is not possible (155). Poor data sharing practices in crises is well documented, for example, even the most basic information such as the '4W matrix' (who does what, where, when) was collected only 15% of the fragile states (156). Limited data generation and use to inform future policy in such contexts thus remains a challenge. This is even though nowadays almost all health programs have robust HIS in place, generating data daily. This data often lies unshared and has much potential to be utilised.

KI working in South Sudan suggested that capacity building must start from the top level and trickle down to the lowest level, whereas KI working in Yemen suggested that capacity building had to start from the lowest level and continue to the top level, pointing to the need

of contextualising interventions and capacity building strategies. All KIs stressed the dire need of developing governance capacity, suggesting that was key to solving many issues related to HSS.

Additionally, improved coordination between the State and partners in the health sector would support overall efficiency and responsiveness. All KIs unanimously agreed that lack of regulation of NSAs by the state affected quality and duration of service provision, and that coordination mechanisms were still weak. Also, a clear distinction must be made between coordination and control. For example, in Somalia and Yemen, coordination structures were set up, but were in fact 'controlling' structures, i.e., limited to controlling the NSAs while no effort was made to avoid duplication, ensure compliance with main health policies / strategies and identification of key challenges instead putting bureaucratic hurdles in ways of service delivery and funding. Even though clusters were functional in most fragile states, the involvement and role of the MoH varied and was often limited. Additionally challenges with supervision in facilities where MoH works in collaboration with NSA, is often a point of contention as the staff are MoH staff but paid/incentivised/trained by NSAs leading to conflict of accountability of the staff. However, it was agreed by the KIs that this model of state and NSA collaboration was more sustainable than NSA run only programs which collapsed completely on exit of NSAs.

Two KIs mentioned challenges with regulating mechanisms by the state due to weak governance capacity however using the Memorandum of Understanding (MoU) between state and NSA was a good step of accountability from the NSAs towards the beneficiaries, currently used in all five fragile states.

Chapter 5
Discussion, Conclusion and Recommendations

5.1 Discussion

The efforts to highlight the need for health system building in fragile states is not new, even though there is no collective consensus on how to do so. Conflict and extreme poverty, a commonality in these states, are known drivers of weak health systems. Although there is evidence pointing towards health as a mitigation measure for conflict and addressing poverty, this has been difficult to operationalise in these states(157).

UHC has an important role to play "in prevention, preparedness, and response to crises"(97). However, approaches towards UHC in fragile states are not well established and as "UHC sits comfortably within the development community, it is not universally embraced by humanitarian actors"(97). The adaptive capacity of health systems in fragile states differs from context to context. Additionally, timeframe required to build or rebuild health systems in these countries is uncertain and prone to setbacks like renewed violence, outbreaks, natural disasters, and mass displacements. This is a source of discontent between emergency interventions (humanitarian NSAs) and interventions focussed on longer term aspirations (Developmental NSAs). While efforts to improve collaboration between these actors are ongoing, challenges with differences in principles, mandates and cultures continue to be a deterrent. Additionally, protracted conflicts progress into post-conflict phase when high humanitarian needs continue while system building is also required to be initiated. This is further challenged by the fact that the lines between conflict and post-conflict in these states are often blurry as some states experience fragility because of a sudden crisis like Yemen and Syria while others are fragile for decades and intermittently erupt into conflicts like Somalia, South Sudan and DRC.

Service delivery as a modality towards resilient, responsive, and efficient Health systems

The fragmentation of health systems and chronic disruption of health services in the top five fragile states is well recognised. Space created by absent state-provided services is filled by NSAs with variable service provision and preventive services often lagging curative ones(159). NSAs along with private service providers account for most or all the service provision in these countries. Lack of HRH and related challenges of delays in salary payments, lack of motivation, and limited trainings and supervision hinder availability of health services. The higher salaries paid to NSA staff compared to MoH staff was recognised as a cause of friction between the two groups and affecting their motivation to attend to the same work(99). Secondly, incentive payments in many cases are for short duration, resulting in the said workers stopping work after the duration, creating chaos in the functionality of health facilities(99).

With regards to medical supply and equipment, chronic and frequent shortages of critically needed supply, unregulated private pharmacies, import restrictions, context-inappropriate

medical and lab equipment, and parallel NSA supply chains all lead to reduction in efficiency and responsiveness in service provision. However, it is assumed that without medical supplies provided by NSAs, the health situation on the ground would worsen.

Strengthening health systems in fragile states while re-establishing service delivery as quickly as possible through the same health system is difficult to say the least. On the other hand, support of the health system in these states is less likely to have a substantial impact on HSS. The research suggests that both supporting and strengthening are vital, needed and a balance must be made based on context and population needs. Initial efforts in a fragile context should focus on immediate needs/support while priority areas for strengthening are also identified. The second postulate is that the emergency response should be integrated into the health system which could reduce the economic, health, and social impacts of outbreaks but also increase the resilience of the health system to handle disease outbreaks without recruitment of expatriate health workers (160).

Importantly, the principle of Do no harm is commonly quoted by NSAs, concentrated mostly on immediate functioning of the intervention however inadvertent negative outcomes cannot be ruled out in such contexts. This space could be better utilised to predict, examine and monitor potential negative effects of the NSAs approach to interventions in these states.

Innovation in Health Financing models

Available research on health financing reforms in fragile states stresses the significance of financial control as critical mechanisms of influence on the priority-setting in health systems (161,162,163). It is understood though that the governments financial priorities in fragile states are not focussed on health. In all the above-mentioned fragile states, overall health funding especially public funding is low, and needs are high. In early stages of conflict (a commonality in all fragile states mentioned above), funding is initially high, but often inefficiently distributed. Presence of multiple authorities in case of Yemen, Syria and Somalia complicate revenue raising and fragility stretching over decades in Somalia, South Sudan and DRC has led to donor fatigue and mistrust in the system. Afghanistan has been an example of a fragile state struggling with challenges of state-making and health system building by both state and NSAs (164). Delivery of a BPHS in Afghanistan with the aim to achieve universal coverage succeeded largely due to competitive contracting-out to NSAs (165). However, the improving performance of the health system has dramatically being lost since the IRG was overthrown by the Taliban, reducing health funding and overall access and availability of health services (166). This highlights the importance of building **resilience** within the health system to be able to bounce back from shocks.

Fragmentation of health finance pool, lack of prioritisation of health by the government, lack of coordination in funding by IGOs, NSAs and donors, restricted access and funding to opposition-controlled areas, high OOP expenditure all result in reduced efficiency of health systems. Additionally, a recurring concern in all the five fragile states is raised over user fees for treatment. Reduction in service utilisation because of payment for service is well known, especially in emergency contexts (167,168). However, states and development NSAs often

consider these as an acceptable survival strategy for health systems in these contexts. Domestic revenue generation in all these states is low to negligible while health spending capacity of the population varies and deteriorates with prolongation of the conflict. This presents a catch-22 and warrants further research and development of innovative financing mechanisms and models in fragile states.

