HUMANITARIAN RESPONSE AND TERRORISM: THE RELATIONSHIP BETWEEN MATERIAL SUPPORT LEGISLATION AND HEALTH OUTCOMES

by

LEISEL TALLEY

(Under the Direction of Zhuo Chen)

ABSTRACT

Introduction: The United States Government (USG) counterterrorism measures known as material support legislation (MSL) are a key component of national security as is humanitarian response. Within MSL, there are no standing humanitarian exemptions and organizations face criminal prosecution and civil penalties for violations. Understanding the impact of counterterrorism measures on health outcomes in humanitarian emergencies (HE) is critical to achieving national security while providing effective assistance.

Literature review: Conflicts, climatic shocks, failed states, and economic stagnation has culminated in unprecedented humanitarian need. Concurrently, the number and geographic coverage of foreign terrorist organizations (FTO) exponentially expanded. Between 2012-2018, MSL applied to 85% of HEs. As HEs and counterterrorism collide and intersect, security concerns have been raised regarding the potential diversion of assistance funds to the support of terrorism, intentionally or unintentionally. Previous evaluations have assessed the legal risks of material support legislation on non-governmental organizations and financial institutions; however, no evaluations have addressed health outcomes.

Methods: A policy evaluation was conducted to assess the impact of MSL on health outcomes in HEs. To assess this relationship, a multiple-group design ecologic study explored associations between exposure levels (presence of FTOs or sanctions) and an outcome, the prevalence of global acute malnutrition (GAM) and the crude mortality rate (CMR), in HEs between 2012-2018. Generalized linear regression models were constructed for each outcome and exposure dyad.

Results: Data was lacking from HEs with multiple FTOs and was more likely to be collected in physically secure areas. The number of internal conflicts was positively associated with both outcomes. The mean prevalence of GAM increased with nutrition funding and levels of freedom. GAM decreased with lower rankings of human development. The presence of FTOs was not meaningfully significant for either outcome.

Conclusion: MSL and the presence of FTOs impact humanitarian access and the ability to collect health data. In the absence of access, it was not possible to fully examine the relationship between MSL and health outcomes in HEs. Further analysis of the interactions and impacts of MSL on humanitarian assistance is required to improve response while countering terrorism.

INDEX WORDS: Humanitarian response, Humanitarian emergencies, Terrorism, Material Support Legislation, Crude mortality, Acute malnutrition, Policy

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DEDICATION

This dissertation is dedicated to Dr. James L. Emerson. His passion and dedication inspired my love of science from an early age. He taught me to continue pushing forward even when everyone else gives up and to never lose sight of the goal of moving science forward. Because of him, I found my path to public health. You knew where I was supposed to be. Thank you, Dad.

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CHAPTER 1

HUMANITARIANISM AND TERRORISM

Introduction

The 21st century has been marked by record levels of population displacement and humanitarian emergencies. Conflicts, climatic shocks, failed states, and economic stagnation has culminated in unprecedented humanitarian need. In 2021, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) estimates that 235 million people require life-saving humanitarian assistance across 53 countries (United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2021; Weiss & Koepsell, 2014). Conflict, often at the hands of Non-State armed actors, is one of the largest displacement drivers. In 2019 alone, 45.7 million people were displaced by conflict and violence (OCHA, 2021), and in the first six months of 2020, an additional 4.8 million were displaced.

Humanitarian response, which strives to "save lives, alleviate suffering and maintain human dignity" (Global Humanitarian Assistance, 2021), is founded on four key principles: humanity, neutrality, impartiality, and independence. These principles not only define the purpose of humanitarian response (humanity and impartiality) but also how aid should be provided (neutrality and independence) (Bernard, 2015; Labbe & Daudin, 2015). Regardless of the nature of a humanitarian crisis, man-made crisis, or natural disaster, assistance should be provided to those with the greatest need without undue influence from donors, actors, and governments. However, the current landscape of humanitarian emergencies, where conflict, Non-

State armed actors, and counterterrorism are interwoven, challenge the ability to reach populations in greatest need while maintaining principled humanitarian response.

Tension between National Security and Humanitarian Response

Conflict-related humanitarian crises are not a new phenomenon. The core principles of the humanitarian response of humanity, neutrality, impartiality, and independence were born from Henry Dunant's witness of the Battle of Solferino in 1859 (OCHA, 2008; Pictet, 1979). More recent examples include the aftermath of World War II, the 1968 Biafran famine during the Nigerian Civil War, and the wars in the Balkans in the 1990s, displacing millions both within countries as well as forcing millions to flee across international boundaries. The 21st century's difference is the substantial and escalating role of Non-State armed actors in conflict, including transnational terrorists, replacing the 20th-century inter-state conflicts.

Terrorism, in the simplest terms, is defined as "the systematic use of terror especially as a means of coercion" ("Terrorism," 2020). While there is no consistent definition used across governments and organizations, there are critical concepts across definitions. Commonalities include the intentional creation and exploitation of fear through violence to advance a political, religious, or ideological cause, long-lasting psychological effects, intimidation of a specific group of individuals with differing beliefs (Matusitz, 2013). The United States Government's (USG) definition of international terrorism is established in 18 United States Code (U.S.C.) § 2331 ("Suppression of the Financing of Terrorism Convention Implementation Act," 2002)

> *(1) the term "international terrorism" means activities that— (A) involve violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or of any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State; (B) appear to be intended— (i) to*

> *intimidate or coerce a civilian population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by mass destruction, assassination, or kidnapping; and (C) occur primarily outside the territorial jurisdiction of the United States, or transcend national boundaries in terms of the means by which they are accomplished, the persons they appear intended to intimidate or coerce, or the locale in which their perpetrators operate or seek asylum.*

Transnational terrorism has grown explosively in the last two decades. Organizations such as Al Qaeda (AQ) and the Islamic State (IS), often referred to as transnational jihadists, have broadened their reach across countries, regions, and continents. In 2019, 52% of State-based conflicts, where one party was a government, involved IS or AQ or affiliated organizations (Pettersson & Öberg, 2020). In the same year, sixty-seven different conflicts were waged between armed Non-State actors (Pettersson & Öberg, 2020). The distribution of these conflicts and the presence of AQ, IS, and their affiliates overlap with the location of major humanitarian emergencies, Figure 1. Seventy-four percent of terror-related deaths in 2018 occurred in Afghanistan (7,379), Nigeria (2,040), Iraq (1,054), Syria (662), and Somalia (646) (Institute for Economics and Peace, 2019). During the same period, these five countries accounted for twenty-nine percent of the global financial humanitarian need and thirty-one percent of people in need of humanitarian assistance, further highlighting the overlap of terrorism and humanitarian emergencies (OCHA, 2019).

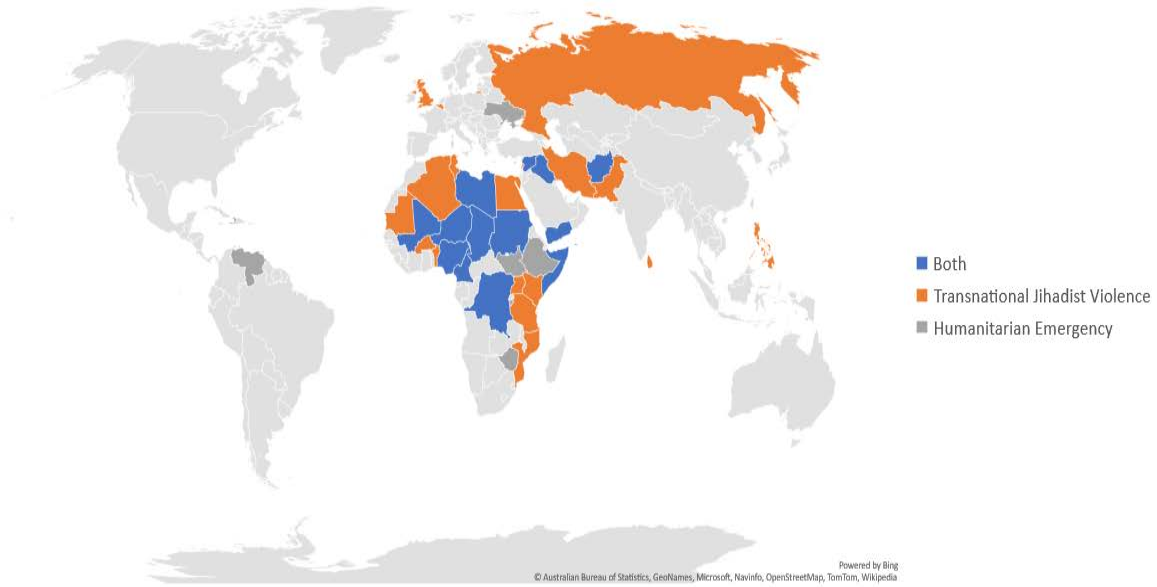

Figure 1: Transnational Jihadist Violence and Humanitarian Emergencies, 2019

Further highlighting the overlap of terrorism and humanitarian emergencies, the number of emergencies occurring in areas with a USG designated terrorist organization has increased from forty percent to fifty-eight percent of emergencies between 2015-2018, Figure 2. When accounting for broader counterterrorism measures like sanctions in addition to terrorist organizations, in 2018, eighty-five percent of humanitarian emergencies were affected. The collision and intersection of counterterrorism and humanitarian response raised significant security concerns regarding the potential diversion of foreign aid and charitable assistance funds to the support of terrorism, intentionally or unintentionally.

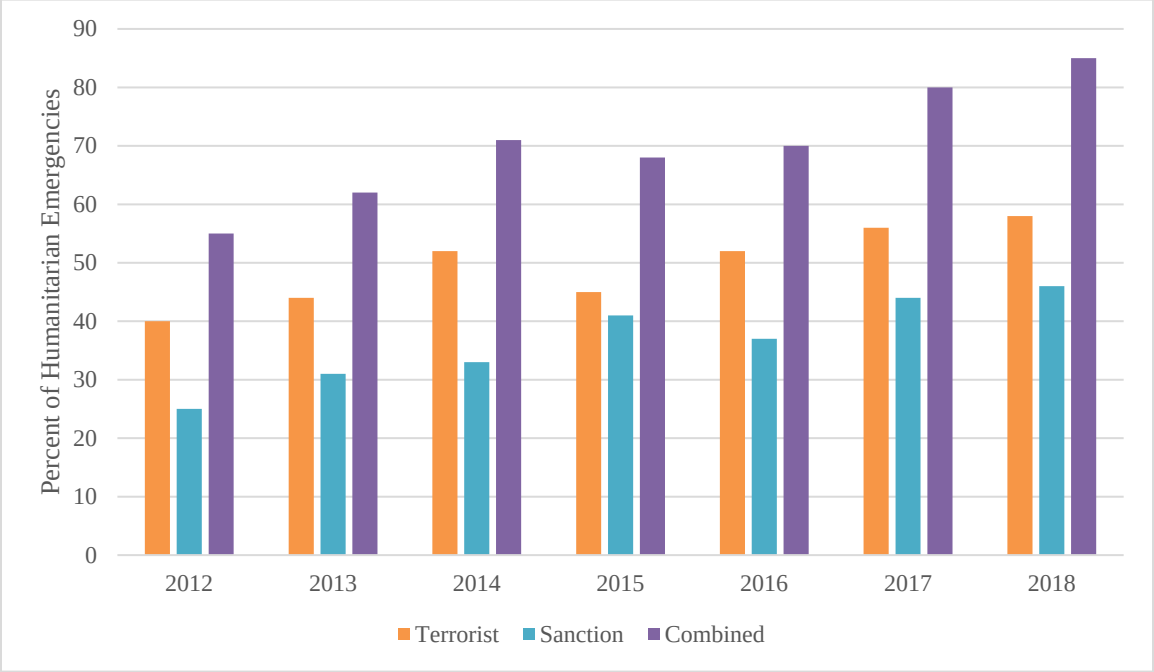

Figure 2: Percent of Humanitarian Emergencies with a Terrorist Organization or Economic Sanction, 2012-2018

While the presence of a terrorist organization in and of itself does not inhibit the provision of humanitarian assistance, it does add to the complexity of operations both in terms of access and complying with counterterrorism regulations established by the United Nations and various donor governments. The USG is the largest humanitarian donor in absolute dollars. In Fiscal Year 2019, the last complete year of data, $8.5 billion, or 24% of the total USG foreign aid was spent on humanitarian assistance for protection, assistance and solutions; disaster readiness; migration management; and general humanitarian assistance (ForeignAssistance.gov,

2020). With almost a quarter of the foreign aid allocated to humanitarian assistance, humanitarian response has a vital role in achieving national security goals.

The USG counterterrorism measures, set forth to protect the United States' national security, are some of the broadest and widest-reaching regulations. To achieve the goals of counterterrorism, the USG employs multiple tools. Sanctions can be imposed by way of presidential executive orders to freeze the assets of designated individuals and entities. Additionally, organizations may be classified as foreign terrorist organizations, establishing a basis to criminalize interactions with such groups and prohibit entry into the United States. Currently, there are 71 organizations designated as terrorists by the USG.

A third tool is collectively referred to as material support legislation. 18 U.S. Code §2339A, §2339B, and §2339C establish the basis of counterterrorism legislation and prosecution ("Antiterrorism and Effective Death Penalty Act," 1996; Fraterman, 2014; "International Convention for the Suppression of Terrorist Bombing," 2002; "Violent Crime Control and Law Enforcement Act," 1994). Within these statutes, prohibited activities, including the provision of resources and materials specifically referred to as material support, are defined, the financing of terrorists is criminalized, and extraterritorial jurisdiction of terror-related crimes is established.

The scope of this collective legislation, including the provision of training and expert advice and assistance, encompasses activities frequently implemented during humanitarian emergencies. As such, non-governmental organizations (NGOs) receiving USG funds must sign an Anti-Terrorism Certification to ‘confirm that they will not provide material support to terrorists, individually or to organizations’(Mackintosh & Duplat, 2013, p. 70). The onerous task to determine whether activities, assistance provided, or interactions with individuals violate material support regulations lies with the organizations providing aid. Differentiating between

the delivery of humanitarian assistance and the support of terrorism as defined under USG counterterrorism regulations, specifically material support legislation, is often a blurred line for NGOs and the USG. Further complicating the context is the absence of humanitarian exemptions under material support legislation. Individuals and organizations have been prosecuted, convicted, fined, and imprisoned for violating federal antiterrorism laws in humanitarian settings (Aziz, 2011; Mackintosh & Duplat, 2013; Pantuliano, Mackintosh, Elhawary, & Metcalfe, 2011).

Problem Statement

In the context of humanitarian emergencies occurring in areas under the control of terrorist organizations or where there is a stronghold of these organizations, several questions arise concerning national security and response. What are the burden and the benefit of material support legislation regarding health outcomes in humanitarian emergencies? National security measures must be maintained to protect citizens and implement the United States' foreign policy. It is not feasible that material support legislation would be disregarded in the face of humanitarian response. However, as the magnitude and duration of humanitarian emergencies continue to increase with the USG providing significant levels of assistance on a global level, both the USG and its implementing partners face a problem when they provide aid in these contexts. How do both the USG and implanting partners achieve their respective goals of counterterrorism, foreign diplomacy, humanitarian aid, and mitigation of health impacts of the emergency?

Research Question and Rationale

While USG counterterrorism and material support legislation has been in place since the late 1970s with more robust legislation enacted post 9/11, there has not been an evaluation of the impact of material support legislation on health outcomes in humanitarian crises. This policy evaluation aims to explore the relationship between the USG's collective material support legislation and health outcomes in humanitarian crises.

The main research question is to assess if there are unintended consequences of applying material support legislation to humanitarian settings, specifically in terms of health outcomes in humanitarian emergencies.

To answer this question, the following sub-questions were explored:

1. What is the relationship between the presence of sanctions and terrorist organizations operating in an emergency and health outcomes?
2. How do health outcomes vary by the number of terrorist organizations or sanctions in emergencies?
3. How does the presence of a terrorist organization, sanction, or a combination of the two differentially impact health outcomes?

Responding to humanitarian needs in areas that fall under material support regulations is becoming increasingly common and complex. NGOs responding in these contexts assume large operational risks as well as legal hazards. In 2020, the Interagency Agency Standing Committee (IASC), the highest level humanitarian coordination forum within the United Nations, conducted a review of the impact of counterterrorism legislation and measures on principled humanitarian assistance (Interagency Standing Committee Results Group 3- Subgroup on Counterterrorism

[IASC], 2020). The review noted that despite interest in the impact of counterterrorism measures on principled humanitarian response, 'humanitarian practitioners and donors still struggle in collecting evidence of the impact of counterterrorism measures on the principled humanitarian action for use in advocacy efforts and decision-making purposes" (IASC, 2020, p. 2). The IASC called for systematic monitoring and reporting of impacts (IASC, 2020).

Considering the lack of monitoring, reporting, and data, exploring the relationship between material support legislation and health outcomes in humanitarian contexts is a significant public health data gap that requires further research. As humanitarian needs continue to grow, both in terms of persons affected and the financial requirements, and terrorist organizations expand their base and geographic coverage, it is increasingly important to understand the impact of policies on the health of affected populations.

National security and humanitarian assistance contribute to and guide foreign policy. Previous evaluations have shown the potential for delayed assistance, financial obstructions, and increased operational costs to NGOs (El Taraboulsi-McCarthy, 2018; Mackintosh & Duplat, 2013). By exploring the impact of counterterrorism measures on health outcomes, policy issues and potential solutions may be intended to improve humanitarian response efforts to save lives while supporting the USG to achieve national security measures and overall foreign policy strategies.

CHAPTER TWO

LITERATURE REVIEW: THE JUXTAPOSITION OF HUMANITARIANISM AND NATIONAL SECURITY IN THE 21ST CENTURY

Humanitarian Crises

The end of the Cold War marked a shift from inter-State conflicts to civil wars in the early 1990s. These 'new wars' were notable "because of their frequency and the intensification of certain key features including attacks on civilians, a breakdown of a public authority or state legitimacy and their containment within a country's borders" (Davey, Borton, & Foley, 2013, pp. 12-13). This modern warfare style resulted in a new form of humanitarian emergencies, the Complex Humanitarian Emergency (CHE). CHEs are delineated by their breakdown of political and social structures and catastrophic levels of morbidity and mortality. Brennan and Nandy (2001) estimated that mortality rates in CHEs might be 60 times higher than baseline rates stemming from disease, malnutrition, and violence. The United Nations (UN) defines a CHE as: "a humanitarian crisis in a country, region or society where there is a total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single ongoing UN country program" (United Nations High Commissioner for Refugees [UNHCR], 2001; World Health Organization, 2020). Two of the three current United Nations system-wide emergencies, Yemen and Syria, exemplify CHEs, and the associated response challenges.

Another notable aspect of CHEs is the type of displacement. Prior to this time, most displacements resulted in refugees as defined under Article one of the 1951 Convention Relating to the Status of Refugees (UN General Assembly, 1951). Refugees are legally defined as (UN General Assembly, 1951):

Any person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his/her nationality and is unable, or owing to such fear, is unwilling to avail himself/herself of the protection of that country…

However, the 'new wars' led to a second more vulnerable population, internally displaced persons (IDPs). In contrast to refugees, IDPs do not flee their home country but instead are displaced within their country's borders for the same reasons as a refugee. Unlike refugees, beyond the rights covered under international humanitarian law (IHL) and international human rights laws, these populations are not afforded legal protection. With the increase in civil conflicts and intrastate wars, the numbers of IDPs have surpassed refugees. There are currently an estimated 45.7 million IDPs and 26 million refugees (UNHCR, 2020a).

Changing Needs: Number, Magnitude, and Duration

The landscape of humanitarian emergencies has continued to evolve in the 21st century. CHEs have increased on three planes: number, magnitude, and duration. The number of humanitarian emergencies has risen steadily. Between 2005-2017, the number of UN-led responses per year grew from 16 to 30 (United Nations, 2019). In 2018, 41 countries required assistance, whereas there were 53 countries in 2019 (OCHA, 2018a, 2019). Year 2021 saw a continuation of this trend, with 56 countries included in the Global Humanitarian Overview and Appeal (OCHA, 2021).

As the number of humanitarian emergencies has increased, so has the number of people affected. In 2021, OCHA estimates 235 million people or 1 in 33 people globally need life-saving assistance, excluding COVID-19 requirements (OCHA, 2021). Displacement is at an all-time high, with an estimated 79.5 million displaced persons (refugees and IDPs) (UNHCR, 2020a). Overall, displacement has increased consecutively for the last eight years, almost doubling the number of displaced persons since 2009 (Development Initiatives Ltd, 2019). In some of the largest and most complex humanitarian crises, the number of people in need exceeds half of the country's total population: Yemen, Syria, South Sudan, Central African Republic, and Palestine (Development Initiatives Ltd, 2019).

The increase in the number of emergencies and affected populations has substantially increased the financial requirements. Since 2011, financial requirements have increased year over year, except in 2014 and 2015, where they remained constant (Development Initiatives Ltd, 2019; OCHA, 2020c). Between 2011 and 2020, UN appeals' financial requirements increased from $9.5 billion to $39.9 billion (Development Initiatives Ltd, 2019; OCHA, 2020b). The year 2020 historically marked the largest humanitarian appeal. During the same period (2011-2020), the absolute funds received for responses increased, but the percent of need met remained relatively constant at an average of 61 percent (Development Initiatives Ltd, 2019). The number of crises requiring more than $1 billion in financial needs has also continued to grow, underscoring the emergencies' magnitude. In 2014, Iraq, South Sudan, and Syria exceeded the $1 billion mark (OCHA, 2019). By 2021, nine countries were exceeding $1 billion: Syria ($4.2 B), Yemen ($3.4 B), the Democratic Republic of Congo ($2 B), Sudan ($1.8 B), Ethiopia ($1.5 B), South Sudan ($1.5 B), Afghanistan ($1.3B), Nigeria ($1.1 B), and Somalia ($1.1 B) (OCHA, 2021).

As described, the number and magnitude of emergencies have increased, but so has the duration of these emergencies. The average duration of a humanitarian response, 5.2 years in 2014, almost doubled by 2018, reaching an average greater than nine years (OCHA, 2018c, 2019). There are currently 31 countries meeting the definition of a protracted emergency– a crisis that lasts longer than five years (Development Initiatives Ltd, 2019). For comparison, there were only 13 protracted crises in 2005. Protracted crises are most evident in Sub-Saharan Africa, with crises now lasting, on average, 11.2 years. Somalia, Sudan, the Central African Republic, Niger, Chad, and the Democratic Republic of Congo, each have had humanitarian appeals consecutively for the last 15 years (OCHA, 2020b).

Not only is the duration increasing, but protracted crises are also demanding more resources to meet the needs of growing affected populations. In 2019, 75% of people receiving humanitarian assistance were in emergencies lasting more than seven years (OCHA, 2019). Additionally, crises lasting longer than five years received 80% of the total global funds, up from 30% in 2015 (OCHA, 2018b; 2018c). Notable emergencies that fall into this category include Syria, Somalia, South Sudan, and Sudan.

National Security: Terrorism, Counterterrorism, and Material Support

Just as humanitarian emergencies and response has evolved, so has the violence and actors associated with armed conflict in the 21st century (Pettersson & Öberg, 2020). The terrorist attacks on the United States (US) on September 11, 2001, were a defining event both domestically and globally. The aftermath of the attacks led to the War on Terror and counterterrorism strategies (Pantuliano et al., 2011; United States Department of State, 2001).

While terrorism has existed across centuries, the 21st century has been marked by a significant increase in terrorist events. Between 2000 and 2014, there was an 8-fold increase in

the number of global terrorist events (Rosen, Nagdy, & Ritchie, 2019). In the 16 years of 2002-2018, more than 98,000 separate terrorist attacks and greater than 221,000 related deaths were recorded (Institute for Economics and Peace, 2019). Total deaths from terrorism have recently declined; however, 2018 marked the greatest number of countries experiencing at least one death from terrorism, 71, since the previous high of 79 countries in 2012 (Institute for Economics and Peace, 2019).

One of the most significant changes in conflicts is the rise of transnational jihadism stemming from the invasion of Afghanistan and Iraq in the early 2000s. Transnational jihadism is a violent, radical religious-political ideology based on Sunni Islamism (Crenshaw, 2017). Pettersson and Öberg (2020, p. 603) define transnational jihadism as "the immediate or future aim of a non-state group to establish a caliphate across internationally recognized borders using violence." This movement is intertwined with conflicts across the Middle East, Asia, and Africa (Crenshaw, 2017), propagating conflict as active participants and carrying out acts of terrorism. The most notable factions include the designated terrorist organizations AQ, IS, Boko Haram, Al Shabaab, and Jamaat Nusrat al-Islam wal-Muslimin.

In 2019, AQ, IS, or their affiliates were participants in fifty-two state-based conflicts (Pettersson & Öberg, 2020). In the same year, "seventy-three percent of all battle deaths" were attributed to conflicts with transnational jihadist groups (Pettersson & Öberg, 2020, p. 603). Deaths are not limited to state conflicts. In non-state conflicts, more than fifty percent of deaths between 2014-2017 were attributed to the Islamic State and Al Qaeda. Conflict in Syria between the Islamic State and the Syrian Defense Force was responsible for 18,500 deaths in five years (Pettersson & Öberg, 2020).

