

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



“NGOs, they cannot kill people”:
Cholera Vaccination in the Context of Humanitarian Crises
in South Sudan

Dorothy Adwoa Yeboa Peprah

Thesis submitted to the University of London for the degree of

Doctor of Philosophy

Faculty of Epidemiology and Population Health

London School of Hygiene & Tropical Medicine

University of London

-2016-

DECLARATION OF AUTHORSHIP

'I, Dorothy Adwoa Yeboa Peprah, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.'

Signed:

Date:

Full name: Dorothy Adwoa Yeboa Peprah

ABSTRACT

Cholera is endemic and remains a significant public health problem in places like South Sudan where decades of war have devastated basic infrastructures and left people vulnerable to diseases mostly forgotten in other places. In 2010, the World Health Organization (WHO) recommended that oral cholera vaccination (OCV) be used in conjunction with other cholera prevention and control measures and an OCV stockpile was created to improve access to the vaccines in situations of outbreaks, humanitarian emergencies and other high risk settings. Four years later, following the eruption of a violent political crisis that has left more than 50,000 people dead and another 2.5million displaced, OCV campaigns were conducted in PoCs (Protection of Civilian areas) across South Sudan with vaccines provided from the stockpile. This was the first use of the OCV stockpile in a humanitarian crisis. The potential social and health systems effects of the vaccine have so far been unexplored.

This thesis uses qualitative methods to examine the socio-cultural and political dimensions of cholera and OCV campaigns among internally displaced Nuer people living in PoC areas in Juba, South Sudan, and their relation to perceptions of health, cholera risk and vaccination decisions. Interviews were conducted with humanitarian health professionals involved in the cholera response as well as with Nuer residents in the two PoCs where the OCV campaigns were conducted. Their narratives were interpreted with attention to the political and humanitarian crises in South Sudan as well as the humanitarian response by domestic and international actors. This thesis argues that the violent conflict, which led to the displacement of Nuers in Juba into UN-protected areas also led to changes in their conceptualization of risk and health. Both became intertwined in a socio-political narrative, framing the Dinka dominated SPLM government as a source of disease and UN/NGOs as a source of health. Cholera risk and vaccination decisions were described in non-political and political terms. Vaccination decisions were one of few means Nuers had of exercising political autonomy and control. Similarly, for humanitarian health professionals, the provision of OCVs was an essential aspect of building credibility and trust among Nuers in the PoCs. In this context, trust in institutions emerged as the most significant influence in vaccine decision making. The significance of trust, which is not encompassed in a typical “exposure-outcome” framework of epidemiology, also explains why vaccine recipients neither perceived their risk of cholera as diminishing nor perceived a reduced need for preventative practices, such as hand-washing, five months after vaccination. The thesis concludes that vaccination in a humanitarian crisis context warrants re-conceptualization not simply in an equation weighing epidemiological risk and disease perception on the part of the target population, nor a simple decision of doing what is best from the perspective of humanitarian actors, but as part of a complex process also considering the political and social dynamics surrounding health interventions and their influence on public willingness to accept them.

ACKNOWLEDGEMENTS

This thesis is dedicated to the people of South Sudan & to the humanitarian aid workers who have lost their lives.

Supervisor: Dr. Heidi Larson, Senior Lecturer, LSHTM

Advisory Committee Members: Dr. Helen Burchett, Dr. Jennifer Palmer and Dr. James Rubin

I am extremely grateful for the excellent academic supervision and advice which I have received throughout the course of my PhD from my supervisor and advisory committee: James who helped make this a practical and useful piece of work, Jennifer who came to challenge my thinking and add depth at a critical juncture and Helen who has provided a steady hand throughout. A special note of thanks goes to my supervisor, Dr. Heidi Larson. Her support, encouragement and genuine interest in my work has been key to the completion of this PhD. I cannot thank you enough.