Additionally, improving coordination of external funding to focus on local demands and needs is critical. Ideally funding should flow where service provision is needed but often the opposite is the case, service provision goes where funding is provided (88).

Strengthening Governance systems

The primary responsibility for meeting the humanitarian needs of the population falls on governments, not on NSAs. Even though, NSAs have a larger space and ability to innovate and adapt in comparison to the state which could lead to new approaches to problem solving, this could also undermine government initiatives and lead to estrangement with the state. NSAs also play a key role in speaking out or act as whistle blowers when certain policies remain unimplemented. Through community association and advocacy, NSAs can counterbalance public interests especially for the disadvantaged groups and against the excesses of the state and the market.

Building and planning for stronger health systems however require considering a bigger and longer-term picture instead of band-aid fixes. In the present intervention models NSAs deliver or support the delivery of health services on behalf of states and within the scope of fund manager or donor set agenda. This leads to a supply driven model, often unsustainable and lacks downward accountability towards the beneficiaries. Additionally, health workers incentivised through different sources results in poor regulation of their accountability and disputes in supervisory capacity. Strengthening the health system would require shifting focus to a demand driven approach by focussing on the needs of the people and communities and involving local stakeholders in policymaking. This would increase accountability of both state and NSAs, and in turn contribute to health system building (169).

Health system fragmentation due to different service providers with their own agendas and limited coordination, is a commonality amongst all fragile states (170). Additionally, as the HIS are not functioning at capacity, fragmentation may occur in these settings due to incomplete information (171). This is even though new technologies are enabling real-time data analysis and a data driven way of working within NSAs and state. Capitalizing on these digital innovations, translating programme data into accessible ‘evidence’ would support HSS as well as better coordination between state and NSAs. Additionally, the reports of NSAs are often hyper quantitative, citing the numbers of medical consultations, the number of Plumpy Nut sachets distributed, etc., which might satisfy donors, but may not provide the contextual information required to understand what it means. Ensuring that data generation includes anthropological qualitative collection, is important when thinking about the transition from short to long-term sustainable approaches.

Another factor to consider is that the notion of government accountability assumes the legitimacy of governments. However, "where governments may be parties to conflict or benefit from (and perpetuate) protracted fragility", strengthening government systems could potentially increase instability among population groups (172). Thus, NSAs play a key role often in acting as the eyes, ears and mouth of the vulnerable population groups (173) .

Moving Forward…

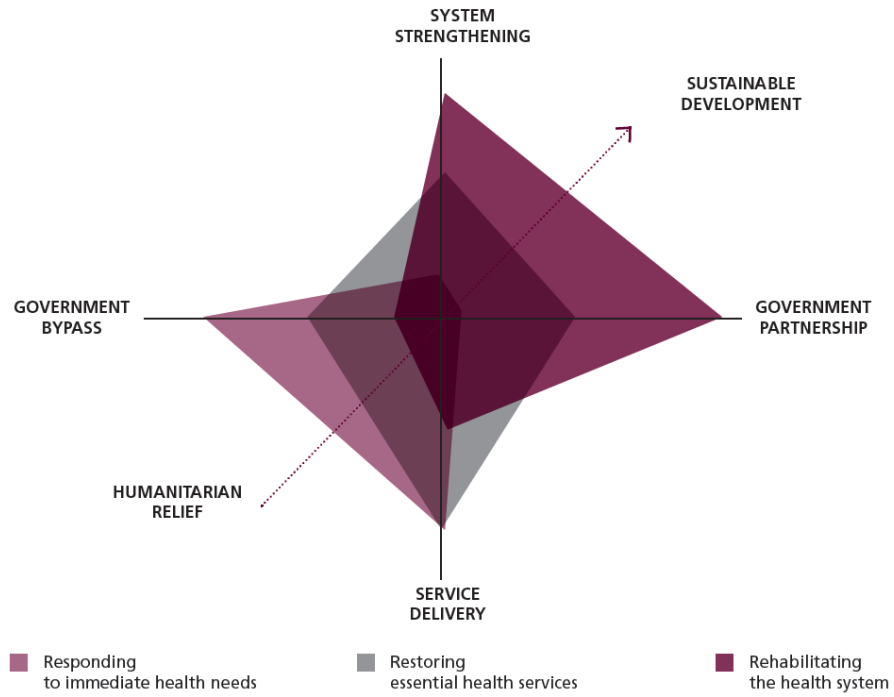

Figure 3: Transition Framework
Source: Long way to health recovery, Egbert Sondorp (169)

Moving forward, the above transition framework (See Figure 3) could be used as a guide for shifting priorities for the health system from humanitarian to development to ownership by the state. The framework demonstrates how service delivery and system strengthening go hand in hand, while transition from humanitarian relief to sustainable development must go from NSAs acting in silo to increasing collaboration and partnerships with the state. It is understood that the transition of the health system is not a linear process and is influenced by various factors. Also, institutional capacities take time to develop over a (long) period and service provision must be ongoing. This is important not only to reduce morbidity and mortality but to ensure trust in the state or entities acting as state.

With regards to Yemen, Somalia, Syria, South Sudan, and DRC, they are in various phases as depicted in below adapted framework (See Figure 4). These are assumptions as best, inferred from the quantitative data collected for this research. The aim is to demonstrate how this framework can serve as a guide to monitor the progress of HSS in these countries.