As part of the definition of terrorism, civilians are targeted as a means of intimidation and coercion. In 2019, the Uppsala Conflict Data program recorded 31 different actors targeting civilians, resulting in 4900 deaths (Pettersson & Öberg, 2020). Seventy-one percent of these deaths stemmed from the Islamic State, Al Qaeda, and their affiliates. The Islamic State is one of the deadliest non-state actors, with an estimated 28,000 attributable civilian deaths (Pettersson & Öberg, 2020). The most significant number of attacks occurred in Africa, with a substantial increase in Burkina Faso and Mali perpetrated by Jamaat Nusrat al-Islam wal-Muslimin and anti-Jihadist counter-attacks (Institute for Economics and Peace, 2020b).

In the last decade, the spread of transnational jihadism movements has been expansive. In 2010, AQ and its affiliates were active in only 13 countries but broadened their geographic dispersion to 16 countries by 2019 across the Middle East, Africa, and Asia (Stanford University, 2019a). The year 2013 marked the birth of the IS with a presence in Iraq and Syria. The IS e has since grown to 23 countries in 2019, merging with local insurgents and movements across large swaths of North and West Africa, East Asia, and the Middle East (Stanford University, 2019b). Whether as a non-state actor or through one-sided violence, transnational jihadists play a significant role in driving conflict and displacement.

Material Support Legislation

Terrorism and the rise of transnational jihadism pose a severe threat to the United States' (US) national security. As such, USG has taken a multi-pronged approach to counter international and domestic terrorism (Note: domestic terrorism is beyond the scope of this evaluation). Beyond military interventions, intelligence activities, preparedness, and strengthening allies' counterterrorism abilities in the War on Terror, the USG has sought to isolate, deter, and disrupt global terrorism funding. This has been achieved by enacting and

enforcing various acts and executive orders collectively referred to as material support legislation.

There are three statutes and one executive order which pertain to the “provision of material support or financing of terrorism”: 18 U.S. Code §2339A, §2339B, and §2339C and Executive Order 13224 pursuant to the Presidential powers authorized under the International Emergency Economic Powers Act (IEEPA) of 1977, Table 1 ("Antiterrorism and Effective Death Penalty Act," 1996; "International Convention for the Suppression of Terrorist Bombing," 2002; "International Emergencies Economic Powers Act," 1977; "Violent Crime Control and Law Enforcement Act," 1994).

U.S. Code §2339A was passed as part of the Violent Crime Control and Law Enforcement Act of 1994 and U.S. Code §2339B under the Antiterrorism and Effective Death Penalty Act of 1996 ("Antiterrorism and Effective Death Penalty Act," 1996; "Violent Crime Control and Law Enforcement Act," 1994). These statutes were amended in 2001 under the USA Patriot Act following the events of September 11th, 2001, increasing the penalties for violations as well as expanding the definition of material support ("United States of America: Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA Patriot Act)," 2001). Additional amendments occurred in 2004 with the Intelligence Reform and Terrorism Prevention Act to further clarify material support (U.S. Code §2339B) and include all federal crimes of terrorism within U.S. Code§2339A ("Intelligence Reform and Terrorism Prevention Act," 2004). In 2015, maximal penalties for violations U.S.C. §2339B were increased (Doyle, 2016a, 2016b). The statutes impose criminal penalties via imprisonment and or fines for providing material support or financing terrorism.

All of the statutes share a common definition of “material support” detailed in §2339A. Under §2339A, material support or resources is defined as ("Intelligence Reform and Terrorism Prevention Act," 2004):

> *(1) any property, tangible or intangible, or service, including currency or monetary instruments or financial securities, financial services, lodging, training, expert advice or assistance, safehouses, false documentation or identification, communications equipment, facilities, weapons, lethal substances, explosives, personnel (1 or more individuals who may be or include oneself), and transportation, except medicine or religious materials;*
>
> *(2) the term “training” means instruction or teaching designed to impart a specific skill, as opposed to general knowledge; and*
>
> *(3)the term “expert advice or assistance” means advice or assistance derived from scientific, technical or other specialized knowledge.*

18 U.S. Code §2339A, §2339B, and §2339C

Support for or the concealment of crimes, enacted or planned by a terrorist, is illegal as defined by 18 U.S. Code §2339A ("Intelligence Reform and Terrorism Prevention Act," 2004). Specifically, 18 U.S. Code §2339A states, “whoever knowingly attempts to, conspires to, or actually provides material support or resources, or conceals or disguises the nature, location, source, or ownership of material support or resources knowing or intending that they be used in preparation for, in carrying out, in preparation for concealment of an escape from, or in carrying out the concealment of an escape from an offense identified as a federal crime of terrorism” ("Intelligence Reform and Terrorism Prevention Act," 2004). This statute's violation can result in a federal conviction with a fine and or up to fifteen years in prison ("Violent Crime Control and Law Enforcement Act," 1994). Violations resulting in death are punishable by a life sentence

("Intelligence Reform and Terrorism Prevention Act," 2004). Financial penalties are not more than $250,000 for individuals or $500,000 for organizations ("Intelligence Reform and Terrorism Prevention Act," 2004).

Furthermore, U.S.C. §2339B outlaws the provision of material support to designated foreign terrorist organizations. The language is similar to §2339A and states " whoever knowingly attempts to provide, conspires to provide, or provides material support or resources to a foreign terrorist organization knowing that the organization has been designated a foreign terrorist organization, or engages, or has engaged, in “terrorism” or “terrorist activity” are liable for the committed crimes” ("Antiterrorism and Effective Death Penalty Act," 1996; "Intelligence Reform and Terrorism Prevention Act," 2004). As with §2339A, convictions for violating §2339B may result in fines and/or prison terms up to fifteen years. Life imprisonment is also possible when a death has occurred due to material support provision ("Antiterrorism and Effective Death Penalty Act," 1996; "Intelligence Reform and Terrorism Prevention Act," 2004). Statutes §2339A and §2339B, specifically addressing material support, are the most frequently prosecuted federal anti-terrorism statutes (Doyle, 2016a)

18 U.S. Code §2339C addresses terrorism, but more broadly than material support. This statute addresses the financing of terrorism. Specifically, it states,” Whoever,… by any means, directly or indirectly, unlawfully and willfully provides or collects funds with the intention that such funds be used, or with the knowledge that such funds are to be used, in full or in part, in order to carry out” an act defined as terrorism by the statute or acts prohibited under counterterrorism treaties ("International Convention for the Suppression of Terrorist Bombing," 2002). Subsection C of §2339C does address material support in terms of “knowingly conceals or disguises the nature, location, source, ownership, or control of any material support or

resources, or any funds or proceeds of such funds” ("International Convention for the Suppression of Terrorist Bombing," 2002) as a violation of §2339B. As with the previous statutes, violations are punishable by imprisonment up to twenty years for financing an act or ten years for concealment of funds as well as fines ("International Convention for the Suppression of Terrorist Bombing," 2002).

These statutes are broad and far-reaching. While federal laws are usually only enforceable domestically, §2339B mainly includes extraterritorial jurisdiction ("Antiterrorism and Effective Death Penalty Act," 1996; "Intelligence Reform and Terrorism Prevention Act," 2004). It was written to have both a descriptive and general statement of extraterritorial jurisdiction. The general statement says: “There is extraterritorial Federal jurisdiction over an offense under this section” (Doyle, 2016b, p. 22). The descriptive statements state there is jurisdiction over an overseas offense when ("Intelligence Reform and Terrorism Prevention Act," 2004):

> *(A) an offender is a national of the United States ... or an alien lawfully admitted for permanent residence in the United States ... ;*
>
> *(B) an offender is a stateless person whose habitual residence is in the United States;*
>
> *(C) after the conduct required for the offense occurs an offender is brought into or found in the United States, even if the conduct required for the offense occurs outside the United States;*
>
> *(D) the offense occurs in whole or in part within the United States;*
>
> *(E) the offense occurs in or affects [U.S.] interstate or foreign commerce; or*
>
> *(F) an offender aids or abets any person over whom jurisdiction exists under this paragraph in committing an offense under subsection (a) or conspires with any person*

over whom jurisdiction exists under this paragraph to commit an offense under subsection (a).

Executive Order 13224

In contrast to these statutes, Executive Order 13224 establishes an administrative pathway for economic sanctions, including the freezing of assets. Following the terrorist attacks on the United States on September 11, 2001, President George W. Bush signed Executive Order 13224—Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism under the powers granted by the International Emergency Economic Powers Act (IEEPA) of 1977 ("Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism," 2001; "International Emergencies Economic Powers Act," 1977). This act authorizes the President to declare an "unusual and extraordinary threat to the national security, foreign policy, or economy of the United States" that originates "in whole or substantial part" outside the United States ("Unusual and extraordinary threat; declaration of national emergency; exercise of Presidential authorities," 1977). Additionally, the President can impede transactions and freeze assets to address the threat, and in cases of an attack on the United States, property associated with a country, group, or person that aided in the attack may be confiscated ("Presidential authorities," 2001). These authorities are carried out by Presidential Executive Orders, as with Executive Order 13224.

In his letter to Congress, President Bush explained the intent of Executive Order 13224: "to disrupt the financial support network for terrorist organizations by blocking the U.S. assets not only of foreign persons or entities who commit or pose a significant risk of committing acts of terrorism, but also by blocking the assets of their subsidiaries, front organizations, agents, and

associates, and any other entities that provide services or assistance to them” (Bush, 2001, p. 1361).

Executive Order 13224 states ("Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism," 2001, p. 49080):

> *(a) any transaction or dealing by United States persons or within the United States in property or interests in property blocked pursuant to this order is prohibited, including but not limited to the making or receiving of any contribution of funds, goods, or services to or for the benefit of those persons listed in the Annex to this order or determined to be subject to this order; (b) any transaction by any United States person or within the United States that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any of the prohibitions set forth in this order is prohibited; and (c) any conspiracy formed to violate any of the prohibitions set forth in this order is prohibited.*

Table 1: Material Support Legislation: 18 United States Code §2339A, §2339B, §2339 C and Executive Order 13224

	18 United States Code			Executive Order 13224
	§2339A	§2339B	§2339C	
Established by	Violent Crime Control and Law Enforcement Act of 1994, amended by the USA Patriot Act of 2001 and the Intelligence Reform and Terrorism Prevention Act of 2004	Antiterrorism and Effective Death Penalty Act of 1996, amended by the USA Patriot Act 2001 and the Intelligence Reform and Terrorism Prevention Act of 2004	Terrorists Bombing Convention Implementation Act of 2002	Pursuant to authorities under the International Emergency Economic Powers Act of 1977, signed by President George W. Bush September 25, 2001
Content	Criminalizes support or concealment of support for crimes a terrorist commits or may commit	Criminalizes the provision of material support to a foreign terrorist organization	Criminalizes provision of funds used in the commission of a terrorist offense	Administrative basis for freezing of assets of those that support, finance, or sponsor terrorism
Key Aspect	Defines Material Support	Establishes Extraterritorial Jurisdiction	Targets Financing of Terrorists, Directly and Indirectly	Sanctions Governments, Organizations, or Individuals
	All share the same definition of Material Support			
Consequences of Charge or Conviction	15 years imprisonment	20 years imprisonment	20 years imprisonment	Sanctions: 30 years imprisonment
	Life imprisonment if a death results from the commission of the offense			
	Fines $250,000 for individuals; $500,000 for organizations		Fines minimum $10,000	Fines $20 million

The freezing of assets applies to the 29 individuals and entities identified as Specially Designated Global Terrorists within the Executive Order as well as “persons determined by the Secretary of the Treasury, in consultation with the Secretary of State and the Attorney General” ("Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism," 2001, pp. 49079-49080):

> *(b) foreign persons, to have committed, or to pose a significant risk of committing, acts of terrorism that threaten the security of U.S. nationals or the national security, foreign policy, or economy of the United States*
>
> *(c) to be owned or controlled by, or to act for or on behalf of those persons listed in the Annex to this order or those persons determined to be subject to subsection 1(b), 1(c), or 1(d)(i) of this order;*
>
> *(i) to assist in, sponsor, or provide financial, material, or technological support for, or financial or other services to or in support of, such acts of terrorism or those persons listed in the Annex to this order or determined to be subject to this order;*
>
> *or (ii) to be otherwise associated with those persons listed in the Annex to this order or those persons determined to be subject to this order*

Enforcement

As outlined in the text of Executive Order 13224, the United States Department of the Treasury (USDT) and the Department of State (DOS) are tasked with the identification of individuals and entities as well as the enforcement of various components of IEEPA, Table 2 ("Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism," 2001). The Office of Foreign Asset Control (OFAC) of the

USDT has the authority to enforce economic and trade sanctions of the United States Government to achieve national security measure goals. Sanctions may be levied against governments, organizations, and or individuals. These sanctions may be broad and geographic focused or targeted to individuals and entities, as with the case of counterterrorism (Department of the Treasury, 2018).

OFAC also maintains the publicly available Specially Designated Nationals and Blocked Persons List. This includes “individuals and companies owned or controlled by, or acting for or on behalf of, targeted countries,” as well as individuals and entities designated under non-country sanctions, such as narcotics and terrorism (Department of the Treasury, 2020). As with sanctions, it is illegal to deal with the individuals and entities, and their assets are frozen (Department of the Treasury, 2020).

Violations of sanctions or dealings with Specially Designated Nationals can result in criminal penalties of significant amounts, specifically the greater of $250,000 for individuals and $1,000,000 for organizations or twice the violation's financial gain. Civil penalties are up to $1 million and ten years in prison ("Money and Finance: Treasury Part 501—Reporting, Procedures and Penalties Regulations Subpart D—Trading With the Enemy Act (TWEA) Penalties," 2021). Individuals and organizations may apply for OFAC licenses in some instances. The licenses allow for activities that would otherwise be prohibited (Department of the Treasury, 2006). Licenses may be general authorizing a “particular type of transaction for a class of persons with the need to apply for a license,” or they may be specific in the form of authorization from OFAC in a written document authorizing a particular transaction assigned to a specified person or entity (Department of the Treasury, 2016).

In addition to OFAC under the USDT, the DOS Bureau of Counterterrorism creates and maintains a list of Foreign Terrorist Organizations (FTO) (Department of State, 2020). The authority to designate FTOs was authorized within section 219, the Immigration and Nationality Act of 1997 [8 U.S.C. 1189] (Department of State, 2020; "Immigration and Nationality Act," 1997). There are three criteria for the designation of an FTO. One, the organization must be foreign. Two, it must 'participate in terrorist activity, or terrorism, or retain the capability and intent to engage in terrorist activity or terrorism' (Department of State, 2020). Three, terrorist activities must threaten the United States' national security (Department of State, 2020).

The purpose of an FTO designation is to reduce the financing of FTOs, induce isolation, deter financial interactions, and raise public awareness of FTOs (Department of State, 2020). Once an organization is designated as an FTO, it is illegal for "a person in the United States or subject to the jurisdiction of the United States to knowingly provide "material support or resources" to the organization per 18 U.S. Code §2339A (Department of State, 2020). Additionally, FTO members are not allowed entry into the United States and may be removed if they are already in the country. Finally, United States financial institutions in control of funds of FTOs must maintain control of the funds and report the funds to the OFAC.

Taken together, 18 U.S. Code §2339A, §2339B, §2339C, and Executive Order 13224, with enforcement from DOS and USDT, collectively establish the basis of terrorism prosecution. Statutes §2339A and §2339B, specifically addressing material support, are the most frequently prosecuted federal anti-terrorism statutes (Doyle, 2016a, 2016b). By 2011, 87.5 % of federal terrorism charges involved material support. (Center on Law and Security, 2011).

Table 2: Enforcement of Material Support Statutes and Executive Orders

	Department of the Treasury	Department of State
Established by	Pursuant to the International Emergencies Economic Powers Act of 1977, Presidents can issue executive orders to impose sanctions on groups or individuals who pose an *unusual and extraordinary threat to national security*	Immigration and Nationality Act 2001, section 219
Office	Office of Foreign Asset Control	Bureau of Counterterrorism
Activity	Publication of Specially Designated Nationals and Blocked Persons List whose assets are blocked and with whom United States persons are prohibited from dealing with, including individuals, companies, entities, and groups, such as terrorists	Designation of Foreign Terrorist Organizations (FTO) based on three criteria: • Be a foreign organization. • Engage in terrorist activity* or retain the capability and intent to engage in terrorist activity or terrorism • Terrorist activity or terrorism must threaten the security of U.S. nationals or the national security
Purpose	Enforce economic and trade sanctions of the United States Government against individuals and entities, including terrorist organizations, to achieve national security goals	Reduce financing of FTOs, induce isolation, deter financial interactions, and raise public awareness of FTOs
Consequences of Charge or Conviction	Fines $250,000 for individuals and $1 million for organizations or twice the financial gain 10 years imprisonment	As outlined in 18 United States Code §2339A, §2339B, §2339C

*Terrorist activity, as defined in section 212 (a)(3)(B) of the INA (8 U.S.C. § 1182(a)(3)(B)),or terrorism, as defined in section 140(d)(2) of the Foreign Relations Authorization Act, Fiscal Years 1988 and 1989 (22 U.S.C. § 2656f(d)(2))

The Intersection of Humanitarian Response and Terrorism

With the geographic expansion of transnational jihadist groups and designated FTOs, few humanitarian emergencies occur in isolation of sanctions or counterterrorism measures, Figure 3. Non-state armed conflicts and one-sided violence directed at civilians by these organizations are significant drivers of humanitarian crises and displacement. Despite this relationship, humanitarian assistance writ large is not exempt from collective material support legislation. When 18 U.S. Code §2339B was enacted in 1996, Congress removed the humanitarian exemption originally included in §2339A in 1994 ("Holder v. Humanitarian Law Project," 2010). As such, the application of material support regulations, including the extraterritorial jurisdiction authority of §2339B, has potentially criminalized humanitarian assistance in many of the world's most dire situations. Charities and individuals have been prosecuted under these statutes. In 2008, a US charity, the Holy Land Foundation for Relief and Development, was prosecuted and found guilty of funding Hamas, an FTO (Aziz, 2011; Pantuliano et al., 2011). The violation came when providing contributions to zakat charity committees in the West Bank (Aziz, 2011; Pantuliano et al., 2011). The organization's directors were sentenced to up to 65 years in prison.

Despite the definition of material support specifically excludes medicine in 18. U.S. Code §2339A, there have been multiple interpretations of medicine's meaning by the courts. In *Boim v. Holy Land Foundation for Relief and Development*, in 2008, in a non-binding comment, the court determined that an independent NGO providing medical care to an injured Hamas fighter would not violate material support. The Court stated, "it would be helping not a terrorist group but individual patients, and, consistent with the Hippocratic Oath, with no questions asked about the patients' moral virtue" ("Stanley BOIM, individually and as administrator of the Estate of David Boim, deceased; and Joyce Boim, Plaintiffs-Appellees, v. HOLY LAND FOUNDATION

FOR RELIEF AND DEVELOPMENT, et al., Defendants-Appellants.," 2008). Other rulings have more narrowly defined medicine limiting it to actual pharmaceuticals. In two cases, *US v. Shah* and *US v. Farhane*, individual physicians were found guilty as they provided medical care to members of FTOs ("UNITED STATES of America v. Tarik IBN Osman SHAH, a/k/a "Tarik Shah," a/k/a "Tarik Jenkins," a/k/a "Abu Musab," Rafiq Sabir a/k/a "the Doctor," and Mahmud Faruq Brent, a/k/a "Mahmud Al Mutazzim," Defendants," 2007; "UNITED STATES of America, Appellee, v. Abdulrahman FARHANE, also known as “Abderr Farhan,” and Rafiq Sabir, Defendants-Appellants.," 2011). It should be noted that in these cases, the doctors ascribed to the ideology of Al Qaeda (Mackintosh & Duplat, 2013).

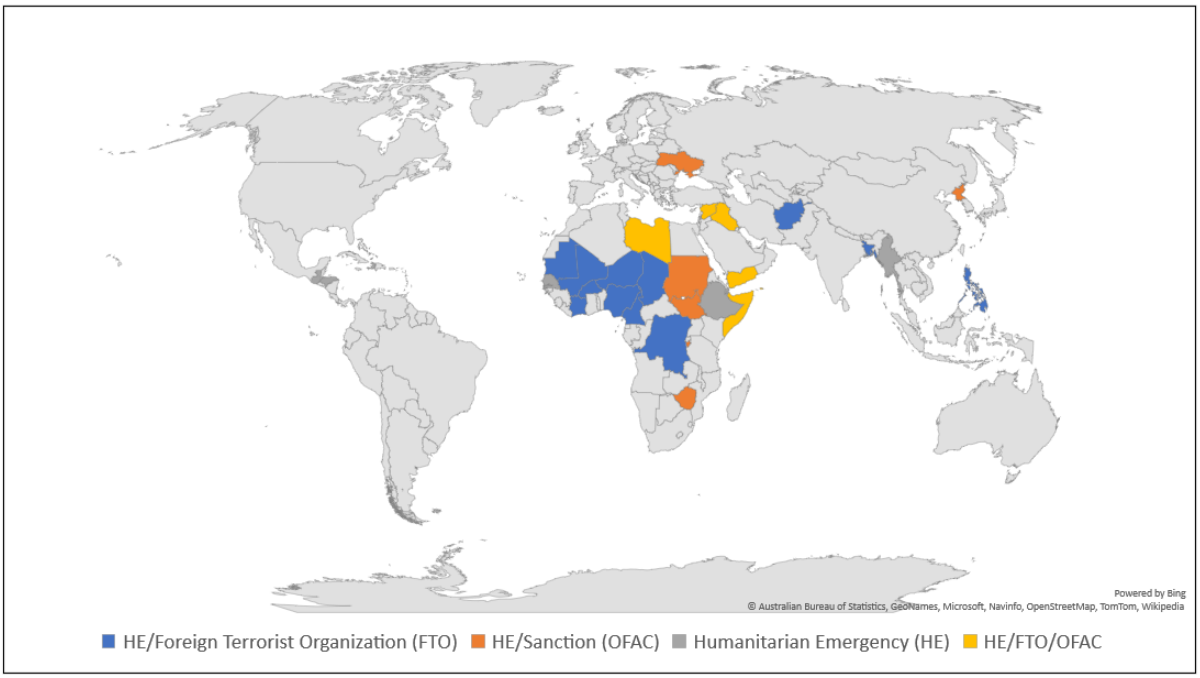

Figure 3: Overlapping Designations in Humanitarian Settings, 2012-2018

In a defining ruling, in *Holder v the Humanitarian Law Project,* the United States Supreme Court, in a 6-3 vote, upheld the constitutionality of the US Patriot Act and its definition of material support ("Holder v. Humanitarian Law Project," 2010). In the pre-enforcement challenge, the Humanitarian Law Project's proposed activities did not include providing financial and material goods but rather training. The court deferred to the DOS' conclusion "that all contributions to foreign terrorist organizations further their terrorism" ("Holder v. Humanitarian Law Project," 2010). This ruling reinforced the definition of material support and organizations' liability if they either knowingly or unwittingly provide material support to terrorist organizations. The burden is on the individual or organization to ensure they do not conflict with the regulations.

To date, only one exemption has been issued, allowing for the provision of humanitarian assistance with the potential for relief from prosecution from material support violations if aid was provided in "good faith" (Department of the Treasury, 2011). In 2011, a historic famine ravaged Somalia and much of the Horn of Africa. Large areas affected by the famine were under the de facto control of Al Shabaab (Mackintosh & Duplat, 2013). In 2010, Al Shabaab had been listed as an FTO by the USG and included on the List of Specially Designated Nationals by way of Executive Order 13536 ("Blocking Property of Certain Persons Contributing to the Conflict in Somalia ", 2010) in 2010. In July 2011, the United Nations declared famine within Somalia. In response to the declaration, two weeks later, the USDT issued a broad OFAC license to the DoS and USAID to provide humanitarian assistance in this circumstance (Mackintosh & Duplat, 2013). The following month, further clarification was provided via *Frequently Asked Questions Regarding Private Relief Efforts in Somalia*, stating, "non-governmental organizations may provide humanitarian assistance in Somalia without the need for a license from OFAC" and "due

to the dangerous and highly unstable environment combined with urgent humanitarian needs in south and central Somalia, some food and/or medicine delivered in these areas may end up in the hands of al-Shabaab members. Such incidental benefits are not a focus for OFAC sanctions Enforcement" (Department of the Treasury, 2011, p. 1).

In addition to assessing the legal risks of material support legislation for NGOs, evaluations have been conducted to determine the impact of counterterrorism laws on humanitarian agencies. In a commissioned series of policy papers on counterterrorism laws and humanitarian action, Pantulaino et al. (2011) found that counterterrorism laws decreased funding, increased operational and administrative costs, and hindered community-level interactions. A second study assessed the impact of donor counterterrorism measures on humanitarian action (Mackintosh & Duplat, 2013). The findings were similar to the previous assessment. However, the authors also discussed the “structural” impacts whereby organizations faced challenges in complying with regulations while still fulfilling their organizational principles. Impartiality was explicitly identified as an issue. The selection of projects by donors and where programs could be implemented was believed to conflict with impartiality, prohibiting aid from being issued based on need alone (Mackintosh & Duplat, 2013).