Research Assistants: Thank you to my research assistants not only for your labor but for your intellectual curiosity, sincerity and courage -David, Simon, Luak, Santino, Lony and Nguen.

Funding: This study was funded, in part, by the World Health Organization's Control of Epidemic Diseases Unit, Pandemic Diseases Department. Thank you to Stephen Martin. This research would not have been possible with his interest and advocacy for this study, all of which enabled me to return to South Sudan. I appreciate his championing this cause among his colleagues, Alejandro Costa, William Perea and Abdinasir Abubakar.

Colleagues, Friends and Family: There are several other people who have generously given their time, intellect and moral support before and during this PhD. There are those who planted seeds for my intellectual curiosity early on and made me believe I was destined for "bigger things." They include: Barbara Heck, Mary Garry, Howard Gershenfeld, Carolyn Sargent, Alisa Lincoln & Rick Brennan. There are those who were instrumental in getting me to LSHTM and onto this topic - Adam Biran, Claire Null, Francesco Checchi, and the late Jeroen Ensink. There are people who have practically and kindly supported me through encouragement and revisions- Adrienne Testa, John Adams, Emily Warren and the Kritikos Study Group. Special thanks to my dear PhD friends who have accompanied me through this process- Ngozi, Deb, Kate, Maud, Stefanie, Onikepe, Robyn & Lisa.

Lastly, I am most grateful to my family. To my father and my late mother who have and continue to embody all of the struggles, joy and hope of migration. Thank you both for showing, by example, the value of education and hard work. To my brother who paved the way for Peprah PhDs. I have borrowed your confidence in me in every stage of this PhD and will continue to do so. Thank you for being such a mentor, friend and big brother. To Stephani Hatch Richards and Marcus Richards for your support in making this dream of a PhD a reality. I've been able to take leaps knowing you always had a soft place for me to fall. And to the family I've been lucky to acquire along this journey - Anna & Greg, Rachel & Nav, Tom & Donne, Antony and Fiona Edwards-Stuart. You have each contributed generously to making London my home and provided examples of dedication and love.

And to my husband, Luke Edwards-Stuart. Support is an inadequate word for describing all you have given me throughout this phase of life. Even if it were possible to have done this without you, I never would have wanted to. Thank you so much.

TABLE OF CONTENTS

DECLARATION OF AUTHORSHIP	2
ABSTRACT	3
ACKNOWLEDGEMENTS	4
TABLE OF CONTENTS.....	5
ABBREVIATIONS.....	8
LIST OF TABLES	9
LIST OF FIGURES	9
1. CHAPTER 1: Introduction.....	10
1.1 Overview of Thesis	11
1.1.1 Rationale of Thesis	11
1.1.2 Outline of Thesis.....	13
1.2 Cholera epidemiology.....	15
1.3 Cholera prevention, treatment and the introduction of OCVs.....	16
1.4 Cholera’s socio-political interpretations in colonial India.....	18
1.5 Socio-politics of cholera in humanitarian crises	19
1.5.1 Advocacy for development and use of OCV in Haiti’s humanitarian crisis	23
1.5.2 WHO’s OCV stockpile and first deployment in humanitarian crises South Sudan	25
1.6 Theoretical perspectives for understanding OCV campaigns in humanitarian crises.....	27
1.6.1 Social Epidemiological perspectives on vaccine acceptance	28
1.6.2 Health Psychology perspectives on vaccine acceptance and behaviour	31
1.6.3 Medical Anthropological perspectives illness, power and social and cultural contexts	33
1.6.4 The case for a multidisciplinary approach to understanding vaccine acceptance.....	37
2. CHAPTER 2: Background - Conflict, humanitarianism and a cholera vaccination campaign in South Sudan	40
2.1 Brief political history of war and peace in South Sudan	40
2.2 OLS and the politics of humanitarian intervention in South Sudan.....	42
2.3 CPA period and humanitarian aid as development	44
2.4 Conflict in Juba the making of PoCs.....	47
2.5 Nuer peoples, governance and prophets	52
2.6 OCV Campaigns in Tomping and UN House PoCs in Juba.....	54
2.7 South Sudan’s 2014 cholera outbreak in Juba.....	60
2.8 Hostile environments for aid workers	62
3. CHAPTER 3: Methods	66