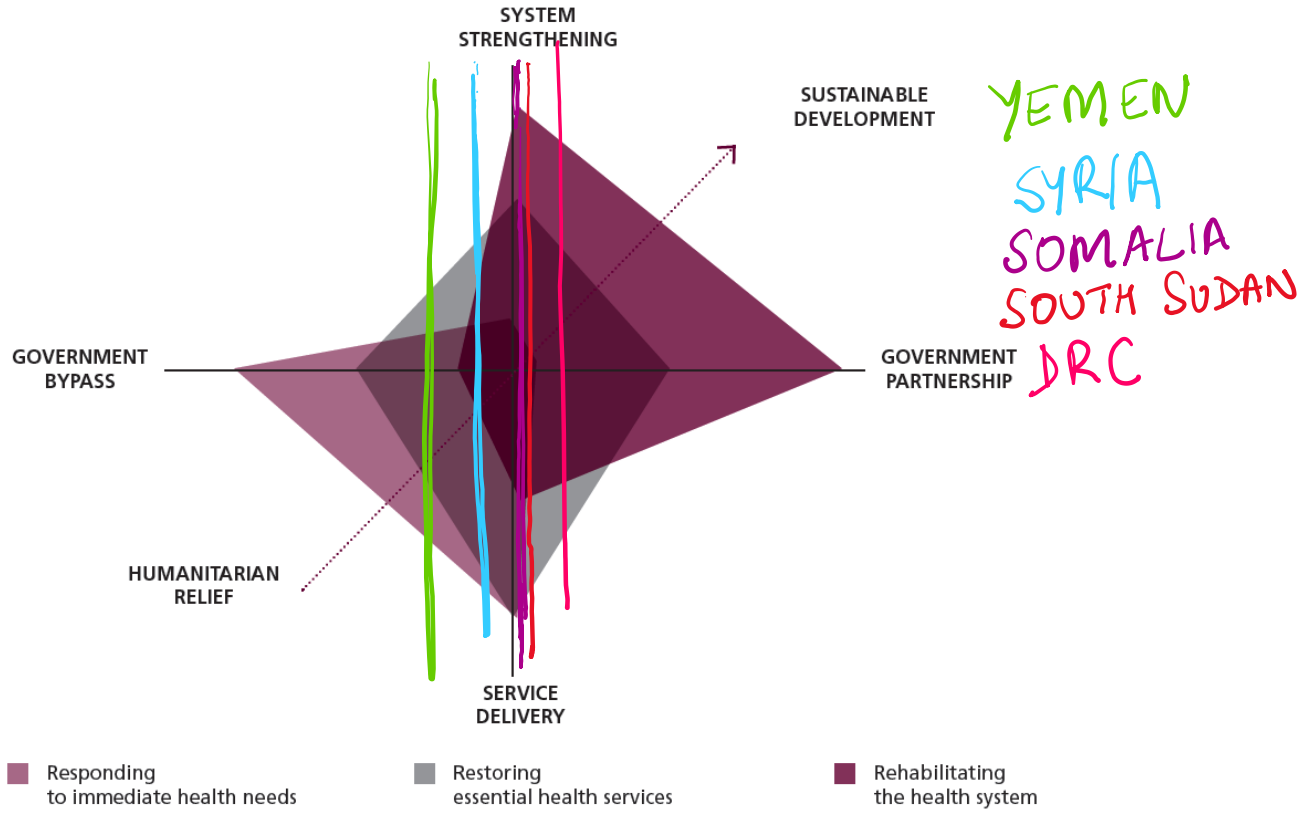

Figure 4; Transition framework adapted to reflect HSS progress in Yemen, Somalia, Syria, South Sudan, and DRC

5.1.1 Limitations

Published evidence base on the impact of NSAs in fragile states was limited and in many cases outdated due to the protracted and evolving nature of the conflict and fragility in these countries. Operational challenges due to insecurity and instability make data collection challenging and academic research especially difficult. Also, literature backing ground realities well known to researcher were not always available. To address this, latest governmental and non-governmental reports were used as well as interviews with public health professionals working in these countries (except Syria) conducted. Contact with a professional working in Syria could only be made two days prior to thesis submission, hence the interview was not conducted. Additionally, no interviews with community members were conducted and bias from the public health professionals cannot be negated.

The topic for the thesis was broad and in-depth analysis due to the limitations of word count and time may not have been fully realised.

5.2 Conclusion

Without health, education, economic stability, and overall development of the state cannot be achieved. Thus, investment in health and building resilient health systems is meaningful to generate results both within and beyond the health system (174). This research aimed to understand the influence of NSAs on health systems of the top five fragile states (Yemen, Somalia, Syria, South Sudan, and DRC. The key findings in relation to the specific objectives of the research are summarised below.

1) Findings indicate that the influence of NSAs on service provision of these countries is both positive and negative. Without NSAs, especially in the opposition-controlled areas or vulnerable groups not reached by the state, the morbidity and mortality would be extremely high. However, with regards to HRH, NSAs were responsible for weakening the health system due to migration of HRH from the public sector, reducing motivation in those employed by MoH as their salaries are lower, causing challenges with supervision and accountability of these workers and affecting the overall setup of the health system.
2) Findings on influence of NSAs on health financing suggest that support by donors, fund managers of NSAs or NSAs directly is vital for continuity of service delivery in these states. However, fragmentation of funding, instability in duration of funding affected service delivery and frequent (6-12 months) shifting of funding from one location or health facility to another, challenged efficiency and resiliency of the health system in these countries.
3) Findings on the influence of NSAs on governance suggest that limited coordination between NSAs increased inefficiencies within the health system. And lack of regulation by the state resulted in duplication of services and varying quality of care. Data generated by NSA programs was not often shared or utilised for collective policymaking, resulting in decisions made with incomplete contextual information. Limited involvement of local stakeholders and no effort in planning stage at understanding community dynamics further resulted in decisions made based on the knowledge and perceptions of NSAs instead of the population.

Concluding, this study found that the interventions by NSAs in Yemen, Somalia, Syria, South Sudan, and DRC, undermine the health systems of these countries due to fragmented service delivery, migration of HRH, fragmented funding, poor coordination, and collaboration between State and NSAs and between NSAs, and by side-lining local stakeholders. However, it is also clear that there are no straightforward solutions due to the complexities of evolving context, transition from conflict to post-conflict and changing vulnerabilities within the health systems of these countries. This requires all solutions to be contextualised and adapted in discussion with local stakeholders.

Evidence on HSS and developing sustainable intervention models in fragile states is growing but is still limited. There is much space for further research and analysis which would be beneficial towards developing policies affecting lives of 23% of the world's population. Future studies should examine the three dimensions of health systems across various fragile contexts

and conflict/post conflict phases to understand how initial intervention decisions shape longer term health system outcomes.

5.3 Recommendations

The existing literature and experiences outlined in this research lay down some overarching considerations for State and NSAs if interventions by NSA are to contribute to and not undermine building health systems while meeting immediate health needs of the population.

At service delivery level

1) Integrated model of service delivery by ensuring that all components of EPHS exist. MoH to plan with NSAs at local level to predict gaps and avoid duplication in service delivery. Impact of vertical programs on longer-term HSS evaluated prior to set up.
2) Harmonisation of salaries of HRH amongst state and NSAs. Invest in local health workforce while ensuring NSA interventions are not build up at the cost of building down public sector facilities by diversion of HRH.

At Health Financing level

1) Aligning NSA and State priorities and reducing fragmentation of funding is key to ensuring efficient use of resources in these countries. Donors and funding managers of NSAs could support linkages between immediate humanitarian and developmental funding, and coordinate resource distribution.
2) Shifting from project-based funding towards developing innovative models of improving domestic revenue generation and capacity for health financing.

At Governance Level

1) Local stakeholders should be involved from analysis and planning stage and ownership of the operational plan should be with them. Implementation can then be carried out by NSAs.
2) Strengthen HIS and share data to not only track health outcomes but also the needs of the communities and to inform data driven decision-making.
3) Supervision of health workforce should remain with MoH.
4) In the absence of a legitimate government, consider decentralised planning, analysis, and funding.