Using the impact categorization put forth by Mackintosh and Duplat (Mackintosh & Duplat, 2013), operational and internal obstacles were substantial. Operational impacts were primarily fixated on funding. NGOs reported decreased or disrupted funding as donors shied away from programs in volatile FTO-controlled areas. Where funding was available for these areas, if donors were not assured that the funds would not be misappropriated, it was withdrawn (Pantuliano et al., 2011). Additionally, Islamic charities reported substantial decreases in

contributions (Mackintosh & Duplat, 2013; Pantuliano et al., 2011). The lack of funding ultimately resulted in the exclusion of beneficiaries because of their proximity to FTOs.

Internal impacts captured administrative capacities. NGOs reported increased administrative burdens attempting to comply with the various regulations across donors. Applying for exemptions or OFAC licenses was time-consuming and significantly delayed aid provision (Mackintosh & Duplat, 2013). Compliance measures increased operational costs, including hiring additional staff to work on compliance measures to vet staff, investigate contributions from individuals, and confirm entities on the various terrorism lists (Pantuliano et al., 2011). Organizations working in FTO-controlled environments reported difficulty hiring skilled expatriate staff for fear they would be flagged a terrorist. This was particularly true for American and Canadian aid workers (Mackintosh & Duplat, 2013).

Additionally, the Humanitarian Policy Group produced a series of four case studies on "de-risking" of the financing of humanitarian operations (Gordon & El Taraboulsi-McCarthy, 2018). De-risking refers to "financial institutions closing the accounts of clients perceived as high risk for money laundering or terrorist financing abuse, namely money service businesses, nonprofit organizations, correspondent banks, and foreign embassies" (Durner & Shetret, 2015, p. 3). The analysis of bank de-risking measures in OPT, Somalia, Yemen, and Syria found significant obstacles and, in some cases, obstruction to funds for programming (Gordon & El Taraboulsi-McCarthy, 2018). Gordon and El Taraboulsi-McCarthy (2018) found five common themes across these case studies. First, security has been prioritized over humanitarian needs, resulting in the denial of funds. Delays of financial transactions were common, taking as much as 20 times longer. Organizations reported that delays occurred without explanation or were

attributed to “internal” bank processes (Gordon & El Taraboulsi-McCarthy, 2018). These delays resulted in abandoned programs as they could not be implemented in a timely manner.

As with the previous impact evaluation on humanitarian organizations, Muslim charities faced the greatest financial services obstacles. Organizations reported an increased administrative burden spent working on bank transfers alone. Syrian-based NGOs reported challenges in accessing banking services based on their name. In one case, only after changing their name and logo to remove indication that they were Islamic or Syrian, with the assurance that they were a secular organization, were they able to obtain services (Gordon & El Taraboulsi-McCarthy, 2018).

A third commonality was a reduction in available funds for local organizations in humanitarian crises. This reduction was ascribed to the adoption of counterterrorism measures by local governments and countries in the Middle East. Domestic banks preemptively severed ties with entities that could be perceived as high-risk to avoid issues with global banks (Gordon & El Taraboulsi-McCarthy, 2018). Perception of risk relates to the fourth finding; reputational harm increases bank de-risking. Reputational harm is interlinked. Banks may sever ties with perceived high-risk charities or organizations (Gordon & El Taraboulsi-McCarthy, 2018). Organizations denied bank transfers or services are immediately seen as high-risk. In turn, donors prefer to avoid elevated risk transactions and are more likely to engage in lower bureaucratic transactions. Each action has a compounding effect impacting where and when aid is provided (Gordon & El Taraboulsi-McCarthy, 2018).

The most significant finding of the evaluation is the rise of black-market transactions (El Taraboulsi-McCarthy, 2018; El Taraboulsi-McCarthy & Camilla, 2018). Informal banking is on the rise as bank de-risking restricts transactions and formal banking systems. “Money Transfer

Operators" have become de facto banks in places like Yemen and Somalia (El Taraboulsi-McCarthy, 2018; El Taraboulsi-McCarthy & Camilla, 2018). This conflicts with the very purpose of counterterrorism financial regulations by establishing an unregulated system and increasing the potential for corruption and diversion of funds.

There is a significant operational risk of working in these environments for NGOs. The risk of inadvertently providing material support to FTOs and the potential of criminal penalties and or imprisonment may impact programming. The preventive measures taken by financial institutions, donors, and NGOs substantially impact the timeliness and quality of aid provided. Delays and diversion of assistance may adversely impact the health and wellbeing of populations affected by humanitarian crises, atopic not included in previous evaluations of counterterrorism impacts on the humanitarian sector. The indirect impact of material support legislation on health outcomes is the focus of this evaluation.

CHAPTER THREE

METHODS

Purpose of Evaluation

Displacement, violence, and terrorism are transforming humanitarian space. The provision of principled humanitarian assistance in the context of counter-terrorism policies is increasingly challenging. Despite this obstacle, to date, in the context of humanitarian emergencies, the impact of counter-terrorism policies on health outcomes remains unknown. The purpose of this policy evaluation is to explore the relationship between collective material support legislation and the potential impact on health outcomes in humanitarian emergencies. Factors that may impede timely and robust response can negatively affect the health outcomes of populations affected by crises. Understanding this relationship can build a foundation for improved response through revised policies, humanitarian exemptions, or alternative programming. As such, a policy impact evaluation was conducted, which included a review of relevant legislation and executive orders and quantitative analysis to explore statistical associations between exposures and outcomes (see quantitative methods below).

Evaluation Question:

Are there unintended consequences of applying material support legislation to humanitarian settings, specifically in terms of health outcomes in humanitarian emergencies?

To answer this question, the following sub-questions will be explored:

1. What is the relationship between the presence of sanctions and terrorist organizations operating in an emergency and health outcomes?
2. How do health outcomes vary by the number of terrorist organizations or sanctions in emergencies?
3. How does the presence of a terrorist organization, sanction, or a combination of the two differentially impact health outcomes?

Policy Impact Evaluation

Impact evaluations are conducted after a policy has been implemented to identify changes in key indicators that can be attributed to the policy. For this evaluation, unintended consequences of the policy were explored. The evaluation does not assess the extent to which there was a change in the level of support for or financing terrorist organizations. Rather, it focuses on the subsector of humanitarian response and specific health outcomes.

Figure 4 is a graphical representation of the underlying assumptions, which may impact health outcomes in humanitarian emergencies in the context of counterterrorism and material support legislation. As previously described, the public health problem is the overlap between humanitarian crises and the presence of terrorist organizations. The potential for diversion of donor funds to terrorist organizations presents a real security concern. Multiple policies were enacted to discourage terrorism by establishing prohibited activities, criminalizing financing of

terrorist organizations, freezing of assets terrorists and their supporters, and establishing extraterritorial jurisdiction over crimes committed outside of the United States.

Moderators are ‘preexisting contextual factors which may help or hinder the achievement of the outcomes’ (Centers for Disease Control and Prevention, 2018). The moderators for this model are the presence of terrorist organizations and governmental sanctions imposed on countries or entities. Additionally, there must be a desire or interest for the United States government (USG) to respond to the crises. In the absence of USG funding or American citizens' presence, the material support legislation would not apply.

Mediators are additional contextual factors, which may influence the relationship between material support and health outcomes in emergencies. These can be aggregated into two levels, the non-governmental organizational level and the societal level. The presence of a non-governmental organization (NGO) before the declaration of a humanitarian emergency, the associated administrative burden of complying with the material support regulations, and the perceived risk of prosecution should there be a violation all potentially influence the operations in a given context. If the risk is perceived to be high or the administrative burden costly, an NGO may not see the benefit in establishing a new program. If an NGO is already established, the perceived risks and burden may be minimal; however additional resources or increased donor attention may increase the risks and burden.

At the societal level, governance, safety, and security are also mediators. A lack of strong governance may be linked with political fragility and instability, increasing the risk of humanitarian emergencies (Lopez, Nika, Blanton, Talley, & Garfield, 2020). Governance also addresses equality and inclusion across different groups within a country, which may be a driving factor in intrastate conflict and subsequent emergencies. Safety and security interlink

with access. Highly insecure environments limit access to the affected population and the number and type of NGOs that can respond. Insecure operating environments also increase the cost of response. Furthermore, attacks on aid workers immediately impact access and restrict future access.

Inputs focus on the resources required to mitigate the health and nutrition impacts of a humanitarian response. As defined by population-based health and nutrition needs assessments, the magnitude of the emergencies directly feeds into determining the required resources to meet the humanitarian needs. Once needs are established, including the population affected, responses can be budgeted, and humanitarian appeals issued by the United Nations. Funding is an essential input that may directly impact health outcomes. Underfunded responses are unlikely to achieve health objectives. Health and nutrition needs are often the greatest at the outset of an emergency but can vary in the life of an emergency. Previous evaluations of global counterterrorism measures and humanitarian assistance, presented in Chapter 2, revealed delayed, obstructed, or a lack of funding for responses where terrorist organizations were in control.

Finally, outcomes assess the policy's impact and the interactions included in the model. For this evaluation and model, outcomes are health outcomes. Health outcomes are based on two indicators consistently used to define humanitarian emergencies: the crude mortality rate and global acute malnutrition prevalence. These indicators (outcomes) determine an emergency's existence and form the basis of monitoring response success. Taken together, these various factors included in the logic model form a base to explore and define the relationship between material support legislation and health outcomes in humanitarian emergencies.

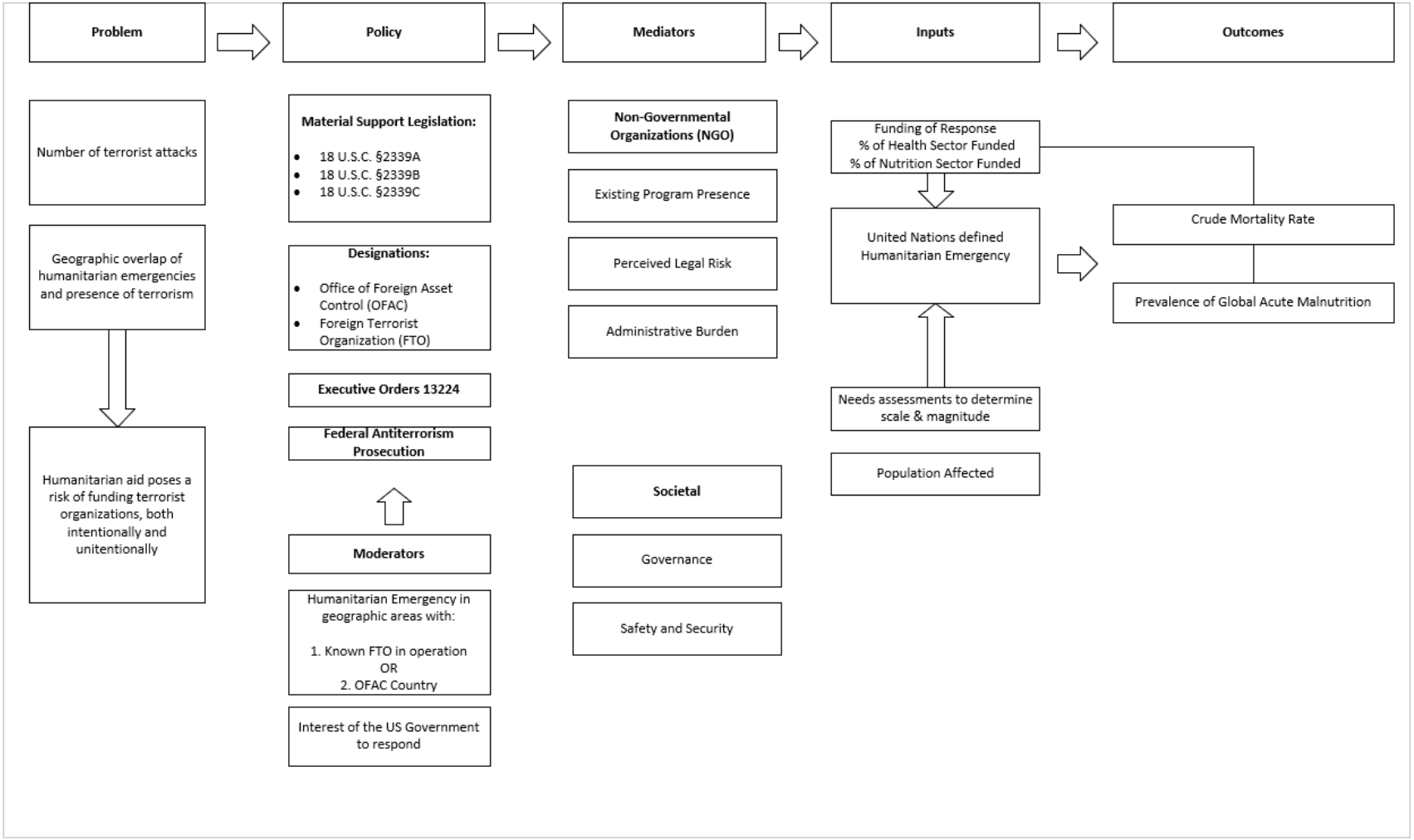

Figure 4: Logic Model: Material Support Legislation Relationship to the Humanitarian Assistance

Scope of Evaluation

Legislation

The main effect of interest is material support legislation enacted by the United States Government (USG). The focus of the analysis is the application of this legislation in humanitarian contexts; as such, the analysis does not address domestic terrorism. Three USG statutes and one executive order were included in the analysis. 18 United States Code (U.S.C) 18 §2339A, §2339B, and §2339C and the Executive order 13224 pursuant to the Presidential powers authorized under the International Emergency Economic Powers Act (IEEPA) of 1977 (Fraterman, 2014) were included within this analysis as they relate to the financing of and material support for terrorism. Additionally, statutes §2339A and §2339B, specifically addressing material support, are the most frequently prosecuted federal anti-terrorism statute and therefore may have the most significant impact on the provision of humanitarian assistance (Doyle, 2016a, 2016b).

Study Period

The scope of this evaluation includes data from 2012-2018, inclusive. The year 2012 was selected as the starting date to avoid capturing the 2011 Horn of Africa famine in which Somalia was heavily affected. A temporary exemption was issued to guarantee humanitarian aid in Somalia despite OFAC sanctions and the presence of Al Shabab, a designated FTO. This exemption could potentially bias the results. Using a range of 2012-2018 also ensured the availability of data via public sources as data collected after 2018 may not have been captured in public repositories at the time of this evaluation.

Quantitative Methods

Design

To assess the relationship between material support legislation and health outcomes in humanitarian emergencies, a multiple-group design ecologic study was employed to explore associations between exposure levels (presence of terrorists or sanctions) and an outcome (the prevalence of global acute malnutrition and the crude mortality rate) (Morgenstern, 1982). The ecological analysis methodology is useful when assessing the effects of policies and legislation and when groups rather than individuals are compared (Morgenstern, 1995). In this evaluation, the effect is not at the individual level, but rather at the group level, the material support legislation. While not all individuals in a specific humanitarian emergency may be directly affected by terrorism, all emergencies are subject to the same counterterrorism and material support legislation (Weiss & Koepsell, 2014).

Additional reasons for selecting the ecologic methodology include the type of data available. The ecological analysis is also an appropriate methodology when only aggregate data is available. This evaluation's data are at the aggregate level for both health outcomes and adjustment variables included in the models. Furthermore, the ecologic methodology can allow for comparison across a larger range of populations, in this case, discrete humanitarian emergencies occurring between 2012-2018.

Data Sources and Indicators

Unit of Analysis

The unit of analysis for this study is annual country emergencies as defined yearly by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). OCHA projects the annual humanitarian needs each year in the Global Humanitarian Overview. This document

includes countries with humanitarian appeals, refugee response plans, and other appeals and details the financial requirements per appeal and combined into a global need. The Global Humanitarian Overview includes emergencies where the government has declared an emergency and is willing to receive external support. Emergencies included in the analysis were abstracted from the OCHA annual overviews from 2012-2018 (United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2012, 2013, 2014, 2015, 2016, 2017, 2018a). Emergencies not captured at the start of the calendar year were abstracted from the following year's response summaries.

Exposure Variables

Matrix of Foreign Terrorist Organizations and Sanctions

The Office of Foreign Assets Control (OFAC) of the US Department of the Treasury is responsible for enforcing economic sanctions outlined in Executive Order 13224. OFAC releases an annual Terrorist Asset Report (TAR). The TAR report details sanctions against foreign terrorist organizations, their supporters, and financiers. Sanctions aligning with the defined period (2012-2018) were abstracted from the annual reports (Office of Foreign Assets Control U.S. Department of the Treasury, 2012, 2013, 2014, 2015, 2016, 2017, 2018), obtained from the OFAC website on counterterrorism, Table 4 (OFAC, 2020a). In addition, OFAC maintains a searchable database, “Sanctions List Search,” where all sanctions are contained (OFAC, 2020b). Various criteria were used to obtain terrorism-related sanctions. Search terms used were by individual countries with humanitarian emergencies as identified by OCHA paired with the type of sanction program

FTOs, as defined by the U.S. Department of State (DOS), were compiled from the annual Country Reports on Terrorism, Table 3. Within each report, there is a designated chapter

entitled “Foreign Terrorist Organizations” (Office of Foreign Assets Control U.S. Department of the Treasury, 2012, 2013, 2014, 2015, 2016, 2017, 2018). The chapter details the designated FTOs with a description of the organization, their activities, location/area of operation, and funding. From each report (2012 -2018), FTOs and the locations/area of operation were abstracted and compiled in an excel spreadsheet. If an FTO was removed from the DoS list during the timeframe (2012-2018), it was coded to reflect the years where it was active.

Additional data abstracted from the annual Country Reports on Terrorism was the list of Terrorist Safe Havens presented in chapter five of the reports. The DoS defines safe havens as “ungoverned, under-governed, or ill-governed physical areas where terrorists are able to organize, plan, raise funds, communicate, recruit, train, transit, and operate in relative security because of inadequate governance capacity, political will, or both” (DoS, 2015, p. 306). Finally, countries designated as State Sponsors of Terrorism were also abstracted from the same reports, chapter 3. States sponsors of terrorism are determined by the Secretary of State when a ‘government has repeatedly provided support for acts of international terrorism’(DoS, 2015, p. 299).

A matrix was created using the data abstracted from OFAC, and the DOS FTO reports. OCHA defined emergencies were aligned with the data. First, a simplified matrix was created where countries were categorized by year as having an active sanction (country, individual, or entity), an operating FTO, or a support/safe haven designation, or all, Table 4. A more detailed matrix was created to capture the intensity of FTOs in each country experiencing an emergency.

Table 3: Exposure Variables: Definitions and Sources

Variable	Definition	Source
Foreign Terrorist Organizations		
Absolute Number	Number of terrorist organizations designated by the Department of State operating in a country in a year	Department of State • Annual Country Reports on Terrorism, 2012-2018
Terrorism Sponsors and Safe Havens		
Absolute Number	Designation of a country as State Sponsor of Terrorism	Department of State • Annual Country Reports on Terrorism, 2012-2018
Absolute Number	Designation of a country as a Safe Haven for Terrorism	Department of State • Annual Country Reports on Terrorism, 2012-2018
Office of Foreign Asset Control Sanctions		
Absolute Number	Presence of country level sanction in a year as reported by the Office of Foreign Asset Control	Department of the Treasury • Sanctions Programs and Country Information, 2012-2018

Table 4: Presence of Foreign Terrorist Organizations and Office of Foreign Asset Control Sanctions by Emergency, 2012-2018*

Emergency	Foreign Terrorist Organizations (FTO), Office of Foreign Asset Control (OFAC) Sanctions, Terrorist Safe Haven (SH), and State Sponsor of Terrorism (SST)						
	2012	2013	2014	2015	2016	2017	2018
Afghanistan	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH
Bangladesh							FTO
Burkina Faso	SH	SH	SH	SH	FTO, SH	FTO, SH	FTO, SH
Burundi						OFAC	OFAC
Cameroon			FTO	FTO	FTO	FTO, SH	FTO, SH
CAR	None	None	OFAC	OFAC	OFAC	OFAC	OFAC
Chad	SH	SH	SH	SH	FTO, SH	FTO, SH	FTO, SH
Cote d'Ivoire	None				FTO		FTO
Djibouti	None	None	None	None	None	None	
DPRK							OFAC
DRC	OFAC	OFAC	OFAC	OFAC	OFAC	OFAC	OFAC
Ethiopia					None	None	None
The Gambia		None	None	None	None		
Guatemala					None		
Haiti	None	None	None		None	None	None
Honduras					None		
Iraq				FTO OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH
Kenya	None	None					
Liberia	None						
Libya					FTO, OFAC	FTO, OFAC	FTO, OFAC
Mali	FTO	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH
Mauritania	FTO, SH	SH	FTO, SH	SH	FTO, SH	FTO, SH	FTO, SH
Myanmar		None	None	None	None	None	None
Niger	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH
Nigeria			FTO, SH	FTO, SH	FTO, SH	FTO, SH	FTO, SH
oPT	FTO	FTO	FTO	FTO	FTO	FTO	FTO
Philippines	FTO, SH	FTO, SH	FTO, SH				
Senegal		None	None	None	None	None	None
Somalia	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH
South Sudan	None	OFAC	OFAC	OFAC	OFAC	OFAC	OFAC
Sudan	OFAC, SST	OFAC, SST	OFAC, SST	OFAC, SST	OFAC, SST	OFAC, SST	OFAC, SST
Syria		FTO, OFAC, SST	FTO, OFAC, SST	FTO, OFAC, SST	FTO, OFAC, SST	FTO, OFAC, SST	FTO, OFAC, SST
Ukraine				OFAC	OFAC	OFAC	OFAC
Yemen	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH	FTO, OFAC, SH
Zimbabwe	OFAC						

*Gray indicates absence of an emergency appeal; Central African Republic (CAR), Democratic Republic of Congo (DRC), Occupied Palestinian Territory (oPT), Democratic People's Republic of Korea (DPRK)

Outcome Variables

Global Acute Malnutrition

Global acute malnutrition (GAM) is a population-level indicator that includes all forms of acute malnutrition (Talley & Boyd, 2018); children between 6 to 59 months of age who have a weight-for-height Z score <-2 and children with bilateral pitting edema (kwashiorkor), Table 5. The prevalence of acute malnutrition is an indicator of a humanitarian crisis's severity. At a prevalence of 15% GAM or higher, a context is classified as “very high” acute malnutrition and considered an emergency, Table 7 (Talley & Boyd, 2018; World Health Organization & United Nations Children's Fund, 2019, p. 82).

GAM is generated from population-based household nutrition surveys. Survey methodology has been standardized under the Standardized Monitoring and Assessments of Relief and Transitions (SMART) program (SMART, Action Against Hunger Canada, & Group, 2017). The United Nations High Commissioner for Refugees (UNHCR) also generates the GAM prevalence in refugee contexts using a similar methodology called Standardized Expanded Nutrition Surveys (SENS) (United Nations High Commissioner for Refugees, 2020b).

Regardless of the data source, data quality analysis is performed using the Emergency Nutrition Assessment (ENA) software (Juergan Erhardt, 2020). ENA is a free downloadable software for the analysis of household nutrition data. ENA software conducts survey analysis and adds a population standardized Z-score based on height and weight. Additionally, the 95% confidence interval for complex surveys is computed by ENA. The software is used to detect measurement bias and report on the data's plausibility. A corresponding report is produced with values for key areas (number of records flagged for being outside of ± 3 standard deviations from the survey mean for weight-for-height Z-scores, digit preference for height and weight, age

ratios, sex ratios, standard deviation for weight for height, and skewness, kurtosis, and Poisson distributions for weight-for-height Z-scores). Values are assessed, and the survey is rated as excellent, good, acceptable, or poor.

Data on GAM prevalence from 2012-2018 were obtained from two key sources. Data were abstracted from nutrition cluster country sites. Searches of each identified country with a corresponding coordination cluster were conducted on the OCHA Humanitarian Response site (OCHA, 2020d). For example, Afghanistan was selected under operations, followed by the nutrition cluster selection. Within this filter, assessments were selected. All survey reports between 2012 and 2018 were then downloaded. Data were abstracted from the survey reports and compiled in an excel spreadsheet. Data included: country, site if available, year of survey, agency conducting the survey, survey method (cluster or systematic random sample), the point prevalence of GAM, 95% confidence interval, the standard deviation for the weight-for-height Z score, and the plausibility score from ENA.

Data was also obtained from a compiled database of UNHCR and Action Against Hunger nutrition surveys to which the researcher had access. Action Against Hunger is a nongovernmental organization focusing on nutrition programming and assessments. All data was aggregated data in the form of survey reports or databases; no raw datasets were available. Therefore, a reanalysis of the data was not performed.

Data where the GAM prevalence was calculated using the National Center for Health Statistics/ World Health Organization (WHO) reference for child growth, an older anthropometric reference, were excluded from the analysis. The 2006 WHO Child Growth Standards for children from birth to 5 years to are currently recommended for the calculation and analysis of anthropometric data (World Health Organization & United Nations Children's Fund,

2019). Data were classified based on the ENA plausibility checks. Individual plausibility scores were recorded but not used as there was an adjustment made to the categorization of raw scores implemented in 2014 (SMART et al., 2017). Only surveys with a categorical plausibility score of acceptable or higher rating were included in the analysis. If the ENA plausibility score was missing, but a standard deviation for the weight-for-height Z-score was within the acceptable range of 0.8 to 1.2 Z-scores as defined by the SMART survey guidance (SMART et al., 2017), the point prevalence for GAM was included in the analysis.