References

1. Brittanica. Arab Spring. Available at Arab Spring | History, Revolution, Causes, Effects, & Facts | Britannica [Accessed 07 August 2022]
2. UNICEF. The Boma Health Initiative. Available at The Boma Health Initiative | UNICEF South Sudan [Accessed 07 August 2022]
3. 1Library. Definition of Coordination and NGO Coordination. Available at Definition of Coordination and NGO Coordination (1library.net) [Accessed 08 August 2022]
4. DHIS. DHIS 2. Available at Home - DHIS2 [Accessed 07 August 2022]
5. FFP. Who are we. Available at Who We Are | The Fund for Peace [Accessed 07 August 2022]
6. FFP. FSI Methodology. Available at Methodology | Fragile States Index [Accessed 07 August 2022]
7. HeRAMS. HeRAMS. Available at https://herams.org/session/create [Accessed 07 August 2022]
8. Shaikh BT, Rabbani F. Health management information system: a tool to gauge patient satisfaction and quality of care. *East Mediterr Health J.* 2005;11(1-2):192-8
9. HPFSouthSudan. About HPF South Sudan. Available at HPF South Sudan Home - HPF South Sudan [Accessed 07 August 2022]
10. WHO. Health Systems Strengthening. Available at Health Systems Strengthening (who.int) [Accessed 07 August 2022]
11. UNOCHA. About OCHA. Available at About OCHA | OCHA (unocha.org) [Accessed 07 August 2022]
12. OECD. About OECD. Available at Home page - OECD [Accessed 07 August 2022]
13. OECD. Conflict and Fragility. 2020. Available at Conflict & Fragility - OECD [Accessed 04 August 2022]
14. World Bank. Classification of Fragile and Conflict affected situations. Available at Classification of Fragile and Conflict-Affected Situations (worldbank.org) [Accessed on 14 May 2022]
15. Woolcock, Michael. "Engaging with Fragile and Conflict-Affected States." HKS Faculty Research Working Paper Series RWP14-038, July 2014.
16. Ncube M, Jones B. Drivers and dynamics of fragility in Africa. Africa Economic Brief. 2013;4(5):1-6.
17. World Bank. Fragility, Conflict and Violence. Available at Fragility, Conflict and Violence Overview (worldbank.org) [Accessed 09 June 2022]
18. Landry MD, Giebel C, Cryer TL. Health system strengthening in fragile and conflict-affected states: a call to action. *BMC Health Serv Res.* 2021;21(1):726.
19. Fund For Peace. Fragile State Index. Available at Global Data | Fragile States Index [Accessed 17 April 2022]
20. FFP. Comparative Analysis. 2022. Available at Comparative Analysis | Fragile States Index [Accessed 08 August
21. World Bank. Total, Population- Yemen. 2021. Available at Population, total - Yemen, Rep. | Data (worldbank.org) [Accessed 08 August 2022]
22. Qirbi N, Ismail SA. Health system functionality in a low-income country in the midst of conflict: the case of Yemen. Health Policy and Planning. 2017; 32: 911–922
23. Dureab F, Hussain T, Sheikh R, Al-Dheeb N, Al-Awlaqi S, Jahn A. Forms of Health System Fragmentation During Conflict: The Case of Yemen. *Frontiers in Public Health*. 2021; 9:2296-2565.
24. UN. MDGs Country Progress Snapshot: Yemen. 2015. Available at 2015_Country and Regions_Ver 3_August 25, 2015_Direct Save.xlsm [Accessed 08 August 2022]

25. UNOCHA. Humanitarian Response Plan 2021 Yemen. Available at 22f63996071d23efadb539d19ee3a9b7.pdf (un.org) [Accessed 13 May 2021].
26. UNHCR. Yemen. Available at Yemen (unhcr.org) [Accessed 14 May 2022]
27. World Food Program. WFP Yemen country brief. Available at https://www.wfp.org/countries/Yemen?utm_source=bing&utm_medium=cpc&utm_campaign=367850771&utm_content=1280931416877091&gclid=dcab62a6cd3418b470b900d892ff5ad2&gclsrc=3p.ds&msclkid=dcab62a6cd3418b470b900d892ff5ad2 [Accessed 13 May 2022]
28. Dureab F, Hussain T, Sheikh R, Al-Dheeb N, Al-Awlaqi S, Jahn A. Forms of Health System Fragmentation During Conflict: The Case of Yemen. *Frontiers in Public Health*. 2021; 9:2296-2565.
29. UNOCHA. Global Humanitarian Overview 2022; Yemen. Available at Yemen | Global Humanitarian Overview (unocha.org) [Accessed 13 May 2022].
30. World Bank. Population, Total- Somalia. 2022. Available at Population, total - Somalia | Data (worldbank.org) [Accessed 08 August 2022]
31. Conciliation Resources. Endless war: a brief history of the Somali conflict. 2010. Available at Endless war: a brief history of the Somali conflict | Conciliation Resources (c-r.org)
32. Pavignani E . The Somali healthcare arena: a still incomplete mosaic. Brisbane: University of Queensland; 2012.
33. Warsame A, Handuleh J, Patel P. Prioritization in Somali health system strengthening: a qualitative study, *International Health*. 2016; 8(3):204–210
34. Transparency International. Somalia. 2022. Available at Somalia - Transparency.org [Accessed 08 August 2022]
35. UNHCR. Somalia Refugee Crisis explained. Available at Somalia Refugee Crisis Explained (unrefugees.org) [Accessed 14 May 2022]
36. UNOCHA. Humanitarian Response Plan Somalia 2021. Available at somalia_2022-hrp_final.pdf (humanitarianresponse.info) [Accessed 14 May 2022]
37. WHO. Somalia. Available at Somalia (who.int) [Accessed 14 May 2022]
38. Somalia National Bureau of Statistics. The Somali Health & Demographic Survey 2020. Available at fdbb04e360624913938ac77983a2dcda.pdf (nbs.gov.so) [Accessed 05 July 2022]
39. WHO. Somalia. Available at Somalia (who.int) [Accessed 14 May 2022]
40. A Gele, Challenges Facing the Health System in Somalia and Implications for Achieving the SDGs, *European Journal of Public Health*. 2020;30(5):1147
41. Somalia National Bureau of Statistics. The Somali Health & Demographic Survey 2020. Available at fdbb04e360624913938ac77983a2dcda.pdf (nbs.gov.so) [Accessed 05 July 2022]
42. WHO. Somali Service Availability and Readiness Assessment Summary Report. 2016. Available at ddd (humanitarianresponse.info) [Accessed 08 August 2022]
43. World Bank. Population, Total- Syrian Arab Republic. 2021. Available at Population, total - Syrian Arab Republic | Data (worldbank.org) [Accessed 08 August 2022]
44. WHO. Syria Crisis. Available at Syria crisis (who.int) [Accessed on 14 May 2022]
45. Institute for Health Metrics and Evaluation. Syrian Arab Republic. Available at: Syria | Institute for Health Metrics and Evaluation (healthdata.org) [Accessed 14 May 2022]
46. World Bank. World Development Indicators 2012. Available at: http://data.worldbank.org.vu-[Accessed 14 May 2022].
47. WHO. Syrian Arab Republic. Annual Report 2021. Available at 9789290229766-eng.pdf (who.int) [Accessed 18 July 2022]
48. WHO. Syria Crisis. Available at Syria crisis (who.int) [Accessed on 14 May 2022]
49. UNICEF. Syrian Arab Republic Appeal. Available at: Syrian Arab Republic Appeal | UNICEF[Accessed on 14 May 2022].

50. World Bank. The World Bank in Syrian Arab Republic. Available at: Syria Overview: Development news, research, data | World Bank [Accessed on 14 May 2022].
51. Taleb Z, Bahelah R, Fouad F, Adam C, Meredith W, Maziak W. Syria: health in a country undergoing tragic transition. International Journal of Public Health. 2014; 60(1): S66-74
52. WHO. HeRAMS Annual Report 2021 Syrian Arab Republic. 2021. Available at 04-HeRAMS-Annual-Public-Health-Centres-Report-2021.pdf (who.int)[Accessed 08 August 2022]
53. UNOCHA. Humanitarian Needs Overview. 2022. Available at https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_rev-1.15.pdf [Accessed 08 August 2022]
54. Middle East Institute. Ravaged by war, Syria's health care system is utterly unprepared for a pandemic. 2020. Available at: Ravaged by war, Syria's health care system is utterly unprepared for a pandemic | Middle East Institute (mei.edu) [Accessed 08 August 2022]
55. Jabbour S, Fardausi N. Violence against health care in Syria: patterns, meanings, implications, British Journal of Middle Eastern Studies. 2022;49(3):403-417
56. Mershed, Busse R, van Ginneken E. Healthcare financing in Syria: satisfaction with the current system and the role of national health insurance—a qualitative study of householders' views. International Journal of Health Planning and Management. 2012; 27(2):167-79.
57. Hammadah A. Syrian Economic Forum. Available at Pharmaceutical-Industry-en.pdf (syrianef.org)[Accessed 08 August 2022]
58. World Bank. Population, Total- South Sudan. 2021. Available at Population, total - South Sudan | Data (worldbank.org) [Accessed 08 August 2022]
59. CFR. Civil war in South Sudan. Available at Civil War in South Sudan | Global Conflict Tracker (cfr.org)[Accessed 08 August 2022]
60. UNOCHA. Humanitarian Response Plan South Sudan 2022. Available at hrp_ssd_2022_30mar_2022.pdf (humanitarianresponse.info) [Accessed 15 May 2022]
61. UNICEF. South Sudan. Available at South Sudan (SSD) - Demographics, Health & Infant Mortality - UNICEF DATA[Accessed 15 May 2022]
62. WHO. South Sudan Crisis. Available at South Sudan (who.int)[Accessed 15 May 2022]
63. UNICEF. Gender Based Violence in South Sudan. Available at GBV Briefing note_2021 Q1_FINAL.pdf .pdf (unicef.org) [Accessed 07 June 2022]
64. WHO. South Sudan – Strengthening primary health care in fragile settings. Available at South Sudan – Strengthening primary health care in fragile settings (who.int) [Accessed 15 May 2022]
65. HPFSouthSudan. About HPF South Sudan. Available at HPF South Sudan Home - HPF South Sudan [Accessed 08 August 2022]
66. IHME. Democratic Republic of Congo. Available at https://www.healthdata.org/democratic-republic-congo [Accessed 07 June 2022]
67. Moszynski P. 5.4 million people have died in Democratic Republic of Congo since 1998 because of conflict, report says. *BMJ*. 2008;336(7638):235
68. UNOCHA. Humanitarian Response Plan Democratic Republic of Congo. Available at file DRC HRP 2022.pdf [Accessed 07 June 2022]
69. UNICEF. The Democratic Republic of Congo. Available at https://data.unicef.org/country/cod/ [Accessed 07 June 2022]
70. WHO. The Democratic Republic of Congo. Available at https://www.who.int/countries/cod/ [Accessed 07 June 2022]
71. Security Distillary. WEAPONISATION OF FEMALE BODIES: RAPE AS A WEAPON OF WAR IN THE DRC. 2021. Available at Weaponisation of Female Bodies: Rape as a weapon of war in the DRC — The Security Distillery [Accessed 08 August 2022]
72. Vivalya BM, Ayodeji OA, Bafwa YT, Muyisa LK, Piripiri AL, Mbeva JBK. Analysis of the management of the tenth Ebola virus disease outbreak in the Democratic Republic of

Congo: developing a multidisciplinary response model to strengthen the healthcare system during disease outbreaks. *Global Health*. 2021; 17:121
73. CIA. CIA World Factbook: Democratic Republic of Congo. Available at
74. Murray CJ, Abbafati C, Abbas KM, Abbasi M, Abbasi-Kangevari M, Abd-Allah F et al. Five insights from the global burden of disease study 2019. *The Lancet.* 2020;396(10258):1135-59.
75. IDMC. GRID 2022. Available at IDMC_GRID_2022_LR.pdf (internal-displacement.org) [Accessed 27 July 2022]
76. WHO. Health Systems Strengthening. Available at Health Systems Strengthening (who.int) [Accessed on 12 July 2022]
77. Birn AE, Pillay Y, Holtz TH. Textbook of global health. Oxford University Press; 2017 Jan 24.
78. Clapham A, Rubio MG. The obligations of states with regard to non-State actors in the context of the right to health. Health and Human Rights Working Paper Series. 2002;3.
79. Newbrander W, Waldman R, Shepherd-Banigan M. Rebuilding and strengthening health systems and providing basic health services in fragile states. *Disasters*. 2011;35(4):639-60.
80. Msuya J. Horizontal and vertical delivery of health services: what are the tradeoffs? Washington DC: World Bank; 2005.
81. Philips M, Derderian K. Health in the service of state-building in fragile and conflict affected contexts: an additional challenge in the medical-humanitarian environment. *Confl Health.* 2015;9:13
82. Atun R, Bennett S, Duran A. When do vertical (stand-alone) programmes have a place in health systems?. WHO. 2008; 1997-8073: 1
83. WHO. World Health Report. Available at PrelimsE_i-xvi (who.int) [Accessed 28 June 2022]
84. IMF. IMF Policy Paper March 2022. Available at PPEA2022004.pdf [Accessed 09 June 2022]
85. Ozano K, Martineau T. Responding to humanitarian crises in ways that strengthen longer-term health systems: What do we know? 2018;9
86. MSF. The role of Non-governmental organizations in providing healthcare. Available at Role of NGOs.pdf. [Accessed 28 June 2022]
87. Philips M and Derderian K. Health in the service of state-building in fragile and conflict affected contexts: an additional challenge in the medical-humanitarian environment. *Conflict and Health*. 2015;9:13
88. ReBuild Consortium. Leaving no one behind; how can evidence-based approaches support progress towards UHC and global health goals during conflict and protracted crises? 2018. Available at hsg-2018-lnb-paper-final.pdf (rebuildconsortium.com) [Accessed 25 July 2022]
89. UNOCHA. Global Humanitarian Overview 2022. Available at Global Humanitarian Overview 2022 | Global Humanitarian Overview (unocha.org)[Accessed 28 June 2022]
90. Global Health Now. It's Time to Fix a Failing Humanitarian Aid System. 2022. Available at It's Time to Fix a Failing Humanitarian Aid System | Global Health NOW [Accessed 25 July 2022]
91. Dambisa M. Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa. 1st edition. New York: Farrar, Straus, and Giroux;2009.
92. World Bank. Open Data. 2022. Available at World Bank Open Data | Data [Accessed 16 July 2022]
93. Healthy systems for universal health coverage – a joint vision for healthy lives. Geneva: World Health Organization and International Bank for Reconstruction and Development / The World Bank; 2017. Available at World Bank Document [Accessed 09 August 2022]
94. de Savigny D, Adam T. Systems Thinking for Health Systems Strengthening. WHO. 2009.
95. Kruk ME, Myers M, Varpilah ST, Dahn BT. What is a Resilient Health System? Lessons from Ebola. *The Lancet*. 2015;385 (9980):1910–1912