For the country of Somalia, surveys are conducted twice a year to account for the *Deyr* (September through November) and *Gu* (April through June) seasons, the two main rains (Food Security and Nutrition Analysis Unit-Somalia, 2021). Surveys from the *Deyr* season were included in the analysis to have a standardized point of time across all emergency years. For all other countries, surveys were not conducted in a bimodal fashion.

Table 5: Outcome Variables: Definitions and Sources

Variable	Definition	Source
Prevalence of Global Acute Malnutrition	The proportion of children 6 to 59 months of age with weight-for-height Z score <-2 and cases of Kwashiorkor Critical Threshold: 15%	Population-based household surveys • Country Nutrition Cluster Sites • Database of United Nations and Action Against Hunger nutrition surveys
Crude Mortality Rate	All age, all-cause mortality expressed as deaths/10,000 persons/day Emergency Threshold: 1 death/10,000/day	Population-based household surveys • Country Nutrition Cluster Sites • Country Health Cluster Sites

Crude Mortality Rate

The second indicator used to define a humanitarian emergency's severity is the Crude Mortality Rate (CMR). CMR is all age and all-cause mortality in the affected population during a defined period, Table 5. The emergency threshold for an emergency is 1 death/10,000 persons/day (Centers for Disease Control, 1992). While mortality is included in the SMART methodology, it is not always included in surveys, and it is not included in SENS surveys. Therefore, there is not a one-to-one correspondence between GAM and CMR data sources.

CMR data were obtained from similar sources as GAM. Search criteria for mortality surveys followed a similar format as for the nutrition surveys in the OCHA Humanitarian Response site (OCHA, 2020d). For example, under operations, Afghanistan was selected,

followed by the category of assessments. Within the assessments tab, mortality was used as the search criteria. All survey reports between 2012 and 2018 were then downloaded. Data were abstracted into an excel spreadsheet, including country, site if available, year of survey, the agency conducting the survey, survey method (cluster or systematic random sample), CMR, 95% confidence interval, and the recall period covered by the survey.

Surveys in English and French were included, while other languages were excluded. Surveys where a CMR estimate was provided but the confidence interval was missing were not included in the analysis, as the quality of data could not be assessed.

Predictor variables

Additional data was sourced to include in the analysis, specifically, data that could impact GAM and CMR. In a review of the Severity Index Database, which reflects the severity of a given crisis, Lopez et al. identified eleven indicators with the strongest association to severity, particularly on societal governance and humanitarian access and safety (Lopez et al., 2020). Data on humanitarian access was not available before 2016 and was not included in the analysis.

Societal Governance

Under governance, the rule of law was a significant indicator of severity. Data for each emergency and each year was sourced from The Worldwide Governance Index (WGI) (Kauffman & Kraay, 2020) and the Bertelsmann Stiftung's Transformation Index (BTI) (Bertelsmann Stiftung Foundation, 2020a), Table 6. The WGI rule of law is a composite index that captures "perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" (Kaufmann, Kraay, & Mastruzzi,

2010, p. 4). The BTI Rule of law index is derived from 4 criteria: separation of powers, an independent judiciary, prosecution of office abuse, and civil rights. Each criterion is scored from 1-10 and then averaged to generate a Rule of law score (Bertelsmann Stiftung Foundation, 2020b). The BTI is produced biennially.

The Freedom in the World ranking assesses political rights and civil liberties in countries based on the Universal Declaration of Human Rights, Table 7 (Freedom House, 2020b). Data was sourced from the 1973-2020 raw data accessible from the Freedom House (Freedom House, 2020a). Freedom in the World assesses ten political rights and fifteen civil liberties, each rated from 0 to 4, where 0 represents the least amount of freedom and four the greatest. Political rights include the electoral process, political pluralism and participation, and government functioning. Civil liberties are comprised of freedom of expression and belief, associational and organizational rights, the rule of law, and personal autonomy and individual rights. Forced demographic change is also addressed and scored by subtracting 1-4 points. The worse the situation, the more points are subtracted. The scores generated for political rights and civil liberties are equally weighted and used to create a country status of Free, Partly Free, or Not Free (Freedom House, 2020b).

The final indicator to reflect governance is the Gender Inequality Index (GII), Table 8. The GII reflects a country's development status and discrimination towards women (United Nations Development Programme [UNDP], 2019). The GII measures reproductive health, empowerment, and economic status. Reproductive health includes the maternal mortality ratio and adolescent birth rates. Empowerment captures the proportion of parliamentary seats occupied by females and the proportion of adult females and males aged 25 years and older with at least some secondary education. Finally, economic status reflects participation in the labor

market, specifically the labor force participation rate of female and male populations aged 15 years and older (UNDP, 2020a). The GII is scored between 0 to 1, where 0 is equivalent to complete equality and 1 where one gender "fares as poorly as possible in all measured dimensions (UNDP, 2019, p. 7). Data was sourced from the United Nations Development Programme (UNDP) Human Development Report Database (UNDP, 2020a).

Safety and Security

Two domains from the Global Peace Index (GPI) were included to capture safety, conflicts, and conflict-related deaths, Table 8. The GPI scores each domain from one to five, where the lower the score, the more peaceful the context (Institute for Economics and Peace, 2020a). Deaths from conflict and internal conflicts were a proxy for violence in a country. GPI defines deaths from internal conflicts defined as the "number of battle deaths from internal conflict, which is defined as a contested incompatibility that concerns government and or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in a year" (Institute for Economics and Peace, 2020a). The number of internal conflicts in a country was also included. This indicator captures both the number and duration of conflicts, including civil, interstate, one-sided, and non-state conflicts (Institute for Economics and Peace, 2020a).

Crisis Characteristics

The relative population affected by the crisis was calculated, Table 9. The population affected was divided by the total population of the country. The affected populations were abstracted from the OCHA annual overviews from 2012-2018 (OCHA, 2012, 2013, 2014, 2015, 2016, 2017, 2018a). The country's total population was obtained from the World Bank databank for populations and estimates (The World Bank, 2020).

OCHA maintains the Financial Tracking Service for humanitarian appeals. This is a publicly accessible and searchable database. Data included in the database contains by appeal and year the amount of funding required and received, the source of funds (donor), the receiving organization, and the activities funded (OCHA, 2020a). Data on funding per appeal by year and country was abstracted, specifically the funding requirements per appeal, funding received per appeal, and funding by nutrition and health sectors.

An additional variable was created from this data, funds per sector per emergency, Table10. The total funds received against the emergency sector appeal by sector (nutrition and health) were divided by the respective sector's total appeal. This variable was created to capture funding gaps or excess that could impact the key outcomes of GAM and CMR.

Development

One final indicator was included in the analysis, the Human Development Index (HDI) produced by UNDP, Table 9 (UNDP, 2020b). This indicator is broader than just the economic growth of a country. The HDI incorporates health in terms of life expectancy at birth. Knowledge is captured by expected years of schooling for children starting school and mean years of school for adults aged 25. Finally, gross national income per capita reflects the standard of living. This composite index does not reflect inequality, security, empowerment or poverty (UNDP, 2020b). Data were extracted for the UNDP Human development reports data Center for each country by year (UNDP, 2020b).

Table 6: Predictor Variables: Societal Governance Rule of Law, Definitions and Sources

Variable	Definition	Source
Rule of Law		
Bertelsmann Stiftung's Transformation Index	Composite of separation of powers, independent judiciary, prosecution of office abuse, and civil rights Expressed as a score of 1 to 10, where 1 equals hardline autocracy, and 10 equals democracy in consolidation	Bertelsmann Stiftung's Foundation • Transformation index database
Worldwide Governance Index	Perceptions of the extent to which agents have confidence in and abide by society's rules, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Expressed standard normal units, ranging from -2.5 to 2.5, where higher values correspond to better governance	World Bank • Worldwide Governance Indicators Database

Table 7: Predictor Variables: Societal Governance, Definitions and Sources

Variable	Definition	Source
Freedom in the World Ranking	Composite of political rights and civil liberties in countries Political rights: the electoral process, political pluralism and participation, and government functioning. Civil liberties: freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy, and individual rights Expressed as a rating of Free, Party Free, or Not Free	Freedom House, • Freedom in the World Database
Gender Inequality Index	Composite of gender inequality in Reproductive Health: • Maternal Mortality ratio • Adolescent birth rate Empowerment: • Female and male population with at least secondary education • Female and males shares of parliamentary seats Economic status: • Female and male labor force participation rates Expressed as a score between 0 and 1, where higher scores indicate greater inequality	United Nations Development Programme • Human Development Report Data Center

Table 8: Predictor Variables: Safety and Security, Definitions and Sources

Variable	Definition	Source
Safety and Security		
Number of Conflict Deaths	Deaths occurring in a conflict that involves a government and/or territory where the use of armed force between two parties, of which one is a government of a state, results in 25 battle deaths a year. Expressed as a scale of 1 to 5: 1= 0-23 deaths 2= 24-998 deaths 3= 999 – 4,998 deaths 4=4,999- 9,998 deaths 5= >9,999 deaths	Institute for Economics and Peace, Vision of Humanity • Global Peace Index database
Number of Internal Conflicts	Number: The number of interstate armed conflicts, internal armed conflict (civil conflicts), internationalized internal armed conflicts, one-sided conflict, and non-state conflict located within a country's legal boundaries. Duration: A score is assigned based on the number of years out of the last five that conflict has occurred. Expressed as a scale of 1 to 5, where 1 equals no internal conflict, and 5 equals very high levels of internal conflict.	

Table 9: Predictor Variables: Crisis and Development Characteristics, Definitions and Sources

Variable	Definition	Source
Relative Population Affected	Population affected by the emergency divided by the total population of the country. Expressed as a percentage	Affected Population: • United Nations Office for the Coordination of Humanitarian Affairs Global Humanitarian Overviews 2012-2018 Total Population: • World Bank Databank for Population Estimates
Funding		
Health Sector	Per appeal by emergency by year: Total funds received by the health sector divided by the total funds requested by the health sector. Expressed as percentage	United Nations Office for the Coordination of Humanitarian Affairs • Financial Tracking Service
Nutrition Sector	Per appeal by emergency by year: Total funds received by the nutrition sector divided by the total funds requested by the nutrition sector. Expressed as percentage	
Human Development Index	Long and healthy life • Life expectancy at birth Knowledge • Expected years of schooling for children entering school • Mean years of schooling for adults aged 25 years Decent Standard of living • Gross national Income per capita	United Nations Development Programme • Human Development Report Data Center

Statistical Analysis

Generalized linear regression models were constructed to assess the impact of the presence of FTOs, safe-haven status, and country-level sanctions on the prevalence of GAM and the CMR, using methods described by Morgenstern for multiple group ecologic study designs. Using an ecologic model, the unit of observation was the emergency. Exposure variables included both the individual presence of FTOS, safe-haven designation, or sanctions. Two different outcomes were modeled, the mean prevalence of GAM and the CMR. All predictor variables were included in the initial models, including governance, safety, the relative population affected, human development, and the percent each sector was funded. Confounders were treated as covariates in the model per Morgenstern's (1995) methods.

The data in this evaluation contains repeated measurements for GAM and CMR. For each country, there is the potential for GAM or CMR measurement for each year where an emergency was designated. Additionally, the data for both outcomes is at the population level and not the individual level. Mean values for GAM and CMR by country and year were generated. As such, generalized estimating equations (GEE) can be used to model population-based parameters and standard errors (Hong & Ottoboni, 2017; Hubbard, 2010). The *Proc Genmod* with the *Repeated* statement SAS procedure was used to generate GEE models (SAS Institute Inc., 2013). All analysis was conducted using SAS software ©, version 9.4, SAS Institute Inc., Cary, NC, USA.

As the GEE method is based on quasi-likelihood theory and not maximum likelihood estimation, some statistics of generalized linear models (GLM) do not apply, such as likelihood ratio tests (Cui, 2007; Goodrich & Sturgeon, 2015; Smith & Smith, 2006). In GLM, Akaike's information criterion (AIC) is used for model selection (Cui, 2007). For GEE, the AIC method is modified and a quasi-likelihood under the independence model criterion (QIC) method is used to

select the best model and working correlation structure (Cui, 2007). In *Proc Genmod*, the GEE Fit Criteria is the output containing QIC (Goodrich & Sturgeon, 2015; SAS Institute Inc., 2013). The lower QIC values indicate better models.

The best correlation structure for each response (outcome) variable was generated by running the *Proc Genmod* procedure on each predictor variable. Determining the appropriate structure is 'important as the overall model fit, parameter estimates and standard errors are sensitive to the structure' (Barnett, Koper, Dobson, Schmiegelow, & Manseau, 2010, p. 16). Three structures were tested: independence, where the correlation between timepoints is independent; exchangeable, where the correlation between timepoints is equal; and unstructured, where the correlation between all timepoints may be different (Barnett et al., 2010). The QIC was assessed. The structure with the lowest QIC values across variables was selected per outcome.

Type III analysis was specified in the model statement of the *Proc Genmod* procedure. With repeated measures, Type III analysis yields generalized score statistics, which include a Wald chi-square test statistic and associated p-value (Goodrich & Sturgeon, 2015; SAS Institute Inc., 2013). Additionally, GEE parameter estimates are generated. For each predictor variable, a parameter estimate, empirical standard error estimate, confidence interval, Z score, and p-value are generated (Smith & Smith, 2006).

Estimated regression parameter covariance and estimated correlation matrices, empirical and model-based, were generated by included the *covb* and *corrb* options in the *model* statement. The correlation matrix was reviewed to identify correlated predictor variables in the model. Correlations estimates with absolute values greater than 0.7 were considered to be highly correlated. The covariance matrix was assessed to identify the direction of linear relationships.

Hierarchical backwards elimination was used to select the best model (Lilja, 2020). An initial model was created for each response (outcome) variable with the exposure variables and all predictor variables. Inclusion in the model was set at a threshold of p=0.1. The model was run and for each iteration, the predictor variable with the largest p-value associated with the Score Statistic for Type 3 GEE analysis was dropped from the successive model. This process was repeated until all variables left in the model had a p-value less than or equal to 0.1. All models were checked for convergence. QIC values were assessed for Fit Criteria. GEE parameter estimates were used to identify significant predictors for the response (outcome) variable of interest, GAM, and CMR. Statistical significance was set at p=0.05.

Models were created for the original data and a second dataset data set, which contained imputed data for missing values in predictor variables. The BTI is produced on a biennial basis in even years. The average of the year before and after was taken to create a value for odd years. The annual report for the Global Peace Index was not produced in 2012. For the year 2012, conflicts and deaths were imputed by taking the average of the values for the years 2011 and 2013 for Afghanistan, Burkina Faso, Chad, Somalia, South Sudan, and Yemen. For Djibouti, Nigeria, and South Sudan, the GII was missing. The value for the least developed country category was used as a proxy, based on the HDI ranking of each country. Additionally, five countries were missing a single year of data for the GII. Data were imputed by taking the average of the year prior and the year after (Burkina Faso 2014, Central African Republic 2017, Chad 2016, Mali 2013, and Mauritania 2013). The last year that an HDI and GII ranking was produced for Somalia was 2012. These figures were assigned to all years of analysis. The exception was for funding levels of the response. Iraq did not request nutrition sector funding in 2015. As this is different from receiving 0 funds against a request, no value was included or imputed. If the

response (outcome) variable was missing, data were not imputed. There were no missing values for exposure variables. Additionally, freedom was collapsed to two levels, partly free and not free, from the original three levels.

Ethical Review

This evaluation was submitted to the Institutional Review Board of the Centers for Disease Control and Prevention. It was determined not to be research that required a human research protection office review (February 2, 2020, CDC Accession number: CGH-ERRB-2/4/20-c76d8). Additionally, the work scope was reviewed by the Human Subjects Office of the University of Georgia, where it was assigned a determination of not human research.

CHAPTER 4

RESULTS: MALNUTRITION, MORTALITY, AND MATERIAL SUPPORT

Inclusion and Exclusion of Data

Between 2012-2018, 34 countries with the OCHA designated emergencies were identified (Appendix A). Ten countries (Côte d'Ivoire, Democratic People's Republic of Korea, The Gambia, Guatemala, Honduras, Liberia, Occupied Palestinian Territory, Senegal, Ukraine, and Zimbabwe) were dropped from the analysis because of a lack of available nutrition and mortality data, leaving 24 countries. Table 10 presents the countries included in the analysis.

A total of 1414 surveys were identified across the 24 countries included in the analysis. Two surveys were excluded as they were only available in Arabic, Figure 5. Of the remaining 1412 surveys, 591 surveys were excluded from the analysis of crude mortality. A CMR estimate was not included in 384 of the surveys. An additional 175 surveys provided a CMR estimate. However, confidence intervals were missing, and therefore, the surveys were excluded from the analysis. A total of 853 surveys remained with a CMR estimate and a corresponding confidence interval.

For analysis GAM, 8 of the 1412 surveys did not provide an estimate. A further 36 surveys included a GAM prevalence. However, it was based on the National Centers for Health Statistics growth reference, which is no longer the standard for assessing growth of children under five years of age (SMART et al., 2017; World Health Organization & United Nations Children's Fund, 2019) and therefore were excluded. Data quality could not be assessed for 200 surveys due to a missing ENA plausibility score or a standard deviation for the weight-for-height

z score. Finally, 12 surveys were excluded for implausible data based on the ENA plausibility score. A total of 1156 surveys remained for the analysis of GAM.

Table 10: Countries with United Nations Office for the Coordination of Humanitarian Affairs Designated Humanitarian Emergencies Included in the Analysis, 2012-2018*

Country	2012	2013	2014	2015	2016	2017	2018
Afghanistan							
Bangladesh							
Burkina Faso							
Burundi							
Cameroon							
Central African Republic							
Chad							
Djibouti							
Democratic Republic of Congo							
Ethiopia							
Haiti							
Iraq							
Kenya							
Mali							
Mauritania							
Myanmar							
Niger							
Nigeria							
Philippines							
Somalia							
South Sudan							
Sudan							
Syria							
Yemen							

*Note: Gray boxes indicate a year where a humanitarian emergency was declared

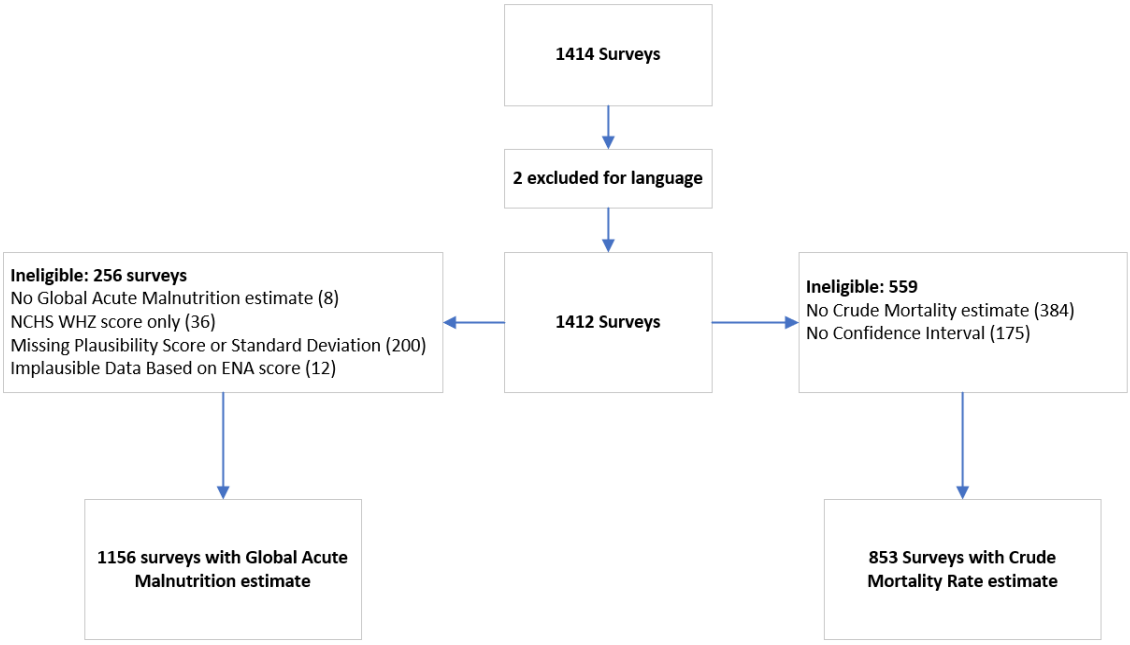

Figure 5: Survey Exclusion for Global Acute Malnutrition and Crude Mortality Analysis

Descriptive Analysis

Exposure Variables

The number of terrorist organizations operating in a country varied by year. Forty-two percent (10/24) of countries did not have a designated terrorist organization in operation between 2012-2018: Burundi, Central African Republic, Djibouti, Democratic Republic of Congo, Ethiopia, Haiti, Kenya, Myanmar, South Sudan, and Sudan. Afghanistan and Syria, had the greatest number of terrorist organizations ranging from 7 to 10 in Afghanistan and 5 to 10 in Syria, Figure (6). Iraq ranged from 4 to 5, and the Philippines also reached 4 operating organizations in four of the seven years during the study period.

Nine countries (37.5%) had OFAC country-level sanctions: Burundi, Central African Republic, Democratic Republic of Congo, Iraq, Sudan, Somalia, South Sudan, Syria, and

Yemen. Thirteen countries (54%) were designated as Safe Havens for terrorism: Afghanistan, Burkina Faso, Central African Republic, Cameroon, Iraq, Mali, Mauritania, Niger, Nigeria, the Philippines, Somalia, Chad, and Yemen. Only two countries (8%) were designated State Sponsors of Terrorism, i.e., Sudan, and Syria. Overall, only four (17%) countries were free from the presence of terrorist organizations, including designation as a Safe Haven or State Sponsor, and sanctions: Djibouti, Ethiopia, Haiti, and Myanmar.

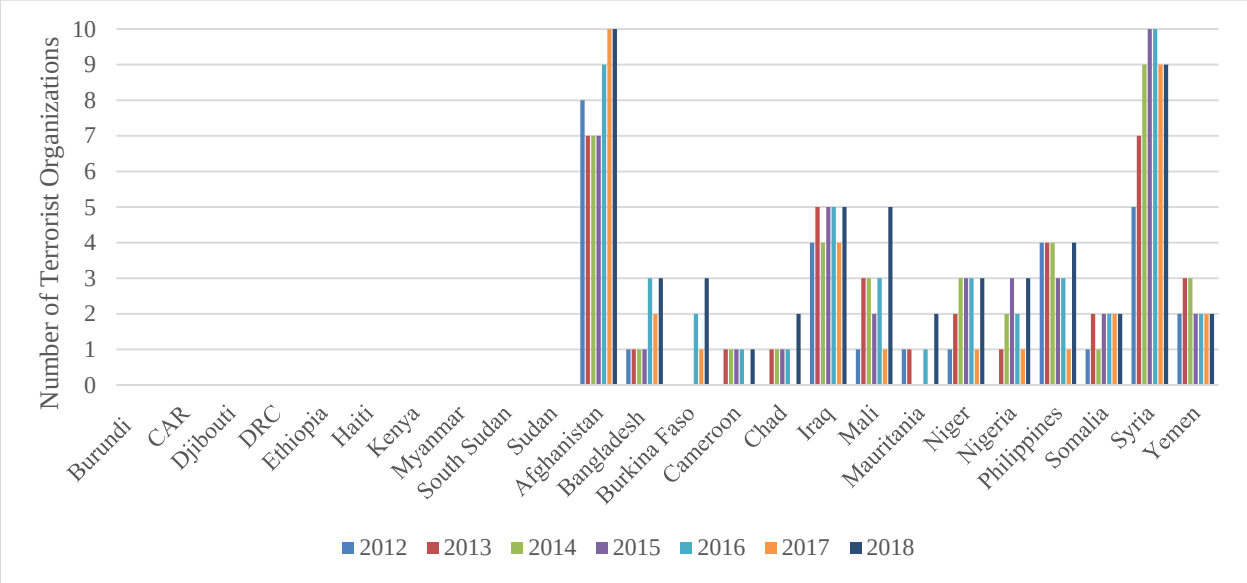

Figure 6: Distribution of Terrorist Organizations by Country by Year, 2012-2018

Outcome Variables

Global Acute Malnutrition

Almost sixty percent of surveys had a GAM prevalence considered high (10 to 15%) or very high (15% or higher) based on the WHO classification, indicating a critical nutritional situation (World Health Organization & United Nations Children's Fund, 2019), Table 11. Four countries accounted for 80% of all surveys where the GAM prevalence was 15% or higher: Yemen (7%), Somalia (18%), Chad (19%), and South Sudan (36%). Year 2012 had the greatest percentage of surveys where GAM was classified as very high.