96. Chee G, Pielemeier N, Lion A, Connor C. Why differentiating between health system support and health system strengthening is needed. Int J Health Plann Manage. 2013 Jan-Mar;28(1):85-94.
97. UHC2030. Public hearing on a new instrument to strengthen pandemic prevention, preparedness and response. 2022. Available at Public hearing on a new instrument to strengthen pandemic prevention, preparedness and response - UHC2030 [Accessed 13 July 2022]
98. WHO. HeRAMS Report Yemen. 2020. Available at WHOEMYEM031E-eng.pdf [Accessed 03 August 2022]
99. Fekri D, Taha H, Rashad S, Najwa AD, Sameh AA, Albrecht J. Forms of Health System Fragmentation During Conflict: The Case of Yemen. *Frontiers in Public Health*. 2021;6:2296-2565.
100. MoH Somalia. Essential Package of Health Services Somalia 2020. Available at somalia_ephs_web.pdf [Accessed 09 August 2022]
101. Omar M. Strategies for post-conflict development of the Health Systems in Somalia: lessons from selected countries. Somali Health Action Journal. 2021;1(1).
102. Hammond L, Vaughan-Lee H. Humanitarian space in Somalia: a scarce commodity. London: Overseas Development Institute; 2012.
103. Maalim AM, Zachariah R, Khogali M, Griensven JV, Van den Bergh R, Tayler-Smith K et al. Supporting 'medicine at a distance' for delivery of hospital services in war-torn Somalia: how well are we doing? Int Health. 2014;6:70–3
104. Ahmed Z, Ataullahjan A, Gaffey MF, Osman M, Umutoni C, Bhutta ZA, Dalmar AA. Understanding the factors affecting the humanitarian health and nutrition response for women and children in Somalia since 2000: a case study. Conflict and Health. 2020;14(1):1-5.
105. WHO. Independent Evaluation of WHO's Whole of Syria Approach. 2021. Available at who-whole-of-syria-response-evaluation__brief.pdf [Accessed on 03 August 2022]
106. Ri S, Blair AH, Kim CJ, Haar RJ. Attacks on healthcare facilities as an indicator of violence against civilians in Syria: an exploratory analysis of open-source data. PLoS One. 2019;14(6):e0217905.
107. Monaghan C, Battaglia L, Berry B, Murray M. "Every Day Things are Getting Worse": The impact on children of attacks on health care in Yemen. Save the Children; 2017
108. Omar A. Understanding and Preventing Attacks on Health Facilities During Armed Conflict in Syria. Risk Manag Healthc Policy. 2020 Mar 18;13:191-203. doi: 10.2147/RMHP.S237256. PMID: 32256132; PMCID: PMC7098166.
109. WHO. WHO Emergency Appeal Whole of Syria. 2021. Available at 2021-whole-of-syria-appeal.pdf [Accessed 03 August 2022]
110. Razavi SD, Kapiriri L, Abelson J, Wilson M. Who is in and who is out? A qualitative analysis of stakeholder participation in priority setting for health in three districts in Uganda. Health Policy Plan. 2019;34(5):358–69
111. Widdig H, Tromp N , Lutwama GW, Jacobs E. The political economy of priority-setting for health in South Sudan: a case study of the Health Pooled Fund. *International Journal for Equity in Health*.2022;21:68
112. Belaid L , Bayo P , Kamau L , Nakimuli E , Omoro E , Lobor R. Health policy mapping and system gaps impeding the implementation of reproductive, maternal, neonatal, child, and adolescent health programs in South Sudan: a scoping review. *Conflict and Health*. 2020;14:2
113. Altare C, Malembaka EB, Tosha M, Hook C, Hamady B, Bikoro SM et al. Health services for women, children and adolescents in conflict affected settings: experience from North and South Kivu, Democratic Republic of Congo. *Conflict and Health*. 2020;14:31

114. Ravi SJ, Snyder MR, Rivers C. Review of international efforts to strengthen the global outbreak response system since the 2014-16 West Africa Ebola Epidemic. Health Policy Plan. 2019.
115. Altare C, Castelgrande V, Tosha M, Malembaka EB, Spiegel P. From Insecurity to Health Service Delivery: Pathways and System Response Strategies in the Eastern Democratic Republic of the Congo. *Global Health: Science and Practice*.2021;9 (4):915-927.
116. Bertone MP, Mutombo PB, Kinshasa D. Investigating the remuneration of health workers in the DR Congo : implications for the health workforce and the health system in a fragile setting. Health Policy Plan. 2016;31(9):1143–51.
117. Casey SE, Mitchell KT, Amisi I, Haliza M, Aveledi B, Kalenga P, et al. Use of facility assessment data to improve reproductive health service delivery in the Democratic Republic of the Congo. Confl Health. 2009;3(1):12
118. Stafford N. Richard Valery Mouzoko Kiboung: epidemiologist who was killed by armed rebels while leading an Ebola response team in the Congo. *BMJ*. 2019.
119. Garber K, Fox C, Abdalla M, Tatem A, Qirbi N, Lloyd-Braff L, Al-Shabi K, Ongwae K, Dyson M, Hassen K. Estimating access to health care in Yemen, a complex humanitarian emergency setting: a descriptive applied geospatial analysis. The Lancet Global Health. 2020 Nov 1;8(11):e1435-43.
120. UNOCHA. Yemen 2021. 2022. Available at Yemen 2021 | Financial Tracking Service (unocha.org)[Accessed 06 August 2022]
121. Zarocostas J. Pleas for health funding for Yemen. The Lancet. 2021 Oct 30;398(10311):1557.
122. UNOCHA. Somalia, population living in poverty. 2021. Available at Somalia - Population Living in Poverty - Humanitarian Data Exchange (humdata.org) [Accessed 09 August 2022]
123. ODI. Beyond the pandemic: strengthening Somalia's health system. 2021. Available at Beyond the pandemic: strengthening Somalia's health system | ODI: Think change [Accessed 17 July 2022]
124. Hammond L , Vaughan-Lee H. Humanitarian space in Somalia: a scarce commodity. London: Overseas Development Institute; 2012.
125. Somalia National Bureau of Statistics. The Somali Health & Demographic Survey. 2020 Available at fdbb04e360624913938ac77983a2dcda.pdf (nbs.gov.so) [Accessed 18 July 2022]
126. Singh NS, Dingle A, Sabra AH, DeJong J, Pitt C, Mumtaz GR, Sibai AM, Mounier-Jack S. Healthcare financing arrangements and service provision for Syrian refugees in Lebanon. InHealth policy and systems responses to forced migration 2020 (pp. 53-76). Springer, Cham.
127. World Bank. The World Bank in Syrian Arab Republic. 2022. Available at: Syria Overview: Development news, research, data | World Bank [Accessed 18 July 2022]
128. The Guardian. Assad regime 'siphons millions in aid' by manipulating Syria's currency. 2021. Available at Assad regime 'siphons millions in aid' by manipulating Syria's currency | Global development | The Guardian [Accessed 09 August 2022]
129. UNICEF. Syrian Arab Republic Appeal. Available at: Syrian Arab Republic Appeal | UNICEF [Accessed on 09 August 2022]. [1] WHO. Strengthening Primary Health Care in Fragile Settings. 2021. Available at South Sudan – Strengthening primary health care in fragile settings (who.int) [Accessed 09 August 2022]
130. WHO. Strengthening Primary Health Care in Fragile Settings. 2021. Available at South Sudan – Strengthening primary health care in fragile settings (who.int) [Accessed 09 August 2022]
131. World Bank. Current Health Expenditure, Congo,Dem Rep. 2019. Available at Current health expenditure per capita (current US$) - Congo, Dem. Rep. | Data (worldbank.org) [Accessed 09 August 2022]

132. Bwimana A.Heath SectorNetworkGovernanceandState-building in SouthKivu, Democratic Republic of Congo. *Health policy and planning*.2017: 32:1476–1483
133. Waelkens M, Shomba S, Nappa FK, Kelly-Grâce MN. Etude des mutuelles de santé en RDC dans le cadre de la couverture sanitaire universelle. Anvers; 2016.
134. Ministere de la Santé Publique. 10ans du PBF en RDC: NOTE CONCEPTUELLE DE LA CONFERENCE SUR LE FINANCEMENT BASE SUR LA PERFORMANCE, L' ACHAT STRATEGIQUE ET LA COUVERTURE SANITAIRE UNIVERSELLE. Défis et perspectives pour le système de santé en République Démocratique du Congo. Kinshasa; 2017.
135. World Bank. The World Bank in DRC. 2021. Available at Democratic Republic of Congo Overview: Development news, research, data | World Bank [Accessed 09 August 2022]
136. Maini R, Van den Bergh R, van Griensven J, Tayler-Smith K, Ousley J, Carter D, et al. Picking up the bill - improving health-care utilisation in the Democratic Republic of Congo through user fee subsidisation: a before and after study. *BMC Health Serv Res*. 2014;14(1):504
137. Bertone MP, Mutombo PB, Kinshasa D. Investigating the remuneration of health workers in the DR Congo : implications for the health workforce and the health system in a fragile setting. *Health Policy Plan*. 2016;31(9):1143–51.
138. Transparency Index. Country Data, Yemen. 2021. Available at Yemen - Transparency.org [Accessed 09 August 2022]
139. World Bank. Health Sector in Yemen- A policy note. 2021. Available at Yemen-Health-Policy-Note-Sep2021.pdf (worldbank.org) [Accessed 09 August 2022]
140. Fekri D, Taha H, Rashad S, Najwa AD, Sameh AA, Albrecht J. Forms of Health System Fragmentation During Conflict: The Case of Yemen. *Frontiers in Public Health*. 2021;6:2296-2565
141. Warsame A, Handuleh J, Patel P. Prioritization in Somali health system strengthening: a qualitative study, *International Health*. 2016;8(3):204–210.
142. Ali AM , Handuleh J, Patel Pet al. . The most fragile state: healthcare in Somalia. Med Confl Surviv2014;30:28–36
143. Hill PS, Pavignani E, Michael M, Murru M, Beesley ME. The "empty void" is a crowded space: health service provision at the margins of fragile and conflict affected states. *Confl Health*.2014;8:20.
144. NWO. Governance mechanisms in opposition-held areas in Syria. 2017. W 08.400.125 Hellmuller.pdf (nwo.nl) [Accessed 20 July 2022]
145. Douedari, Y., Howard, N. Perspectives on Rebuilding Health System Governance in Opposition-Controlled Syria: A Qualitative Study. *International Journal of Health Policy and Management*. 2019; 8(4): 233-244.
146. Mampilly Z. Rebel Governance and the Syrian War. Vasser College: Project on Middle East Political Science; 2013
147. Campos PA, Reich MR. Political Analysis for Health Policy Implementation. *Health Systems & Reform*. 2019;5(3):224–35.
148. Jacobs E, Bertone MP, Toonen J, Akwataghibe N, Witter S. Performance Based Financing, Basic Packages of Health Services and User-Fee Exemption Mechanisms: An Analysis of Health-Financing Policy Integration in Three Fragile and Conflict-Affected Settings. *Appl Health Econ Health Policy*. 2020;18(6):801–10
149. Ministere de la Santé Publique. Cadre d'investissement pour la santé reproductive, maternelle, du nouveau-né, de l'enfant et de l'adolescent en vue de l'atteinte de la couverture sanitaire universelle en République Democratique du Congo. Kinshasa; 2017.
150. Altare C, Castelgrande V, Tosha M, Malembaka EB, Spiegel P. From Insecurity to Health Service Delivery: Pathways and System Response Strategies in the Eastern Democratic Republic of the Congo. *Global Health: Science and Practice*.2021;9 (4):915-927