Table 11: Nutrition Survey Distribution by World Health Organization Thresholds

Threshold Based on Prevalence of Global Acute Malnutrition	Number of Surveys, No. (%) N= 1156
Very Low (<2.5)	18 (1.6)
Low (2.5 < 5)	107 (9.3)
Medium (5 < 10)	341 (29.5)
High (10 < 15)	342 (29.6)
Very High (>= 15)	348 (30.1)

The mean GAM prevalence ranged from a low of 1.13 in Syria in 2014 to a high of 21.5 in Ethiopia in 2016 (Figure 7 and Appendix B). The mean GAM in Djibouti, Niger, South Sudan, Sudan, and Somalia was greater than 10% in all years where data was available. In Haiti, Iraq, and the Philippines, the mean GAM was <5% in all years. Seven countries had at least one year where the mean GAM exceeding the 15% threshold that defines an emergency (Chad, Ethiopia, Myanmar, Somalia, South Sudan, Sudan, and Yemen).

Crude Mortality

CMR exceeded the emergency threshold of 1 death per 10,000 persons per day in 107 (12.5%) of surveys included in the analysis. 2014 had the greatest percentage of surveys, 21%, exceeding the emergency threshold. Nine countries had individual surveys with a CMR greater than or equal to 1: Cameroon, Chad, the Democratic Republic of Congo, Kenya, Mali, Mauritania, Niger, Somalia, and South Sudan. Fifty-seven percent of elevated CMR occurred in South Sudan, where mortality rates reached 4.77 death per 10,000 persons per day.

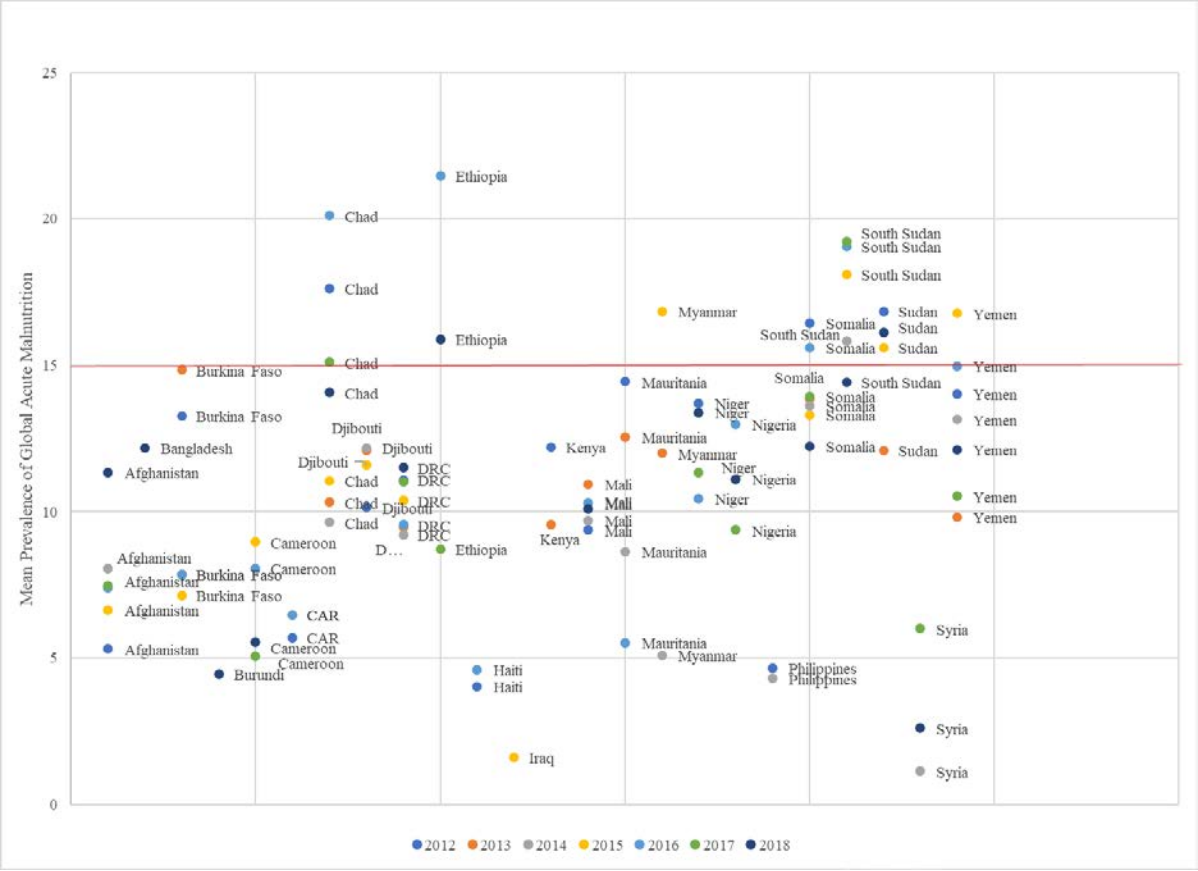

Figure 7: Mean Prevalence of Global Acute Malnutrition by Country, 2012-2018

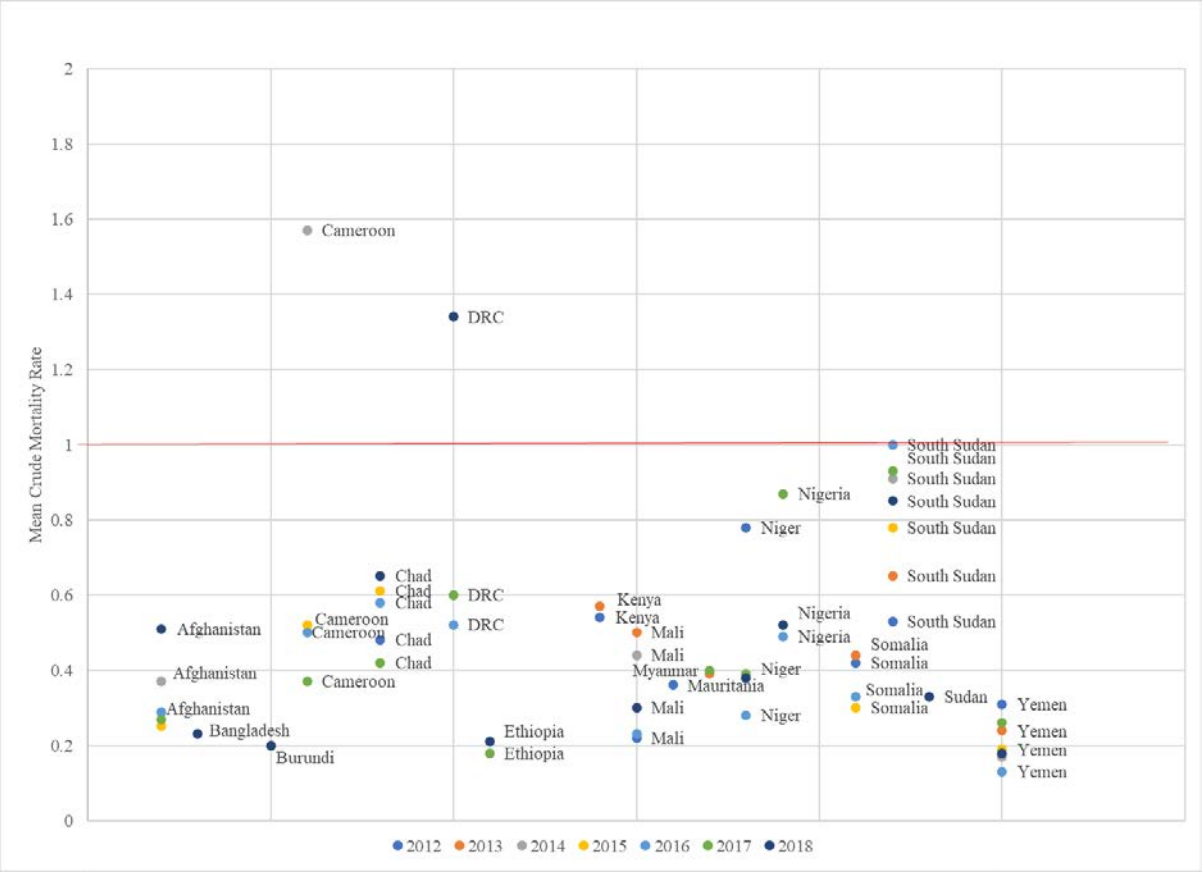

Figure 8: Mean Crude Mortality Rate by Country, 2012-2018

The mean CMR was calculated for each country. CMR fluctuated by year across countries, Figure 8 and Appendix C. Three countries had mean CMRs exceeding the threshold: Cameroon (1.57, 2014), South Sudan (1, 2016), and the Democratic Republic of Congo (1.34, 2018). Mortality was not available for Burkina Faso, the Central African Republic, Djibouti, Haiti, Iraq, the Philippines, and Syria.

Predictor Variables

Societal Governance

No countries included in the analysis were considered to have a strong rule of law per the WGI of the World Bank, Figure 9, as indicated by the negative scores. Somalia, Syria and South Sudan had the lowest ratings, whereas Burkina Faso, Kenya, and the Philippines had the highest ratings, however still on the weak end of the index. Bangladesh, the Democratic Republic of Congo, Ethiopia, Kenya, Mauritania, Nigeria, the Philippines, Somalia, and Sudan improved over the 7-year study period. However, seven countries worsened over time: Burundi, Djibouti, Iraq, Mali, South Sudan, Syria, and Yemen.

When using the BTI to indicate the rule of law, Somalia remained as the country with the lowest rating, Figure 10. Six countries had an overall decrease in their rating: Afghanistan, Bangladesh, Burkina Faso, Central African Republic, Myanmar, and Niger. Myanmar had the largest overall decline in the BTI. Countries with improving rule of law ratings over time included: Burundi, Chad, Haiti, Iraq, Mali, Nigeria, the Philippines, South Sudan, Sudan, Syria, and Yemen. Yemen had the largest increase in the BTI rating. Data was not available for Djibouti for all years and for South Sudan for the year 2018.

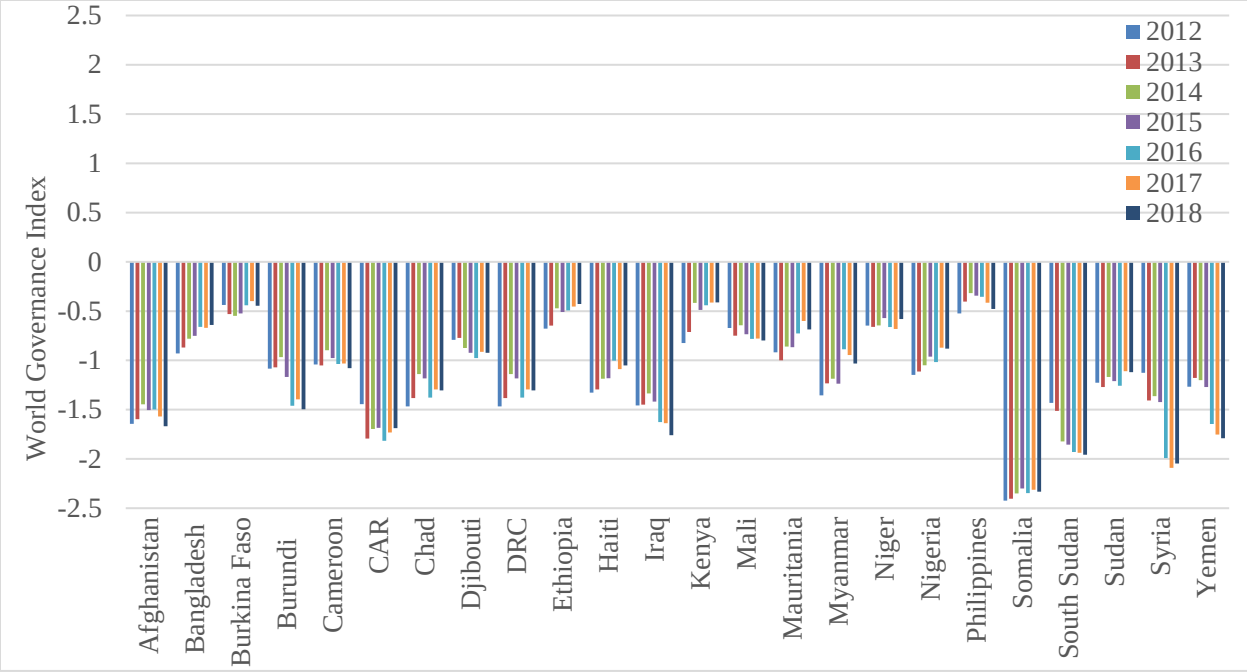

Figure 9: Country World Governance Index Rankings between 2012-2018, World Bank

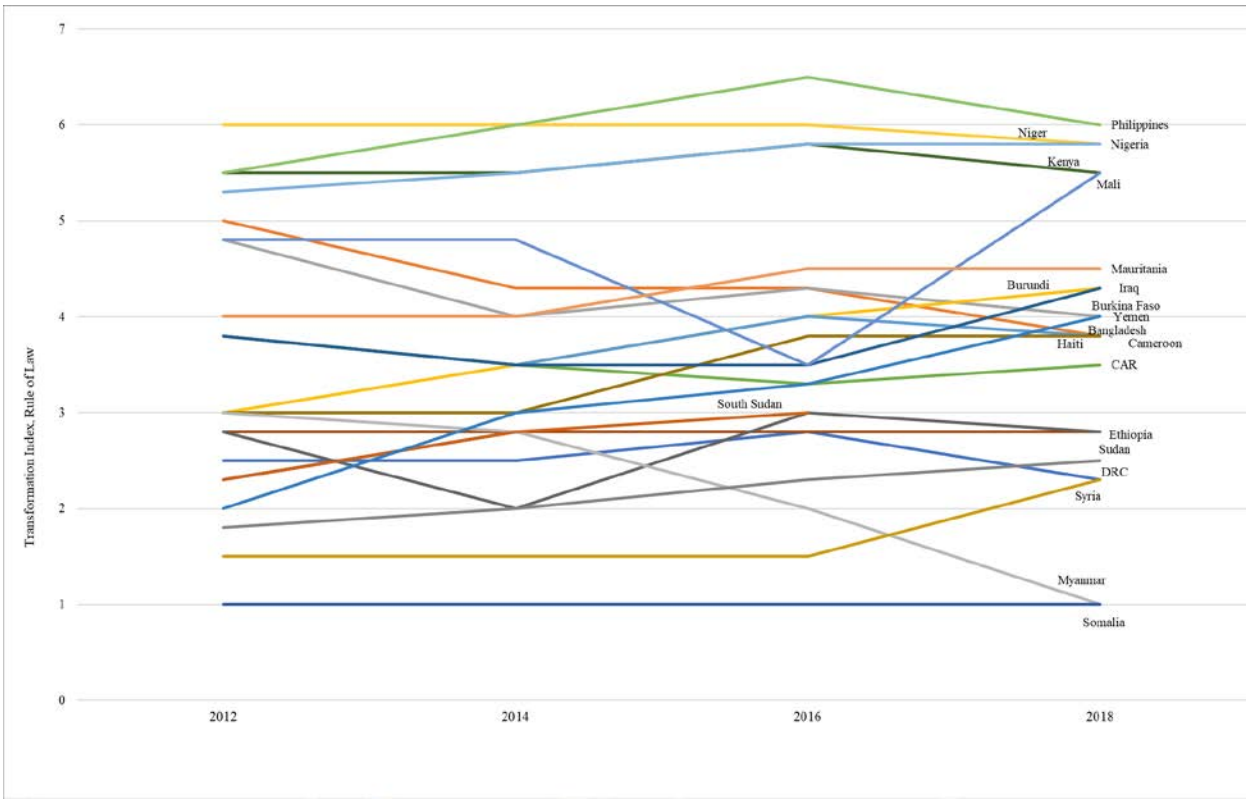

Figure 10: Transformation Index by Country between 2012-2018, Bertelsmann Stiftung

The Freedom ranking for countries was consistent over time. Only two countries, the Central African Republic and Mali, had a change in status over time. The Central African Republic moved from partially free to not free. Mali moved from free to not free but then improved to partially free. Fifteen of the 24 (62.5%) countries were consistently ranked as not free. Seven (29.2%) countries were considered to be partially free, Table 12.

Table 12: Country Freedom Rankings, 2012-2018, Freedom House

Not Free	Partially Free	Free
Afghanistan	Bangladesh	Mali (2012)
Burundi	Burkina Faso	
Cameroon	Central African Republic (2012-2013)	
Central African Republic (2014-2018)	Haiti	
Chad	Kenya	
Djibouti	Mali (2014-2018)	
Democratic Republic of Congo	Niger	
Ethiopia	Nigeria	
Iraq	Philippines	
Mali (2013)		
Mauritania		
Myanmar		
Somalia		
South Sudan		
Sudan		
Syria		
Yemen		

The GII is on a scale of 0 to 1, where 1 equates to complete gender inequality. The Philippines and Myanmar had the lowest ranking over the study period, ranging from 0.424 to 0.447 and 0.433 to 0.57, respectively, with a slight improvement over time, Figure 11. Yemen had the greatest gender inequality ranging from 0.826 to 0.841. The majority of countries showed improvement over time in the GII except Chad, Burkina Faso, and Mali, which showed little to no change in their GII. GII scores were not available for four countries: Djibouti, Somali, South Sudan, and Nigeria.

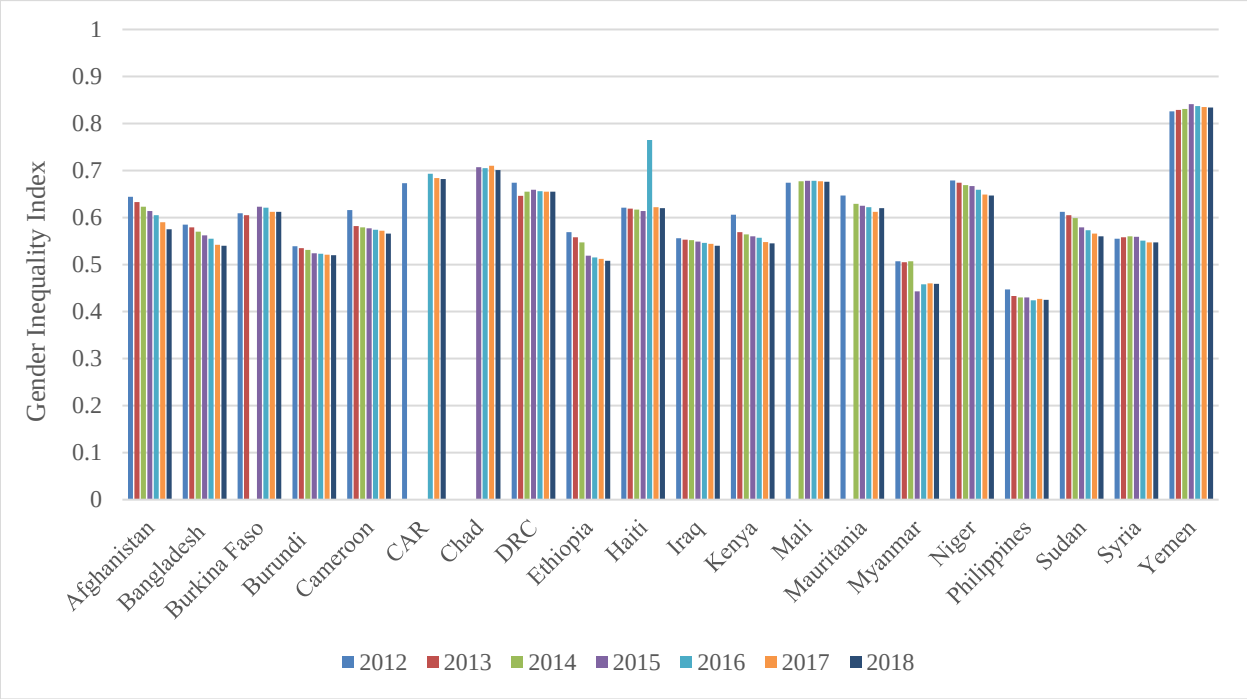

Figure 11: Gender Inequality Index by Country 2012-2018, United Nations Development Programme

Safety and Security

The numbers of internal conflicts and deaths are expressed on a scale of 1 to 5. For conflicts, 1 is no conflict and 5 is very high conflicts. For the year 2012, no data was available for conflicts and deaths. Conflicts increased over time in 46 % (11/24) of countries, whereas 25% (6/24) of countries experienced a decline in conflict, Figure 12. Seven countries had at least one year where the highest level of conflict was reached: the Central African Republic, the Democratic Republic of Congo, Nigeria, Somalia, South Sudan, Sudan, and Syria. Both the Democratic Republic of Congo and Sudan experienced the highest level of conflict across the entire study period. Only Haiti and Burkina Faso remained at the lowest level of conflict across the study period. Djibouti was slightly above 1 at 1.15 for 6 of the 7 years.

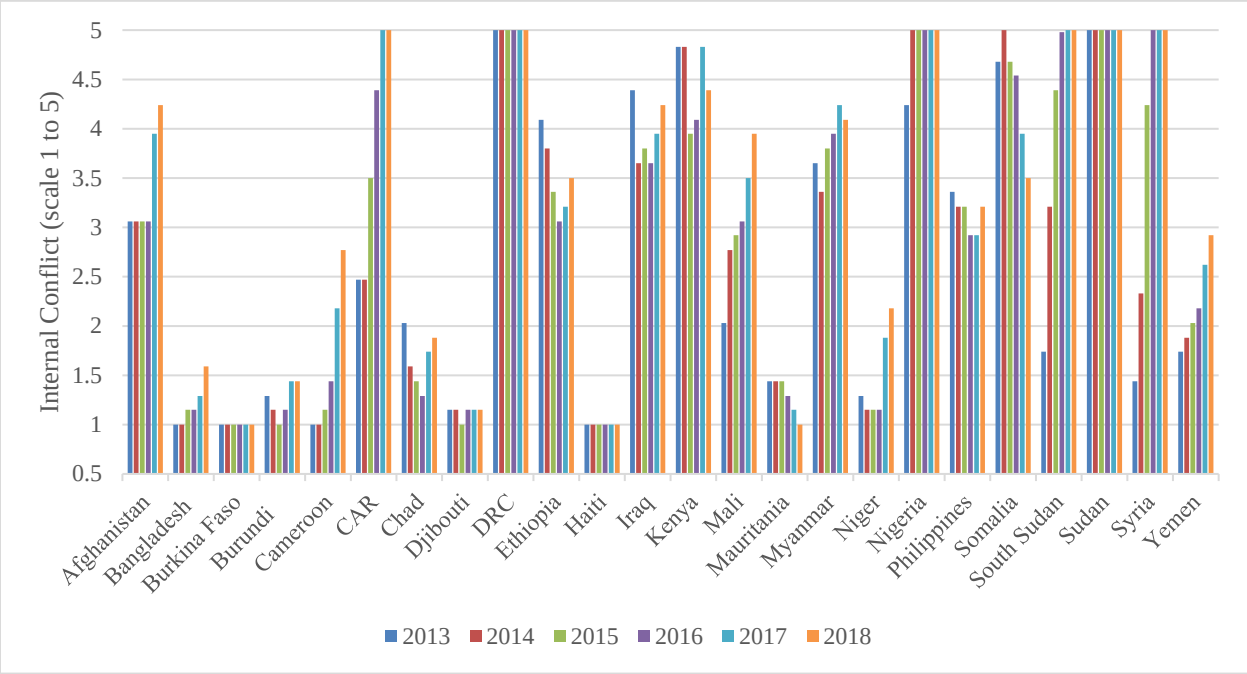

Figure 12: Internal Conflicts by Country between 2012-2018, Global Peace Index

Deaths range from 1 (<=23 deaths) to 5 (>= 9,999 deaths) per the Global Peace Index ratings. Afghanistan and Syria were consistently at the highest level of deaths across survey data years, Figure 13. Syria had only one year (2013) where deaths were not categorized at the highest level. Iraq, Nigeria, and Yemen also had a high burden of death. Haiti was the only country that remained at the lowest level across the study period. However, deaths remained low in Djibouti, barely exceed the lowest category of 1 in 2016 and 2017 at 1.04. Sixty-seven percent (16/24) of countries ended the study period in 2018 at a higher level of death than in 2012. Cameroon, Chad, and Yemen saw large increases in deaths over time, with Yemen reaching the highest level (5) by 2018. The Democratic Republic of Congo, Somalia, Sudan, and South Sudan showed some variation year by year but remained at elevated levels across time.

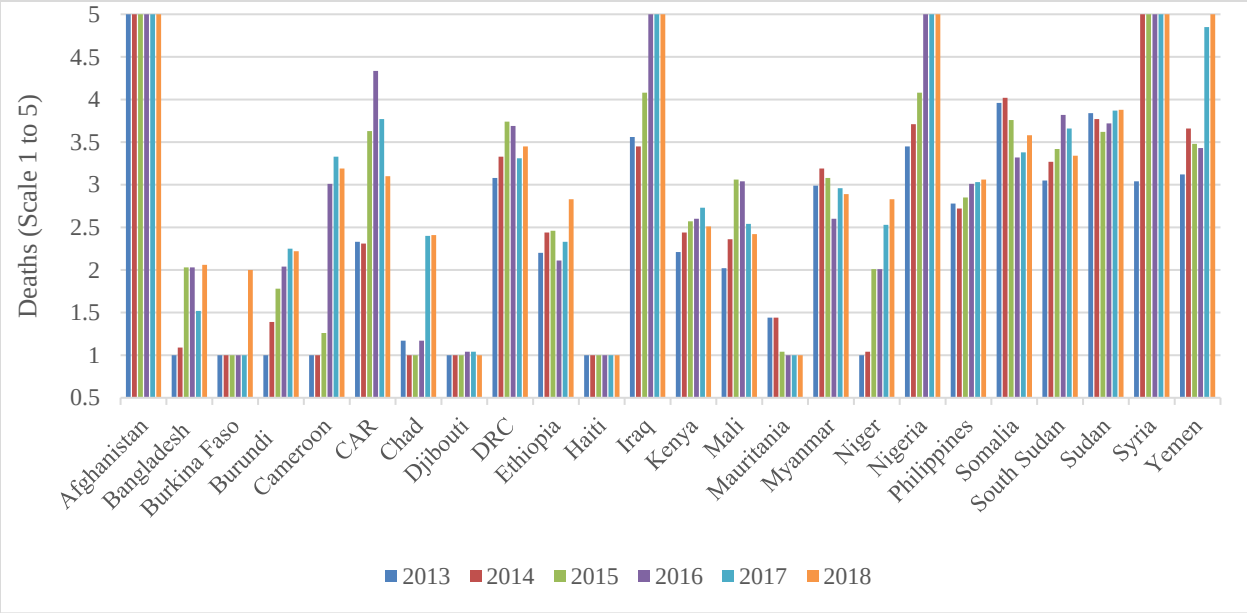

Figure 13: Deaths by Country between 2012-2018, Global Peace Index

Crisis Characteristics

Yemen, Syria, and South Sudan had the greatest percentage of the population affected by an emergency, Figure 14. Yemen and Syria both experienced sharp increases moving from 28% to 78% and 35% to 79% of their populations affected, respectively. South Sudan also increased over time, reaching 64% by 2018. Additionally, the Central African Republic had three years where more than fifty percent of their population was affected, 2015, 2016, and 2018. The Philippines and Bangladesh had the least affected population of all emergencies in the analysis.

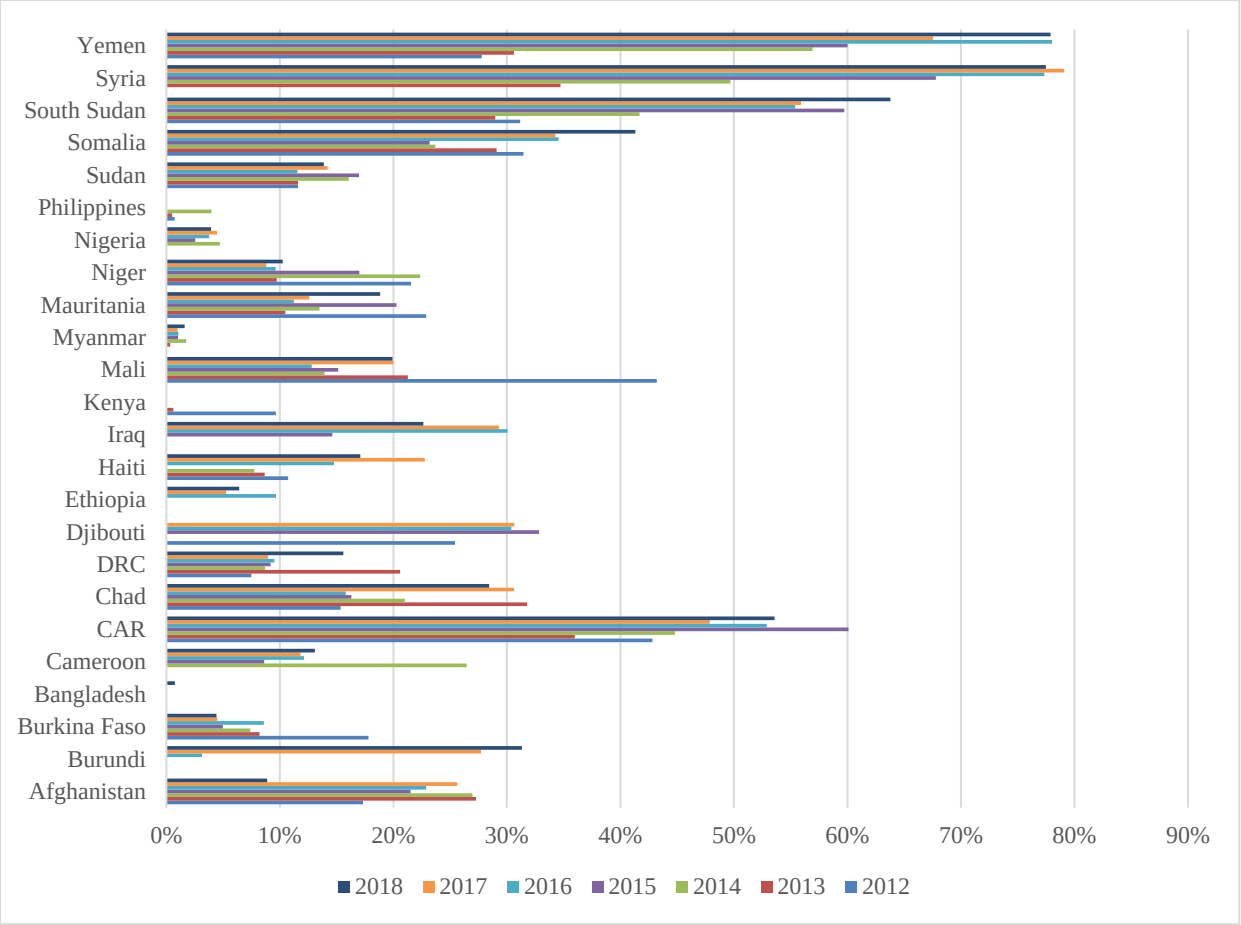

Figure 14: Percent of Population Affected by Humanitarian Emergency, 2012-2018

Funding request levels varied by country and by year, as well as by the context of the emergency. For example, nutrition-specific funds were not requested in Iraq during the study period, nor in Syria in 2012. No health funding was requested in 2017 in Burkina Faso. Overall, there were 124 nutrition sector appeals, Figure 15. Nine percent (14/124) of appeals were funded below 30% of the request. Almost five percent of appeals were funded at 100% or higher. South Sudan had the most consistent funding over time, with all years funded above fifty percent. Ethiopia, the lowest level of funding, never reaching fifty percent.

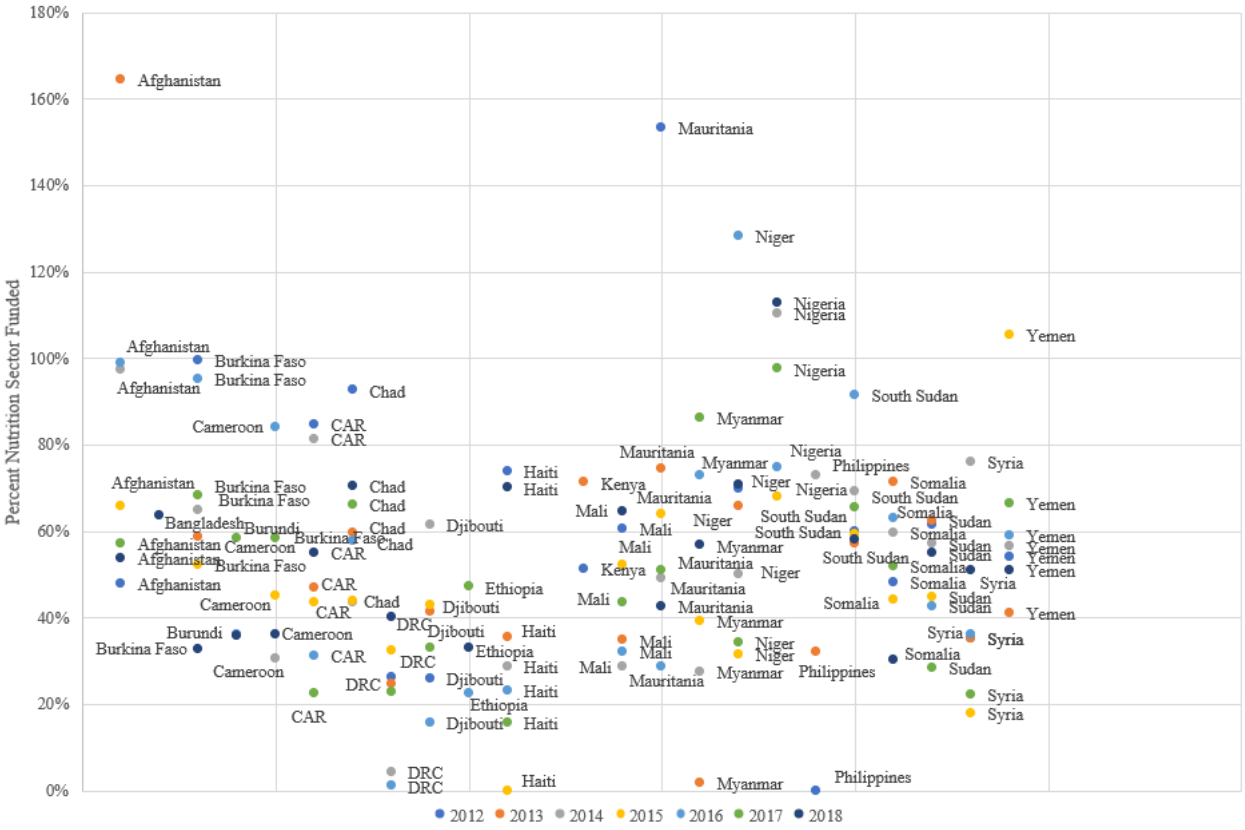

Figure 15: Funding Level of the Nutrition Sector by Year of Appeal, 2012-2018

During the study period, there were 133 health sector appeals. Four (3%) appeals went unfunded in Burundi, Djibouti, and Mauritania, Figure 16. Only 3 appeals were funded at 100% or higher, in Iraq and Cameroon. No country was consistently funded at 50% or higher. Multiple countries had large swings in funding by year. For example, Cameroon decreased from 109% in 2016 to 1% funding in 2017. Iraq, South Sudan, and Yemen saw funding increases corresponding with increases in conflict, but with a decline as conflict stabilized.

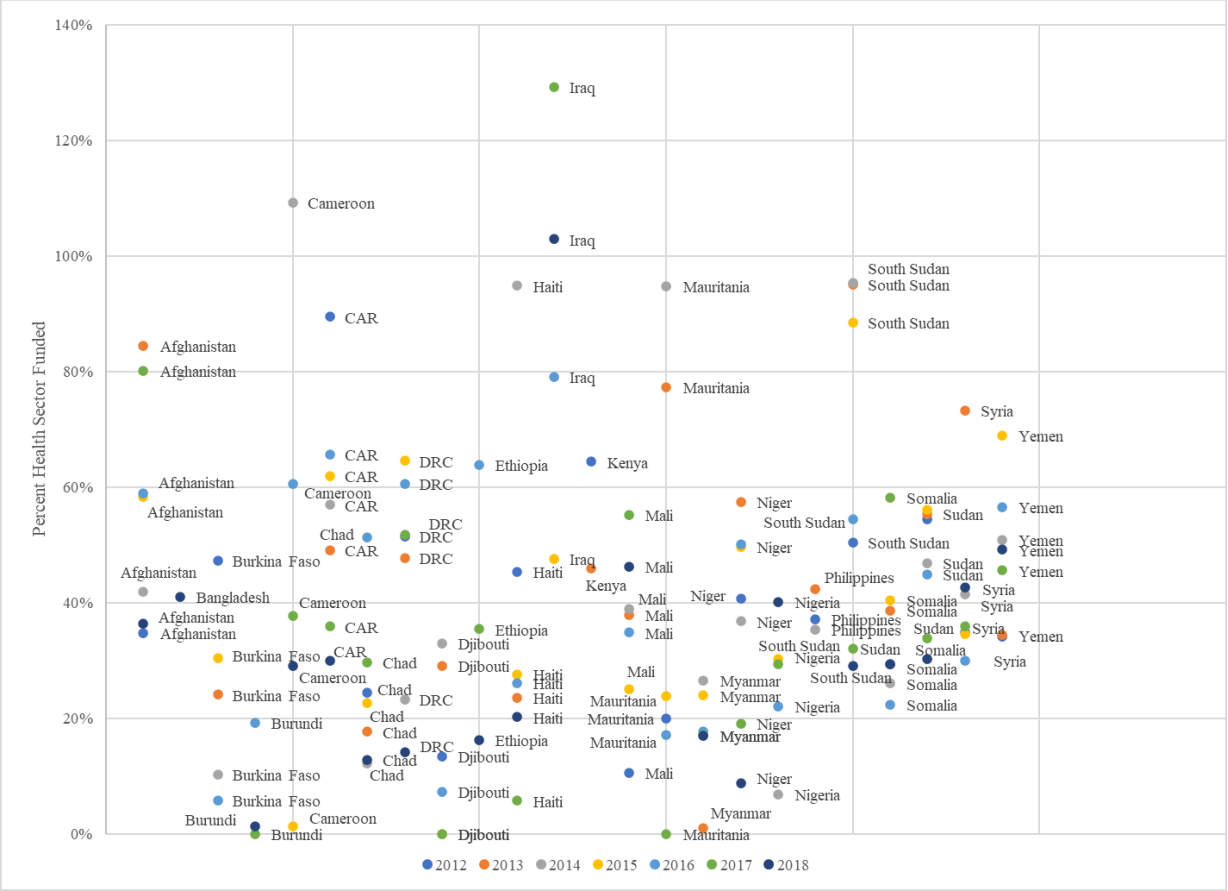

Figure 16: Funding Level of the Health Sector by Year of Appeal, 2012-2018

Approximately 50% of countries were classified as low development countries each year, with the exception of 2015, where only 43% of countries were classified as low development by the Human Development Index, Table 13. The two lowest-ranked countries globally, were the Central African Republic and Niger. The Philippines had the highest rankings across countries and years but was still considered to be a medium development country. Yemen decreased in its HDI ranking each year dropping from 0.504 in 2012 to 0.468 in 2018. Somalia has not been ranked since 2012.

Table 13: Human Development Index by Country by Year, 2012-2018

	2012	2013	2014	2015	2016	2017	2018
Afghanistan	0.489	0.496	0.5	0.5	0.502	0.506	0.509
Bangladesh	0.575	0.579	0.579	0.595	0.606	0.616	0.625
Burkina Faso	0.403	0.41	0.413	0.422	0.428	0.439	0.443
Burundi	0.426	0.432	0.438	0.437	0.438	0.434	0.431
Cameroon	0.525	0.534	0.54	0.549	0.553	0.557	0.56
Central African Republic	0.381	0.363	0.368	0.375	0.382	0.391	0.395
Chad	0.388	0.394	0.401	0.398	0.393	0.396	0.397
Djibouti	0.474	0.484	0.492	0.499	0.505	0.51	0.518
Democratic Republic of Congo	0.442	0.448	0.46	0.464	0.471	0.475	0.478
Ethiopia	0.438	0.447	0.455	0.462	0.467	0.474	0.478
Haiti	0.482	0.487	0.492	0.496	0.5	0.505	0.508
Iraq	0.646	0.646	0.645	0.649	0.656	0.667	0.671
Kenya	0.566	0.573	0.58	0.587	0.591	0.595	0.599
Mali	0.413	0.413	0.419	0.417	0.422	0.427	0.431
Mauritania	0.517	0.525	0.531	0.536	0.542	0.54	0.542
Myanmar	0.533	0.543	0.55	0.557	0.563	0.572	0.579
Niger	0.35	0.357	0.365	0.372	0.378	0.386	0.391
Nigeria	0.5	0.519	0.523	0.526	0.526	0.531	0.534
Philippines	0.684	0.691	0.696	0.701	0.704	0.708	0.711
Somalia*	0.285	-	-	-	-	-	-
South Sudan	0.397	0.428	0.428	0.425	0.421	0.426	0.429
Sudan	0.486	0.494	0.499	0.504	0.507	0.509	0.506
Syria	0.664	0.596	0.556	0.537	0.528	0.564	0.563
Yemen	0.504	0.509	0.502	0.483	0.474	0.467	0.468
Low	0.484	0.490	0.496	0.499	0.501	0.505	0.507
Medium	0.593	0.599	0.608	0.616	0.625	0.630	0.634
High	0.720	0.727	0.733	0.738	0.743	0.746	0.750

*The last Human Development Index ranking for Somalia was in 2012

Modeling

Because of the lack of data across key predictor variables like BTI, conflicts, and deaths, models based on the original data were limited in terms of sample size. The *PROC GENMOD* procedure does not include observations with missing values. With the response variable GAM,

models were limited to 56 of 92 (61%) observations. For CMR, there were fewer observations from the outset, 60, and only 38 were included in the analysis. As such, models were created using imputed data as described in the methods section.

BTI was highly correlated with WGI and freedom for both GAM and CMR, Tables 14 and 15, exceeding the threshold of 0.7 for inclusion in the model. Safe-havens for terrorism and the presence of terrorist organizations were also highly correlated. These variables were not dropped as they were both exposure variables and not simultaneously included in models. WGI was highly correlated with OFAC sanctions, 0.68 for GAM and 0.66 for CMR, and freedom, 0.6 for GAM and 0.65 for CMR. Conflicts and deaths were highly correlated at 0.68 for GAM. The percent of population affected by the crises also showed a strong correlation for both outcomes for sanctions and with WGI. Correlations were found between GII and safe-haven (0.63) when analyzing CMR, Table 15.

Prior to developing models for GAM and CMR, the correlation structure for GEE for each outcome. Each exposure and predictor variable was run independently with the outcome for each correlation structure. The independent structure was best suited for GAM, while CMR models used an exchangeable correlation structure. Additionally, predictor and exposure variables were assessed prior to inclusion in the models, Table 16. For GAM, the presence of terrorist organizations, the funding level of the nutrition sector, and HDI were all significant at the p-value of 0.1. For CMR, the presence of a terrorist organization, safe haven for terrorism and the number of internal conflicts were significant.

Table 14: Pearson and Spearman Rank Order Correlation Coefficients for the Mean Prevalence of Global Acute Malnutrition and Predictor Variables

	GAM	Nutrition Funding	FTO	Sanction	SST	Safe Haven	WGI	BTI	Freedom	GII	HDI	Conflicts	Deaths	Population Affected
GAM	1													
Nutrition Funding	0.17	1												
FTO	-0.4*	0.08	1											
Sanctions [a]	0.24†	-0.17	-0.05	1										
SST [a]	-0.01	-0.03	0.04	0.36†	1									
Safe Haven [a]	0.002	0.28†	0.59*	-0.26†	-0.33†	1								
WGI	-0.16	0.01	-0.2	-0.68*	-0.13	0.03	1							
BTI	-0.16	0.19	-0.05	-0.56*	-0.30†	0.23	0.76*	1						
Freedom [a]	-0.21	0.21	-0.09	-0.48*	-0.17	0.21†	0.6*	0.74*	1					
GII	0.22†	0.01	-0.04	0.35†	-0.21†	0.46*	-0.39†	-0.30†	-0.13	1				
HDI	-0.43*	-0.01	0.24†	-0.22†	0.20	-0.25†	0.42*	0.38†	-0.04	-0.59*	1			
Conflicts	0.16	-0.15	0.09	0.54	0.31†	-0.03†	-0.48*	-0.30†	-0.2	-0.15	0.0001	1		
Deaths	-0.07	0.02	0.56*	0.56*	0.33†	-0.15	-0.59*	-0.42†	-0.35*	0.04	0.1	0.67*	1	
Population Affected	0.11	0.05	0.21†	0.55*	0.2	-0.03	-0.58*	-0.4†	-0.42†	0.4*	-0.21†	0.07	0.37†	1

[a] Spearman Rank Order Coefficient, *P <0.001 , † P <0.05; CMR (Crude Mortality Rate), FTO (Foreign Terrorist Organization), SST (State Sponsor of Terrorism),WGI (World Governance Index), BTI (Bertlelsmann Transformation Index), HDI (Human Development Index), GII (Gender Inequality Index)

Table 15: Pearson and Spearman Rank Order Correlation Coefficients for the Mean Crude Mortality Rate and Predictor Variables

	CMR	Health Funding	FTO	Sanction	SST	Safe Haven	WGI	BTI	Freedom	GII	HDI	Conflicts	Deaths	Population Affected
CMR	1													
Health Funding	0.23	1												
FTO	-0.36†	0.07	1											
Sanctions [a]	-0.01	0.12	-0.18	1										
SST [a]	0.06	0.09	-0.21	0.03	1									
Safe Haven [a]	-0.43†	-0.23	0.7*	-0.16	-0.25	1								
WGI	-0.05	-0.13	-0.05	-0.66*	0.001	-0.05	1							
BTI	-0.05	0.06	0.06	-0.55†	-0.17	0.04	0.81*	1						
Freedom [a]	-0.03	-0.12	0.23	-0.47†	-0.10	0.16	0.65*	0.76*	1					
GII	-0.34†	-0.10	0.09	0.46†	-0.18	0.63*	-0.39†	-0.27	-0.14	1				
HDI	0.02	0.19	0.11	-0.32†	0.04	-0.32†	0.56*	0.42	0.06	-0.48*	1			
Conflicts	0.29†	0.08	-0.11	0.35†	0.03	0.25	-0.38*	-0.29	0.32†	-0.17	-0.08	1		
Deaths	-0.21	0.16	0.5*	0.31†	0.07	0.42†	-0.52*	-0.44	-0.06	0.13	-0.01	0.53*	1	
Population Affected	-0.12	0.14	0.01	0.63*	0.005	0.14	-0.64*	-0.41†	-0.46†	0.5*	-0.41†	-0.09	0.24†	1

[a] Spearman Rank Order Coefficient, *P <0.001 , † P <0.05; CMR (Crude Mortality Rate), FTO (Foreign Terrorist Organization), SST (State Sponsor of Terrorism),WGI (World Governance Index), BTI (Bertlelsmann Transformation Index), HDI (Human Development Index), GII (Gender Inequality Index)

Table 16: Score Statistics from Univariate Models of the Mean Prevalence of Global Acute Malnutrition and Crude Mortality Rates

Predictor Variables	Global Acute Malnutrition		Crude Mortality Rate	
	Chi-Square	P-value	Chi-Square	P-value
Nutrition Funding	2.97	0.08*	---	---
Health Funding	---	----	0.89	0.35
Terrorist Organization	3.14	0.08*	4.15	0.04*
Sanctions	1.05	0.31	0.44	0.51
Safe Haven	0.01	0.94	3.15	0.07*
WGI	1.05	0.31	0.09	0.77
BTI	0.74	0.39	0.48	0.49
Freedom	2.3	0.13	0.18	0.67
GII	1.55	0.21	1.75	0.19
HDI	5.03	0.02*	0.27	0.61
Conflicts	1.28	0.26	2.98	0.08*
Deaths	0.7	0.40	0.96	0.33
Population Affected	0.29	0.59	0.01	0.94

*P-Value < 0.1; WGI (World Governance Index), BTI (Bertlelsmann Transformation Index), HDI (Human Development Index), GII (Gender Inequality Index)

Global Acute Malnutrition Models

Models were created for each exposure variable, FTO, OFAC sanctions, and safe-havens for terrorism for the outcome of the mean prevalence of GAM. No models were created for SST, as there were only 7 observations with a designation. For GAM, 91 observations were used in the analysis, except for the model where FTO was the exposure variables, where 92 observations were included. Twenty-three clusters, countries, were included in the models, with the same exception of the model with FTO as an exposure. This model contained 24 clusters. The Iraq 2015 data, where no nutrition sector funding was requested, is not included in the remaining models. All algorithms converged.

Table 17: Parameter Estimates and Confidence Intervals for Generalized Linear Models of the Mean Prevalence of Global Acute Malnutrition Expressed as Weight-for-Height Z Scores and Exposure Variables

	Parameter Estimate	95% Confidence Interval
Intercept	14.12*	(9.62, 18.61)
FTO	-0.57*	(-0.85, -0.28)
Nutrition funding	3.76†	(1.39, 6.14)
HDI	-15.17†	(-23.41, -6.92)
Conflicts	0.5†	(-0.03, 1.04)
Freedom	2.01†	(0.34, 3.67)
Model QIC	*98.9*	
R square	*0.38*	
Intercept	15.8*	(10.24, 21.37
Safe Haven	0.36	(-2.2, 2.92)
Nutrition Funding	3.48†	(1.09, 5.88)
HDI	-18.53†	(-29.31, -7.75)
Conflicts	0.6	(-0.1, 1.29)
Freedom	2.36†	(0.42, 4.3)
Deaths	-0.62	(-1.59, 0.36)
Model QIC	*106.1*	
R square	*0.3*	
Intercept	22.26†	(15.28, 29.23)
OFAC Sanction	-1.38	(-4.73, 1.96)
Nutrition Funding	4.2†	(1.76, 6.63)
HDI	-27.1*	(-40.05, -14.15)
Conflicts	0.72	(-0.02, 1.45)
Freedom	3.5	(1.52, 5.48)
WGI	3.82	(1.24, 6.4)
Model QIC	*100.48*	
R square	*0.34*	

* P-value <.0001, † P-Value <.05; FTO (Foreign Terrorist Organization), HDI (Human Development Index), OFAC (Office of Foreign Asset Control), WGI (World Governance Index)

Table 17 presents the final models for GAM by exposure. In the model where FTO is the exposure, all variables in the model were significant. Both the level of conflict in a country and the level of freedom were positively associated with GAM. For each one-unit increase in the level of conflict, the mean prevalence of GAM increases by 0.5. The lack of freedom is associated with an increase in the mean prevalence of GAM of 2.01. Conversely, HDI and FTOs were negatively associated with the prevalence of GAM. There is a significant and substantial decrease in the prevalence of GAM as HDI increases. Likewise, GAM decreases as the presence of terrorist organizations increases. The QIC GEE Fit Criteria for the model was 98.9, the lowest of all models. And the R square was 0.38.