151. International Budget Partnership. Open Budget Index 2010 – DRC. Available at http://internationalbudget.org/opening-budgets/open-budget-initiative/open-budget-survey/ [Accessed 21 July 2022]
152. Turner T. Congo Wars: Conflict, Myth, Reality. London: Zed Books; 2007.
153. Newbrander W. Providing Health Services in Fragile States. Arlington, Va., USA: Basic Support for Institutionalizing Child Survival (BASICS) for the United States Agency for International Development (USAID); 2006.
154. McCoy DC, Hall JA, Ridge M. A systematic review of the literature for evidence on health facility committees in low- and middle-income countries. Health Policy Plan. 2012;27(6):449–66.
155. de Savigny DA , Adam T. Systems thinking for health systems strengthening. Geneva: World Health Organization; 2009.
156. Checchi F, Warsame A, Treacy-Wong V, Polonsky J, van Ommeren M, Prudhon C. Public health information in crisis-affected populations: a review of methods and their use for advocacy and action. The Lancet. 2017; 390(10109):P2297-2313
157. Philips M, Derderian K. Health in the service of state-building in fragile and conflict affected contexts: an additional challenge in the medical-humanitarian environment. *Confl Health.* 2015;9:13
158. UHC2030. Public hearing on a new instrument to strengthen pandemic prevention, preparedness and response. 2022. Available at Public hearing on a new instrument to strengthen pandemic prevention, preparedness and response - UHC2030 [Accessed 13 July 2022]
159. Hill PS, Pavignani E, Michael M. Murru M, Beesly ME. The "empty void" is a crowded space: health service provision at the margins of fragile and conflict affected states. *Confl Health* 2014; 8:20
160. Vivalya BM, Ayodeji OA, Bafwa YT, Muyisa LK, Piripiri AL, Mbeva JBK. Analysis of the management of the tenth Ebola virus disease outbreak in the Democratic Republic of Congo: developing a multidisciplinary response model to strengthen the healthcare system during disease outbreaks. *Global Health.* 2021;17:121.
161. Gautier L, Ridde V. Health financing policies in Sub-Saharan Africa: government ownership or donors' influence? A scoping review of policymaking processes. *Glob Health Res Policy*. 2017;2(1):1–17. 27.
162. Bertone MP, Wurie H, Samai M, Witter S. The bumpy trajectory of performance-based financing for healthcare in Sierra Leone: agency, structure and frames shaping the policy process. *Globalization and Health*. 2018;14(1):1–15. 28.
163. Khan MS, Meghani A, Liverani M, Roychowdhury I, Parkhurst J. How do external donors influence national health policy processes? Experiences of domestic policy actors in Cambodia and Pakistan. *Health Policy Plan*. 2017;33(2):215–23
164. Suhrke A: Reconstruction as modernisation: the 'post-conflict' project in Afghanistan. Third World Quarterly. 2007, 28: 1291-1308.
165. Belay TA: Building on Early Gains in Afghanistan's Health, Nutrition, and Population Sector: Challenges and Options. 2010, Washington DC: The World Bank
166. Michael M, Pavignani E, Hill P: Too good to be true? An assessment of health system progress in Afghanistan, 2002–2012. Medicine, Conflict and Survival. 2013, 29: 322-345.
167. Zeng W, Lannes L, Mutasa R. Utilization of health care and burden of out-of-pocket health expenditure in Zimbabwe: results from a national household survey. Health Systems & Reform. 2018 Oct 2;4(4):300-12.
168. Bose M, Dutta A. Health financing strategies to reduce out-of-pocket burden in India: a comparative study of three states. BMC health services research. 2018;18(1):1-0.
169. Egbert Sondorp. The long way to post-conflict health recovery. *CIDOB*. 2016;33. Available at CIDOB - THE LONG WAY TO POST-CONFLICT HEALTH RECOVERY [Accessed 06 July 2022]

170. Bukowski A. How Fragmented Health Systems Hurt Patients—Global Cancer Institute. 2016. Available at How Fragmented Health Systems Hurt Patients - Global Cancer Institute [Accessed 27 July 2022]
171. Byrd TF, Ahmad FS, Liebovitz DM, Kho AN. Defragmenting heart failure care: medical records integration. *Heart Fail Clin*. 2020;16:467-477
172. Devex. Humanitarians push World Bank for better coordination in fragile states. 2019. Available at Humanitarians push World Bank for better coordination in fragile states | Devex [Accessed 29 July 2022]
173. Philips M, Derderian K. Health in the service of state-building in fragile and conflict affected contexts: an additional challenge in the medical-humanitarian environment. *Confl Health.* 2015; 9:13
174. ReBuild Consortium. Resilient health systems: the answer to health threats. 2021. Available at Resilient health systems: the answer to health threats - Rebuild ConsortiumRebuild Consortium [Accessed 25 July 2022]

Annex I Search Terms/Key words used.

	Problem/Issue	Factor-related terms	Geographical scope
	AND		
OR	Health System	Conflict	Yemen
	Health System Strengthening/HSS	Fragile Countries/Fragile States	Somalia
	Healthcare	Sustainability/Sustainable	Syrian Arab Republic/Syria
	Healthcare system	War	South Sudan
	Universal health coverage/UHC	Fragility	Democratic Republic of Congo/DRC
	Service delivery	Poverty	Middle East
	Health Financing	Essential Package of Health Services/EPHS	Africa
	Governance	Basic benefit package/BBP	Arab world/Arab countries
	Resilience	Insecurity	Low Middle-Income Countries/LMIC
	Efficiency	Community	Afghanistan
	Responsiveness	Contracting out	
	Quality of Care		
	Equity		
	Human Resources for Health/HRH		

Annex II Topic Guide (for semi-structured interviews)

Disclaimer: The interview guide was adapted based on each key informant, the country context they worked in, as well as at times, based on how the interview flowed.

1. How is the health sector in the country set up in terms of service provision? How is medical supply functioning in the country?
2. What are the strengths and challenges in relation to the health workforce existing in the country? How are the management structures within the health workforce functioning?
3. What are the funding mechanisms and financial considerations with the state and non-state actors working together?
4. How is the overall governance system in the country functioning? And how much influence does it have on the health sector?
5. How are the data and information systems functioning in the country? Are they functioning in sync between the state and non-state actors? Are they used for driving decision-making within health systems?
6. How do you perceive the influence of the non-state actors within the health system of the country(s)?
7. How do you perceive the alignment of the non-state actors within the current government strategies and policies?
8. What are the barriers to developing the health system? What, according to you, are the solutions to overcoming these barriers?
9. How can the right balance between humanitarian assistance and long-term HSS be achieved?
10. How can the sustainability of health financing during and after a conflict or crisis be established?
11. How can the accountability of non-state actors be established in terms of HSS? What would be the consequences in case of failure of accountability?
12. Which models of care can be adopted by NSAs for building stronger health systems?

Annex III: Informed Consent Form

RESEARCH ETHICS COMMITTEE

I am Samreen Hussain, a student from the KIT Royal Tropical Institute studying MSc. In Public Health. I am conducting a study to explore how the provision of care by non-state actors influences the health systems of a fragile state. For the study, information regarding the functioning of state and non-state actors within health systems will be collected through a review of existing literature and interviews with appropriate professionals working within these settings.

Procedure including confidentiality

With your agreement, I would like to interview you regarding your experience and understanding of how non-state actors work within health systems in fragile states. The interview will be conducted through an agreed virtual platform (Zoom, Microsoft Teams, Skype) or a phone call. Where feasible, face-to-face interviews will be conducted. The interview is expected to last between 45-and 60 minutes.

To ensure a verbatim record of the conversation, a voice or video recording of the meeting will be made with your permission. The conversation will be confidential and will not be shared without your permission. Your name will not be recorded or written down. Notes and recordings will be stored in a password protection drive in my computer folder, and only me and my supervision team will have access to the data. The data will be used for the analysis of this study. Voice recording will be destroyed 6 months after publishing the study.

All verbal, visual, and written records will be stored in a password-protected drive on my computer and will be used for analysis names and professional capacities will be anonymized.

Risk, discomforts, and right to withdraw

You can refuse to answer the questions and/or withdraw from the study anytime without negative consequences.

Benefits

This study might not help you directly, but the findings obtained from this study will help inform policymakers responsible for working within health systems on developing effective and sustainable solutions for building sustainable and resilient health systems.

Sharing the results

Upon completion of the study and analysis of data, the study will be compiled into a written report and will be shared with my academic and thesis supervisor for feedback and with the thesis panel for final marking. If you would like to receive a copy of my final thesis, please inform me of the same.

Consent and contact

Do you have any questions that you would like to ask? *

Are there any things you would like me to explain again or say more about?

Do you agree to participate in the interview?

DECLARATION: TO BE SIGNED BY THE RESPONDENT

Agreement respondent

The purpose of the interview was explained to me, and I agree that …… (Name of person) is interviewed.

_____

Signed Date