Further exploration of the negative relationship between the mean prevalence of GAM and the presence of FTOs in a country was conducted. Figure 17 is a scatterplot of the relationship between the outcome and exposure. The countries with the highest number of FTOs have a lower mean prevalence of GAM than those with no or 1-3 FTOs. In the data, Afghanistan and Syria both have a heavy burden of FTOs. When assessing GAM in these settings, Afghanistan has a mean prevalence considered to be a medium level of wasting, with one data point in the high category. In contrast, Syria had very few data points and they were either categorized as low or medium levels of wasting.

In the remaining models, the GEE score statistics for exposure variables were greater than 0.1 and none were significant in their respective model. The predictor variables in the remaining models all had a GEE score statistic with a P-value <0.1. In the model for safe-havens for terrorism, the mean prevalence of GAM increases non-significantly when there is a safe-haven and significantly as nutrition funding increases by 3.48 for each unit increase in funding. HDI had a negative association with GAM, where the mean prevalence of GAM decreases with

increasing HDI by 18.53. Additionally, the mean prevalence of GAM increases with decreasing freedom. The predictor variables conflict and deaths were not significant in this model.

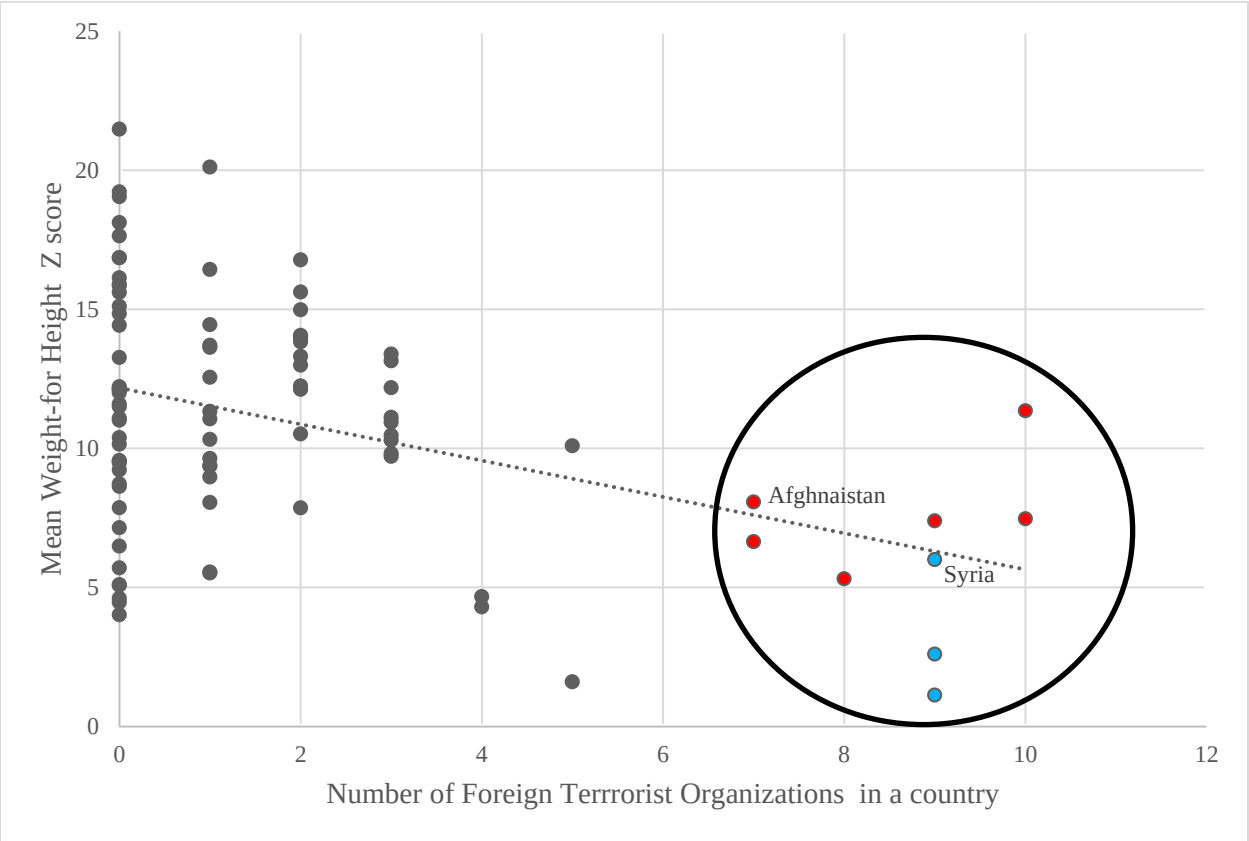

Figure 17: Scatterplot of the Mean Prevalence of Global Acute Malnutrition as Expressed by Weight-for Height Z Score and the Presence of Foreign Terrorist Organizations

OFAC sanctions were not significant in the final model; the mean prevalence of GAM decreases by 1.38 in the absence of a sanction, Table 17. This model was similar to the model for SST whereby nutrition funding, WGI, conflicts, and freedom all had positive associations and were significant variables in the model. HDI continued a significant negative association with

GAM, where the mean prevalence of GAM decreased by 27.1 per unit increase in HDI, the largest decrease in GAM across models.

Crude Mortality Rate Models

As with GAM, models were created for each exposure variable, FTO, OFAC sanctions, and safe-havens for terrorism for the CMR. No models were constructed for the exposure variable SST as there were only 2 observations with an SST designation. In all models, 60 observations were included and 17 clusters, countries. Far fewer surveys included a mortality component resulting in a much smaller sample size, which affected the ability to model CMR by exposure variables. Twenty-seven percent of identified surveys did not include a mortality component and 40% of mortality surveys did not meet the criteria for inclusion in the analysis. In the model for the exposures of OFAC sanctions the predictor value did not fulfill the criteria for inclusion in a model, where the P-value of the Type 3 GEE statistic was less than or equal to 0.1. Additionally, FTO was the only exposure variable with a P-value of < 0.1. As such, caution should be used when interpreting these models as they are likely not valid. Safe Haven was not significant in the corresponding model.

In the models for FTOs and safe-haven, conflicts were positively and significantly associated with mean CMR, Table 18. In the FTO model, only one predictor variable remained, the number of internal conflicts. Conflict was significantly associated with an increase in mean CMR, with an increase of 0.05 in mean CMR as the number of internal conflicts increase. The FTO exposure variable was also significant with a decrease in mean CMR of 0.03 as the number of FTOs increase. The R square valued for this model was low at 0.25

In the model for OFAC sanctions, the mean CMR decreased in the absence of an OFAC sanction by 0.48. In this model, the number of battle deaths was also significant, whereby mean

CMR decreased with increasing battle deaths. However, deaths did not meet the inclusion criterion. It is important to note that CMR and deaths measure two different types of mortality. CMR is a measure of all-cause and all-age mortality during a defined time period, typically 3 months. The variable deaths is a measure of battle-related deaths, scaled to a measure of 1 to 5, where 1 is less than 24 deaths and 5 is greater than or equal to 9,999 deaths. Additionally, the R square value of 0.1 was extremely low.

Table 18: Parameter Estimates and Confidence Intervals for Generalized Linear Models of the Mean Crude Mortality Rate and Exposure Variables

	Parameter Estimate	95% Confidence Interval
Intercept	0.34*	(0.25, 0.51)
FTO	-0.03†	(-0.06, -0.005)
Conflicts	0.05†	(0.02, 0.09, 0.08)
Model QIC	*63.66*	
R square	*0.25*	
Intercept	0.45*	(0.23, 0.66)
Safe Haven	0.13	(-0.06, 0.32)
Conflicts	0.08*	(0.05, 0.11)
Deaths	-0.09†	(-0.17, -0.01)
Model QIC	*68.2*	
R square	*0.32*	
Intercept	1.02†	(0.55, 1.48)
OFAC Sanction	-0.48*	(-0.8, -0.17)
Deaths±	-0.1	(-0.18, -0.01)
Model QIC	*70.5*	
R square	*0.1*	

* P-value <.0001, † P-Value <.05; ± did not meet the criteria for inclusion in the model of a P-value ,=0.1; FTO (Foreign Terrorist Organization), HDI (Human Development Index), OFAC (Office of Foreign Asset Control)

CHAPTER FIVE

THE IMPACT OF ACCESS AND DATA AVAILABILITY

Relationship between Malnutrition, Mortality, and Terrorist Organizations

Counterterrorism and humanitarian assistance remain at the forefront of USG foreign policy. In March 2021, newly inaugurated President Joseph Biden released Interim National Security Strategic Guidance (2021) for the United States, in which 'protracted humanitarian crises and violent extremism and terrorism' were highlighted as 'profound and existential dangers' (Biden, 2021, p. 7). Disruption of terrorist organizations and networks, the prevention of the resurgence of IS, inhibiting terrorist safe havens in Afghanistan were noted as national security priorities, as well as addressing humanitarian crises (Biden, 2021). These are not independent priorities as terrorism is intertwined as an influencing factor of crises and an impedance to effective humanitarian response. Understanding the relationship and interactions between the two is foundational to achieving national security objectives.

The results of the analysis of material support legislation, as expressed by the presence of FTOs, OFAC sanctions, or designations of safe-havens of terrorism, and the impact on health outcomes in humanitarian emergencies are not straightforward and should be interpreted with caution. In this analysis, there were only two models where the exposure was significant, and the predictor variables in the models were also all significant and met the model inclusion criteria. Both models have FTO as the exposure for GAM and CMR.

The relationship between the predictor variables and outcomes are consistent with the logic model presented in chapter 3, Figure 1. The significant predictor variables are captured

under mediators and inputs. There are 3 predictor variables that align with mediators: conflicts, freedom, and HDI, Figure 18. These variables influence the relationship between material support legislation and the outcomes. Nutrition funding, significant in the GAM model, is an input.

Conflict in the logic model aligns with mediators under safety and security. It would be expected in contexts with multiple internal conflicts, that both the CMR and the prevalence of GAM would be elevated. Conflict, and the associated violence, is one of the leading causes of humanitarian crises and displacement of populations. In 2020, there were 40 highly violent conflicts, of which 21 were wars, and 19 were limited wars (Heidelberg Institute for International Conflict Research [Heidelberg], 2021). Seventy percent of these conflicts occurred in countries with humanitarian crises (Heidelberg, 2021). In Afghanistan, 8,820 civilian deaths related to wars with the Taliban were reported in 2020 (Heidelberg, 2021). In the same year, an estimated 1.1 million people were displaced in the Sahel region and another 2.8 million in the Lake Chad Basin, resulting from conflicts with Islamist militants, many of which are designated FTOs (Heidelberg, 2021). Such widespread displacement severely impacts livelihoods, food security, and access to basic services, increasing the vulnerability of populations to infectious disease outbreaks and acute malnutrition (Talley & Boyd, 2018).

In the model for GAM, the mean prevalence of GAM increased with decreasing freedom. Freedom, a mediator, in the analysis was one of the indicators of governance incorporating political rights and civil liberties. Amartya Sen argues that the ‘expansion of freedom is both the primary end and principal means of development’ (Sen, 1999, p. xii). Development is stalled by a lack of freedom expressed by poverty, systematic social discrimination, and repressive governance (Sen, 1999). In many humanitarian emergencies in this analysis, violence,

corruption, and the absence of a state authority create unstable environments and societies that lack freedom. In the absence of development and freedom, the prevalence of GAM increases.

This relationship is further extended when analyzing the HDI. The HDI is not solely an economic indicator, but rather assesses achievement in human development. HDI aligns with societal mediators in the logic model, Figure 18. HDI and GAM have an inverse relationship whereby GAM decreases with increasing HDI scores. No country in the analysis had a positive HDI rank. Globally, the bottom seven ranked countries were all included in the analysis and they all had humanitarian crises in conjunction with either the presence of FTOs or OFAC sanctions.

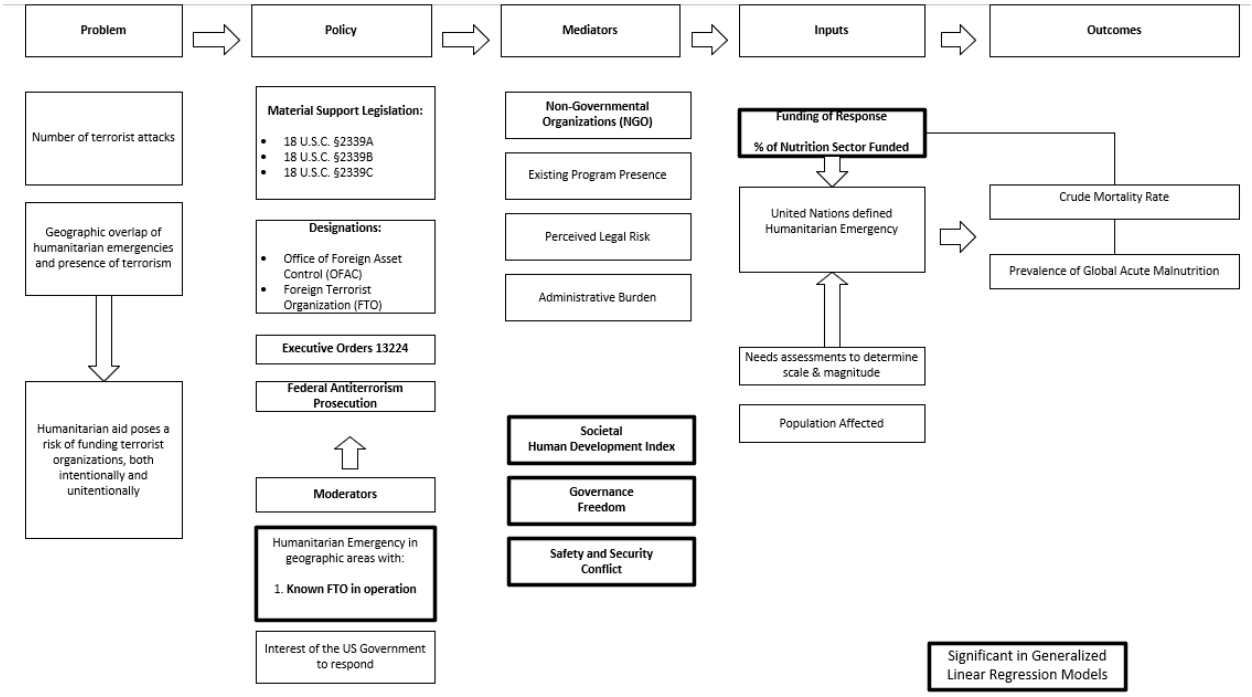

Figure 18: Significant Variables in the Logic Model for Relationship between Material Support Legislation and Health Outcomes

The input of nutrition funding and the mean prevalence of GAM were positively associated and increased together. Ideally, this is how the funding process for humanitarian emergencies should function based on the principle of impartiality (IFRC & ICRC, 1992; Quack, 2018). Principled humanitarian aid should be based on need alone and not influenced by outside forces. Humanitarian emergencies with high levels of GAM received significant funding for a nutrition response. For Example, South Sudan had a mean prevalence of GAM ranging from 12% to 19% between 2014 to 2018. Funding levels were consistently high, ranging from 58% to 92% of requested nutrition funds. Within this analysis, 75% of emergencies where the mean prevalence of GAM exceeded the emergency threshold of 15% were funded at or above 55%, including Chad, Somalia, South Sudan, Sudan, and Yemen. During the study period, global humanitarian needs were funded on average at 60 percent.

In both models, the exposure or moderator, the presence of FTOs as a continuous variable, had a negative association with the outcomes, the mean prevalence of GAM and the mean CMR. It would be incorrect to interpret these models such that the presence of FTOs is a protective factor for GAM and CMR. There are important weaknesses in these models.

While CMR is an important public health indicator, the overall lack of CMR data is a reflection of operational challenges in collecting this type of data. First, collecting mortality data has a high opportunity cost adding considerable data collection time at the household and lengthening the time in the field when added into surveys. In highly insecure areas, where access is severely constrained, mortality data collection may not be feasible, nor may it be prioritized. Collecting data to inform current humanitarian programmings such as the level of malnutrition, immunization coverage, and access to safe water and hygiene may be of greater importance. As such, mortality surveys are often conducted only in accessible areas and therefore generated

estimates may not reflect the conditions faced by inaccessible populations (Dubray & Guha-Sapir, 2018).

Second, CMR, like many health indicators, is subject to bias (Checchi & Roberts, 2005). Estimates may be over or under-reported for a variety of reasons stemming from interviewer or interviewee bias. Some common examples include event recall bias where deaths may be incorrectly placed in time or where displacement has occurred, people may not know the status of other household members (SMART et al., 2017). Additionally, there may be a reluctance to report deaths, response bias, for fear of loss of benefits, like food aid, or for cultural beliefs on deaths (Checchi & Roberts, 2005; SMART et al., 2017). Finally, the topic of mortality is highly political, particularly in conflict settings where violent deaths result from the actions of key actors in the conflict. In some instances, NGOs may be prohibited from including this data in household surveys, in others, the data may be embargoed when it does not meet the political will of parties (Checchi & Roberts, 2005).

The results of the analysis of material support legislation, as expressed by the presence of terrorists, sanctions, or safe haven designations, and the impact on health outcomes in humanitarian emergencies are not straightforward. With the current data and corresponding models, we cannot understand this relationship. The key barrier to the models and ultimately the evaluation is a lack of operational data collected and documented by humanitarian organizations that can be used to assess the impact of material support legislation on outcomes

Data Availability

While 1156 nutritional surveys and 853 mortality surveys were included in the analysis, overall, data was limited. Data availability was influenced by access and FTO presence. Data is

often only collected in accessible areas and therefore estimates may not reflect the circumstances faced by inaccessible populations and thus it is critical to understand the limitations of the data.

The lack of available data nationally is highlighted by reviewing three highly inaccessible countries included in the analysis: the Central African Republic, Syria, and Iraq (ACAPS, 2017, 2018, 2019, 2020). During the study period, 2012-2018, there was no mortality data available for these countries and nutrition data was limited within the years of OCHA declared emergencies, Appendix B and C. In the Central African Republic and Syria, 4 out of 7 emergency years were missing nutritional data, Appendix B. For Iraq, data was only available for 1 of the 4 emergency years.

In other highly inaccessible countries, data were more plentiful, but primarily restricted to accessible areas highlighting subnational availability and access. For example, in South Sudan, which has severe access constraints, mortality data were available for all 7 of the 7 emergency years, Appendix C. Nutritional data were available for 5 of the 7 years, Appendix B. However, when comparing the location of surveys against the OCHA accessibility maps (OCHA, 2018) for South Sudan, only 18% of surveys were conducted in highly inaccessible areas.

Data availability for CMR and GAM overall was limited in high burden FTO locations. In the analysis, only 15% of nutritional surveys came from individual emergencies (country by year) with 3 or more FTOs, despite these settings counting for 26% of all emergencies. Only 10% of all mortality surveys occurred in contexts with 3 or more FTOs. High burden FTO settings are under-represented in the data, making interpretation challenging.

Additionally, data in countries with operating FTOs, is not from the areas under the control of FTO. Data locations were mapped against FTO controlled areas for five countries: Cameroon, Iraq, Nigeria, Syria, and Yemen. For Nigeria, Iraq, and Syria, no surveys were

conducted in FTOs areas. In Cameroon and Yemen, 0.02% and 1.3% of surveys aligned with FTO controlled locations.

The overall distribution of data is skewed which affected the models. First, the application of material support at the national level in the models is incorrect. Given the distribution of terrorist organizations is rarely an entire country, but rather pockets of controlled areas, the constructed models do not truly represent the impact of presence of terrorist organizations on health outcome. Second, data is primarily only from accessible areas not controlled by FTOs. Therefore, the models and analysis do not capture the impact of material support legislation on these populations residing in inaccessible areas, rather only those in accessible areas who may have better access to services and health outcomes.

Access: The Limiting Factor to Understanding the Relationship

Access is an underlying barrier to data collection and documentation of impacts of materials support legislation on outcomes in humanitarian emergencies. Access is a critical factor in this evaluation. Humanitarian access has two components 1) the ability of humanitarian aid workers to reach populations in need of assistance and 2) access to assistance and services by the population in need (OCHA, 2017b). Each is equally important for successful assistance. OCHA highlights multiple constraints to accessing populations in need of humanitarian assistance broadly categorized as denial, delay, and diversion (Kurtzer, 2019; OCHA, 2017b). Denial includes the rejection of the need for humanitarian assistance. Delays can result from excessive bureaucratic requirements (taxes, importation limits) or movement restrictions of aid staff due to bureaucratic impediments (visas, travel restrictions) or the physical environment (infrastructure, hostilities). Diversion results from interference with humanitarian activities, most often food aid.

Access can be reframed when thinking about material support legislation into a moderator and mediator, Figure 19. Access as a moderator encompasses physical access, often a preexisting circumstance which inhibits the achievement of desired outcomes. Physical access may be both the denial to provide humanitarian assistance as well as the prevention of services reaching people or people accessing services because of hostilities. Insecurity in humanitarian contexts has been increasing for the last three decades. Within the countries included in the analysis, between 2012-2018 there were 1,524 reported incidents where aid workers were wounded, abducted, or killed (Aidworkersecurity.org). Figure 20 highlights the most dangerous places for aid workers in this analysis. Afghanistan, South Sudan, and Syria reported the greatest number of incidents. Afghanistan and Syria had the largest number of FTOs in the analysis, while South Sudan was subject to an OFAC sanction. This data helps to contextualize the lack of data from Afghanistan and Syria, as well as the distribution of data within South Sudan.

Physical insecurity influences where programs are implemented and who can access services. In 2016, the United Nations reported that aid only reached 17% of people in need of assistance in besieged and hard-to-reach areas of Syria (OCHA, 2017a). Figure 21 illustrates the distribution of services in comparison to need (IFRC, 2018b) and accessibility (OCHA, 2018) in South Sudan in 2018. While NGOs rarely withdrawal from entire countries, programs become restricted to accessible safer locations (IFRC, 2018a). In high burden FTO areas or those with active armed conflict, physical insecurity is greater, resulting in significant denials and delays in access and services. Operational presence as defined by physical access skews the availability of data.

As a mediator, access functions at the organizational level. In terms of material support legislation, what level of organizational risk is an NGO willing to take? In the report Presence

and Proximity (Jackson & Zyck, 2017), counterterrorism and sanctions were identified as obstacles for humanitarian operations in Afghanistan, Iraq, Somalia, Syria, and Yemen. NGOs reported that counterterrorism legislation and the risk of violating agreements resulted in 'limiting their engagement in certain locations or with certain groups critical for obtaining access' (Jackson & Zyck, 2017, p. 29). Reduced engagement in areas with FTOs in turn, resulted in NGOs being perceived as non-neutral and complicit in political agendas (Jackson & Zyck, 2017). Organizational risk tolerance levels may be lowered in high burden areas, resulting in reduced programming and furthering the lack of available data. As indicated earlier, in this analysis, data was lacking from areas with the highest organizational risk for violating material support legislation, Afghanistan, Iraq, and Syria.

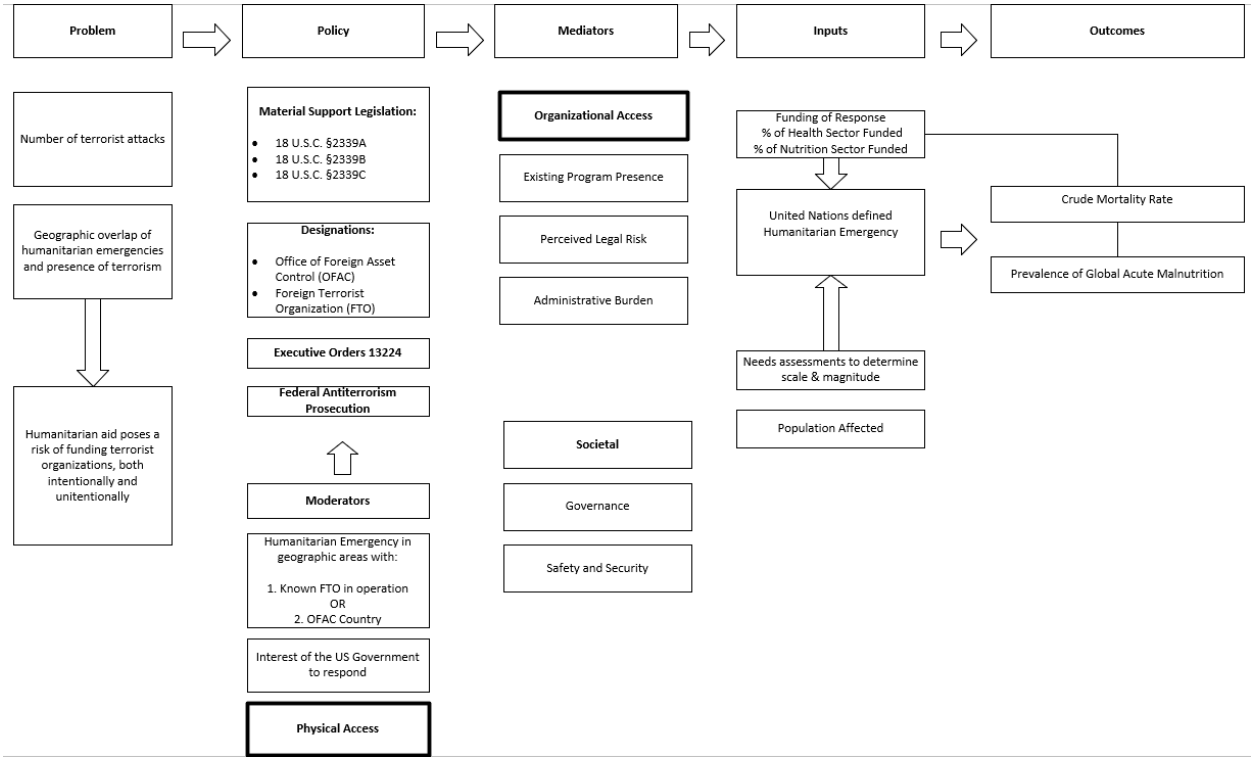

Figure 19: Access as a Moderator and Mediator

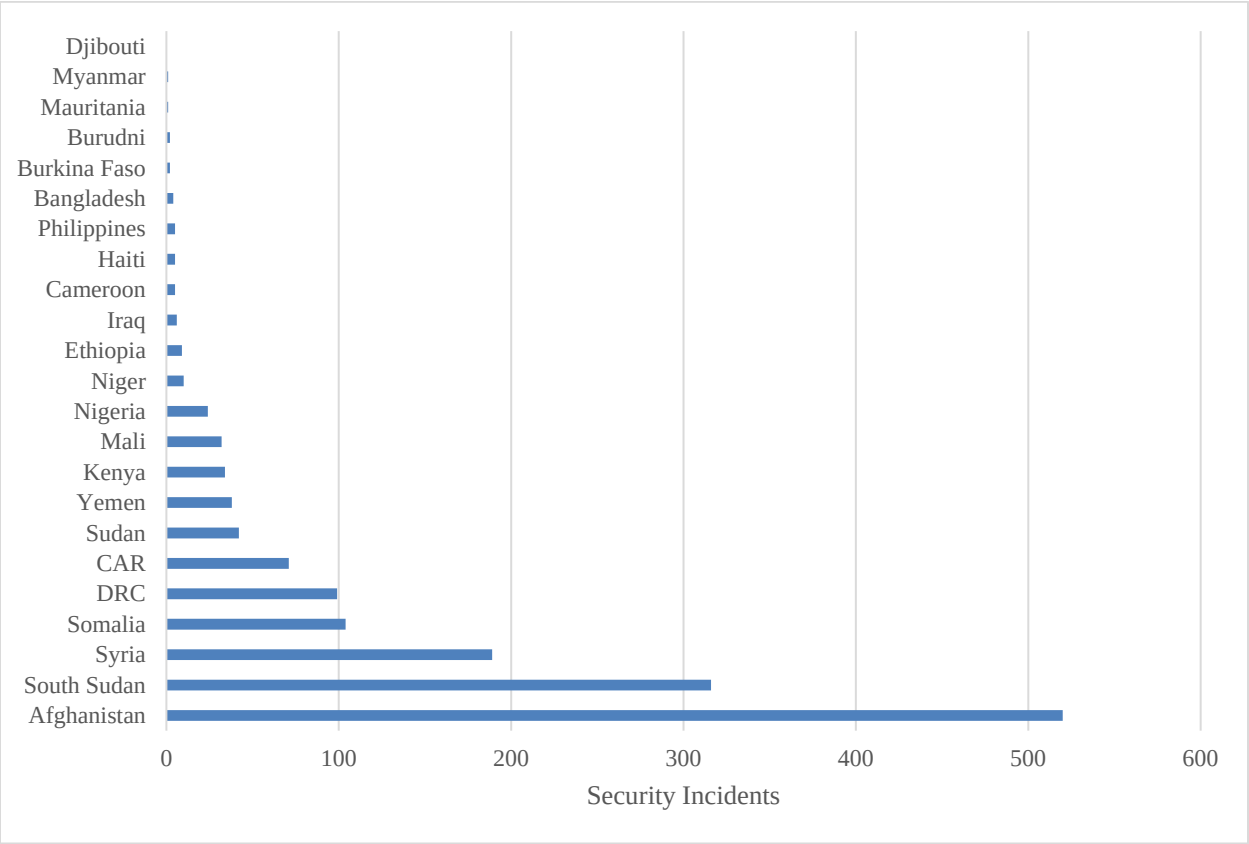

Figure 20: Number of Reported Security Incidents Directed at Aid Workers in Selected Humanitarian Emergencies, 2012-2018, ("Humanitarian Outcomes, Aid Worker Security Database," 2020)

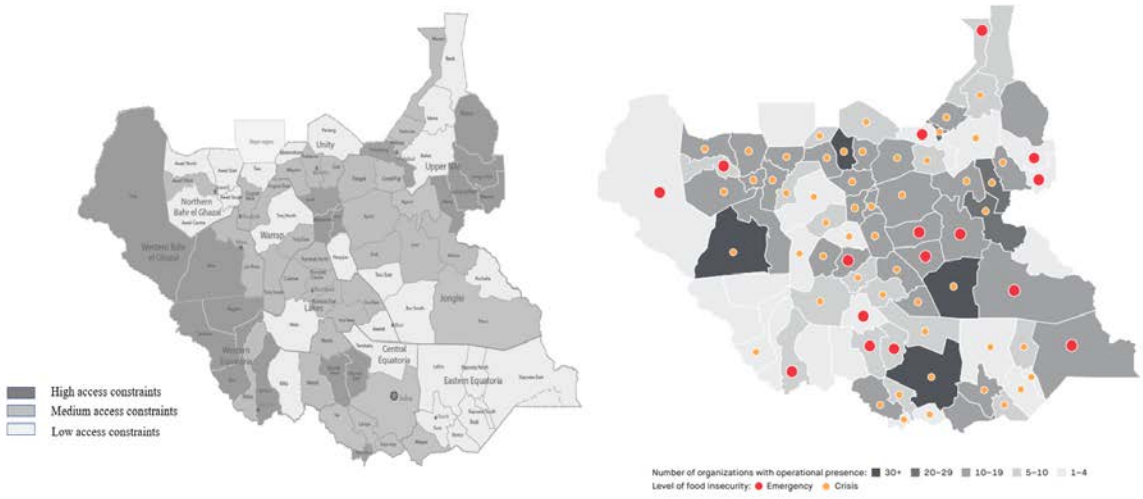

Figure 21: Needs, Operational Presence, and Access in South Sudan, 2018 (OCHA, 2018) (IFRC, 2018a)

Additionally, previous evaluations have reported on the internal organizational challenges of working in areas where material support legislation applies. Not only was there an increased burden in terms of reporting requirements for donors, but there were also significant challenges with staffing (Mackintosh & Duplat, 2013). NGOs reported challenges with hiring citizens of countries with strong material support laws for fear of prosecution and with the vetting system for subcontracting national or local organizations (Mackintosh & Duplat, 2013; Pantuliano et al., 2011) .

The risk of prosecution remains ever-present for NGOs working in these contexts. Prosecution may be directly for violation of one of the key statutes (§2339A, §2339B, or §2339C) or various sanctions, or even through other legal processes. Several suits have been

filed in the U.S. legal system by an independent advocacy organization under the False Claims Act ("False Claim Act ", 2009). These suits argue that organizations made false claims when signing the United States Agency for International Development Anti-Terrorism Certifications. Organizations failed to report projects funded with non-USG monies that could be construed as providing material support to FTOs under USG policy. In one case, Norwegian People's Aid settled with the USG out of court and agreed to pay $2.02 million (Parker, 2019). A current suit is pending against Oxfam with potential fines amounting to $160 million ("COMPLAINT against OXFAM a/k/a OXFAM GB," 2019; Parker, 2019). The lack of clarity around compliance with counterterrorism regulations is frequently cited by NGOs as an additional operational challenge in these contexts (Jackson & Zyck, 2017; Mackintosh & Duplat, 2013; Pantuliano et al., 2011; Parker, 2019).

Both the physical and operational barriers work in concert to reduce humanitarian access and prevent populations from receiving life-saving assistance. The direct and indirect impact of material support legislation on reduced access, be it externally or internally enforced, are apparent in this analysis. In the absence of access, it is not possible to fully examine the relationship between material support legislation and health outcomes in humanitarian emergencies.

Recommendations

This analysis was designed to explore and describe the impact of material support legislation on key health outcomes in humanitarian emergencies. Despite the inability to fully assess this relationship, recommendations for future analysis have been generated.

1. *Improve Humanitarian Access*

Advocacy for physical access to highly insecure areas or areas controlled by terrorist organizations is increasingly important as humanitarian operating space continues to shrink.

Effective humanitarian response requires a continual and physical presence to build relationships and trust with communities. “Bunkerization” of aid, where NGOs and donors operate from secure compounds limits acceptance, reach, and ultimately data for response and policies (Chaudhri, Cordes, & Miller, 2017).

The USG should incorporate advocacy for humanitarian access as part of standing foreign diplomacy to achieve the national security goal of addressing humanitarian crises. Additionally, advocacy should be a focal point of donor forums, such as the Good Humanitarian Donorship Initiative, where lessons learned, and best practices can be shared.

Advocacy is not just the responsibility of governments and donors, but rather is cross-cutting. Advocacy must occur across all levels, local to international, and all parties, donors, NGOs, armed actors, states, and affected populations. In complex settings, access requires a sustained dialogue, operational presence, and time (Jackson & Zyck, 2017). It is a lengthy and ongoing process. In the absence of access, data will continue to limit the analysis.

2. Protect Humanitarian Assistance

Humanitarian access will not be achieved if humanitarian assistance is not protected. The lack of humanitarian exemptions within US legislation is one of the greatest obstacles to providing impartial assistance based on need alone. If humanitarian assistance is a priority of national security, then access should not be impeded by the fear of prosecution.

In the short-term, the USG should clarify the intent of material support legislation and humanitarian assistance as to whom and what activities will be prosecuted (Kurtzer, 2019). The Departments of State, the Treasury and Justice should work collectively to identify and establish standard acceptable activities and risks, when working in contexts with terrorist organizations,

differentiating between intentional diversion of funds versus humanitarian action. The narrow nature of current exceptions to material supports regulations mean that standing and basic humanitarian interventions such as the provision of medical care, food aid, and shelter all constitute material support.

Long-term measures require more detailed processes, such as humanitarian exemptions for neutral and impartial assistance. A standing exception for humanitarian assistance like those for medicine and religious materials would positively impact humanitarian assistance removing key obstacles for NGOs navigating complex environments. The European Union and the United Nations Security Council Resolution 2462 have both moved in this direction allowing for 'impartial humanitarian assistance recognized by international law' (IFRC, 2018b) within counter-terrorism policies and to "take into account the potential effect of those measures on exclusively humanitarian activities, including medical activities, that are carried out by impartial humanitarian actors in a manner consistent with international humanitarian law" ("Resolution 2462," 2019)

Verbal assurances that organizations and individuals will not be prosecuted as long as they act in good faith are not sufficient to mitigate organizational risks (Jackson & Zyck, 2017). If standing exemptions to material support legislation are not legislatively palatable, then at a minimum and expedited process for temporary relief from prosecution during dire humanitarian circumstances should be established. The process should involve all aspects of the USG involved in international counter-terrorism and humanitarian assistance, the Department of State, including the Bureau of Humanitarian Affairs and the Bureau of Population, Migration and Refugees, the Department of the Treasury Office of Foreign Asset Control, the Department of

Justice, and if applicable the Department of Defense. The goal of the process should be to expedite aid to populations in need to minimize suffering and reduce the impacts of the crises.

Stakeholders and Future Research

Moving forward, a balance must be struck between the risk of providing material support versus humanitarian assistance. Where the two overlap, there will never be a scenario of zero risk. The USG must decide whether counter-terrorism measures and the enforcement of policies is an all-or-nothing strategy in the face of humanitarian crises. Will the USG continue to follow the Department of State's perspective that 'all contributions further terrorism' ("Holder v. Humanitarian Law Project," 2010), or will there be a clearer path forward for humanitarian assistance?

Documentation of impacts of material support on outcomes is urgently needed to inform this dialogue. If it is not achievable to document health impacts because of their complexity as an outcome, then other outcomes should be pursued. One example of an alternative indicator may be the percent of a population which is inaccessible to humanitarian assistance. Inaccessibility may stem from physical insecurity or bureaucratic constraints. The ACAPS Humanitarian Access Overview is in its fourth year of data collection and analysis on access, and therefore a preliminary analysis may be feasible analyzing access geographically by where material support legislation is likely to be applied.

A second alternative indicator may be the number of people reached by assistance disaggregated by material support legislation status, i.e., the presence of FTOs or OFAC sanctions. The number of people reached by humanitarian assistance has limitations, as it does not provide context about the quantity or quality of assistance. The IASC suggests that people

covered by assistance is a better indicator as it provides context around the assistance (IASC, 2016). If available, comparing reached or covered populations to those that are not by material support legislation status may provide insightful analysis into the impact of legislation on assistance.

The distribution of NGOs based on need disaggregated by where materials support legislation applies could be another impact indicator. NGOs have self-reported censoring their programmatic locations to avoid violating these policies. It may prove useful to explore this phenomenon and share it openly with the United Nations and individual donor countries.

Until there is robust evidence demonstrating the impact of material support legislation and outcomes in humanitarian emergencies, the conversation will be stagnant. Identifying practical solutions for the coexistence of counter-terrorism measures and humanitarian response requires frank dialogue. The conversation must not be within the confines of each sector, humanitarian, legal, donor, or security, but rather across stakeholders. To effectively inform policy to achieve security and humanitarian goals, operational data on impacts of material support legislation must be systematically collected, reported, and discussed.

Limitations

There are several limitations with this policy evaluation. First, only emergencies defined by the OCHA were included in the analysis. Smaller, short-term emergencies may not have been included. Short-term emergencies are more likely to result from sudden-onset natural disasters, such as earthquakes and flooding, and have a limited impact on nutritional status. However, these types of events may produce high levels of mortality associated with drowning, landslides, and other traumatic injuries (Dubray & Guha-Sapir, 2018).

Second, not all countries with an OCHA-defined emergency were included in the analysis. Ten countries were excluded from the analysis because of a lack of nutrition and mortality data. This resulted in a smaller sample size, particularly impacting the ability to create models for CMR. The excluded countries had varying levels of exposure to FTOS and OFAC sanctions.

Third, not all data points for GAM and CMR for each emergency may have been captured and included in the analysis. Public repositories for survey reports and data summaries were searched for each emergency. Despite this, not all data may have been available in the public domain, particularly for the earlier years of the study time period. Additionally, some countries, such as Somalia and South Sudan, have highly accessible data, while other countries have more restrictions on data sharing, for example, Ethiopia. Both the lack of data from a complete absence of data collection and as well as data outside of the public domain may affect the representativeness of the analysis and, therefore, the generalizability of the results.

Fourth, the sample size for the analysis is small. Only 60 and 92 observations were available for CMR and GAM, respectively, once mean estimates were generated by year and country. As such, data was not robust enough to create multiple models. Additionally, models were limited in the number of variables that could be incorporated.

Finally, data quality must be considered. The available data were abstracted from survey reports, cluster sites, and survey repositories. No raw data was available, and therefore data was not reanalyzed. Quality checks for nutritional data as defined by the SMART methodology (SMART et al., 2017), were employed. However, there are no such standardized quality checks for mortality. Mortality data often has a high level of uncertainty and is prone to biases, as previously described.

Conclusion

The year 2021 marked another record in the number of people in need of humanitarian assistance, 235 million or 1 in 33 people (OCHA, 2021). Humanitarian emergencies are complex and dynamic. The increasing frequency of armed conflict and the role of Non-State actors combined with high levels of insecurity have further complicated the provision of principled humanitarian assistance. Understanding the impact of material support legislation on humanitarian assistance is critical to achieving the dual national security objectives of counter-terrorism and providing humanitarian assistance. Further analysis of the interactions and impacts of the two is required in combination with continued dialogue between donors and the humanitarian aid community.

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APPENDIX A

DESIGNATED HUMANITARIAN EMERGENCIES, 2012-2018

Table 1: Countries with United Nations Office for the Coordination of Humanitarian Affairs Designated Humanitarian Emergencies, 2012-2018

Country	**Year(s) of Emergency**
Afghanistan	2012-2018
Bangladesh	2018
Burkina Faso	2012-2018
Burundi	2016-2018
Cameroon	2014-2018
Central African Republic	2012-2018
Chad	2012-2018
Cote d'Ivoire	2012; 2016; 2018
Djibouti	2012-2017
Democratic People's Republic of Korea	2018
Democratic Republic of Congo	2012-2018
Ethiopia	2016-2018
The Gambia	2013-2016
Guatemala	2016
Haiti	2012-2018
Honduras	2016
Iraq	2015-2018
Kenya	2012-2013
Liberia	2012
Mali	2012-2018
Mauritania	2012-2018
Myanmar	2013-2018
Niger	2012-2018
Nigeria	2014-2018
Occupied Palestinian Territory	2012-2018
Philippines	2012-2014
Senegal	2012-2018
Somalia	2012-2018
South Sudan	2012-2018
Sudan	2012-2018
Syria	2012-2018
Ukraine	2015-2018
Yemen	2012-2018
Zimbabwe	2012

APPENDIX B

GLOBAL ACUTE MALNUTRITION

Table 1: Distribution of Nutritional Surveys by Country and Year of Emergency

Country	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Afghanistan	1	ND[†]	4	18	18	13	8
Bangladesh	NE[*]	NE	NE	NE	NE	NE	4
Burkina Faso	2	3	2	1	7	ND	ND
Burundi	NE	NE	NE	NE	ND	ND	64
Cameroon	NE	NE	ND	12	10	4	4
Central African Republic	3	ND	ND	ND	4	ND	ND
Chad	12	12	12	30	31	23	23
Djibouti	1	1	2	2	ND	ND	NE
Democratic Republic of Congo	4	12	7	7	23	23	9
Ethiopia	NE	NE	NE	NE	10	9	1
Haiti	10	ND	ND	ND	11	ND	ND
Iraq	NE	NE	NE	1	ND	ND	ND
Kenya	21	10	NE	NE	NE	NE	NE
Mali	6	11	12	ND	10	ND	11
Mauritania	24	2	1	ND	1	ND	ND
Myanmar	NE	7	3	2	ND	ND	ND
Niger	1	ND	ND	ND	21	7	18
Nigeria	ND	ND	ND	ND	11	29	25
Philippines	2	ND	1	NE	NE	NE	NE
Somalia	30	24	12	35	26	21	5
South Sudan	ND	ND	41	41	56	16	55
Sudan	2	5	ND	3	ND	ND	7
Syria	ND	ND	1	ND	ND	4	2
Yemen	11	9	12	7	9	6	22

[†] ND: no data available; * NE: no emergency declared for the year

Table 2: Mean Prevalence of Global Acute Malnutrition by Country and Year of Emergency

Country	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Afghanistan	5.31	ND[†]	8.07	6.64	7.39	7.47	11.35
Bangladesh	NE[*]	NE	NE	NE	NE	NE	12.17
Burkina Faso	13.27	14.84	7.86	7.14	7.86	ND	ND
Burundi	NE	NE	NE	NE	ND	ND	4.46
Cameroon	NE	NE	ND	8.97	8.05	5.07	5.55
Central African Republic	5.70	ND	ND	ND	6.48	ND	ND
Chad	17.63	10.32	9.63	11.05	20.11	15.10	14.06
Djibouti	10.15	12.1	12.17	11.6	ND	ND	NE
Democratic Republic of Congo	11.08	9.48	9.22	10.38	9.54	11.01	11.5
Ethiopia	NE	NE	NE	NE	21.47	8.72	15.9
Haiti	4.02	ND	ND	ND	4.61	ND	ND
Iraq	NE	NE	NE	1.61	ND	ND	ND
Kenya	12.21	9.56	NE	NE	NE	NE	NE
Mali	9.37	10.94	9.71	ND	10.29	ND	10.09
Mauritania	14.44	12.55	8.63	ND	5.52	ND	ND
Myanmar	NE	11.99	5.1	16.85	ND	ND	ND
Niger	13.71	ND	ND	ND	10.46	11.33	13.38
Nigeria	ND	ND	ND	ND	12.99	9.37	11.12
Philippines	4.66	ND	4.3	NE	NE	NE	NE
Somalia	16.43	13.83	13.62	13.30	15.61	13.94	12.24
South Sudan	ND	ND	15.84	18.11	19.05	19.22	14.42
Sudan	16.85	12.10	ND	15.6	ND	ND	16.13
Syria	ND	ND	1.13	ND	ND	6.0	2.6
Yemen	14.03	9.81	13.14	16.77	14.98	10.52	12.12

[†] ND: no data available; * NE: no emergency declared for the year

APPENDIX C

CRUDE MORTALITY

Table 1: Distribution of Mortality Surveys by Country and Year of Emergency

Country	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Afghanistan	ND[†]	ND	3	6	5	5	8
Bangladesh	NE[*]	NE	NE	NE	NE	NE	4
Burkina Faso	ND	ND	ND	ND	ND	ND	ND
Burundi	NE	NE	NE	NE	ND	ND	17
Cameroon	NE	NE	1	5	10	4	ND
Central African Republic	ND	ND	ND	ND	ND	ND	ND
Chad	11	ND	ND	11	23	23	23
Djibouti	ND	ND	ND	ND	ND	ND	NE
Democratic Republic of Congo	ND	ND	ND	ND	13	25	9
Ethiopia	NE	NE	NE	NE	ND	26	19
Haiti	ND	ND	ND	ND	ND	ND	ND
Iraq	NE	NE	NE	ND	ND	ND	ND
Kenya	17	6	NE	NE	NE	NE	NE
Mali	7	5	6	ND	10	NE	11
Mauritania	35	2	ND	ND	ND	ND	ND
Myanmar	NE	ND	ND	ND	ND	ND	ND
Niger	1	ND	ND	ND	19	7	18
Nigeria	ND	ND	ND	ND	11	29	25
Philippines	ND	ND	ND	NE	NE	NE	NE
Somalia	27	22	ND	28	20	ND	ND
South Sudan	3	36	31	37	52	15	54
Sudan	ND	ND	ND	ND	ND	ND	7
Syria	ND	ND	ND	ND	ND	ND	ND
Yemen	5	2	11	1	9	4	22

[†] ND: no data available; * NE: no emergency declared for the year

Table 2: Mean Crude Mortality Rate by Country by Year of Emergency

Country	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Afghanistan	ND[†]	ND	0.37	0.25	0.29	0.27	0.51
Bangladesh	NE[*]	NE	NE	NE	NE	NE	0.23
Burkina Faso	ND	ND	ND	ND	ND	ND	ND
Burundi	NE	NE	NE	NE	ND	ND	0.20
Cameroon	NE	NE	1.57	0.52	0.50	0.37	ND
Central African Republic	ND	ND	ND	ND	ND	ND	ND
Chad	0.48	ND	ND	0.61	0.58	0.42	0.65
Djibouti	ND	ND	ND	ND	ND	ND	NE
Democratic Republic of Congo	ND	ND	ND	ND	0.52	0.6	1.34
Ethiopia	ND	NE	NE	NE	ND	0.18	0.21
Haiti	ND	ND	ND	ND	ND	ND	ND
Iraq	NE	NE	NE	ND	ND	ND	ND
Kenya	0.54	0.57	NE	ND	ND	ND	ND
Mali	0.22	0.5	0.44	ND	0.23	ND	.30
Mauritania	0.36	ND	ND	ND	ND	ND	ND
Myanmar	NE	0.39	ND	ND	ND	0.4	ND
Niger	0.78	ND	ND	ND	0.28	0.39	0.38
Nigeria	ND	ND	ND	ND	0.49	0.87	0.52
Philippines	ND	ND	ND	NE	NE	NE	NE
Somalia	0.42	0.44	ND	0.3	0.33	ND	ND
South Sudan	0.53	0.65	0.91	0.78	1.00	0.93	0.85
Sudan	ND	ND	ND	ND	ND	ND	0.33
Syria	ND	ND	ND	ND	ND	ND	ND
Yemen	0.31	0.24	0.17	0.19	0.13	0.26	0.18

[†] ND: no data available; * NE: no emergency declared for the year