3.1	Study site and Research Team.....	66
3.2	Data collection tools.....	69
3.3	Methodological approach for data collection	71
3.4	Methodological approach to data analysis.....	74
3.5	Reflexivity	76
3.6	Methodological limitations.....	78
4.	CHAPTER 4: Results - States of transition: becoming and being a Nuer IDP in the PoCs	80
4.1	Getting to the PoC: the problem of trust	81
4.2	Perceptions of life within the PoCs.....	86
4.3	Perceptions of health services in the PoCs.....	94
4.4	Understandings of Illness in the PoCs.....	96
4.5	Typologies of rik	98
5.	CHAPTER 5: Results - Perceptions of cholera, vaccination decisions and behaviours after vaccination	100
5.1	Perceptions of Cholera	100
5.2	Reasons for vaccination with OCV	107
5.3	Reasons for partial vaccination with OCV.....	111
5.4	Reasons for not being vaccinated with OCV: nuances of refusal.....	116
5.5	Feelings and Behaviours after OCV vaccination	122
6.	CHAPTER 6: Results - Health professionals' perspectives on cholera and the role of OCV	126
6.1	The beginnings of mistrust for a humanitarian aid worker	128
6.2	Cholera as an indicator of South Sudan's governance	129
6.2.1	Cholera resulting from poor behaviours of South Sudanese.....	133
6.3	OCV campaign as a contested decision in a contested space	135
6.4	OCV campaign as a lens to view relations within humanitarian community.....	138
6.5	Understandings and attributions to OCV.....	142
6.6	Moving forward: Perceptions on future of cholera and OCV in South Sudan	149
7.	CHAPTER 7: Discussion – Re-framing cholera perceptions and vaccine decision making in the context of humanitarian crises in South Sudan	153
7.1	Salient themes.....	153
7.1.1	Changing relations between the SPLA/M, Nuer citizens and humanitarian organizations as symbolized by the PoCs	154
7.1.2	The privileging of non-state dependent interventions as symbolized by OCV campaigns	156
7.1.3	Multidimensional meaning and interpretations of cholera for PoC residents and health professionals	158
7.1.4	Embodiments of trust as demonstrated by acceptance of OCV.....	160

7.1.5	Distrust and the nuances of OCV refusal.....	161
7.2	Theoretical perspectives	162
7.2.1	Limitations of Social Epidemiological theory	163
7.2.2	Theories of protection motivation and risk compensation	164
7.2.3	OCVs in the context of theories of embodiment and therapeutic citizenry	166
7.3	A multidisciplinary framework: implications for practice	168
7.4	Strengths and limitations	171
8.	CHAPTER 8 - Conclusion	174
9.	APPENDICES	176
	Appendix A: Ethics Approval – Ministry of Health South Sudan	176
	Appendix B: Agenda Followed for Training Research Team	177
	Appendix C: Interview Guides	178
	Appendix C1: Interview Guide for WASH/Health Professionals.....	178
	Appendix C2: Interview Guide for Target Population	182
	Appendix D: Thok Nath Version of Consent Form	189
	Appendix E: Partial screen shot of NVivo detailed coding structure	192
10.	Appendix F: Publication from thesis	193
11.	REFERENCES	198

ABBREVIATIONS

BPHS	Basic Package of Health Services
CDC	United States Centres for Disease Control
CHF	Common Humanitarian Fund
CPA	Comprehensive Peace Agreement
GoS	Government of Sudan
GoSS	Government of Southern Sudan (CPA until referendum)
GoRSS	Government of the Republic of South Sudan (post-referendum)
ICG	International Coordinating Group
IDPs	Internally Displaced Persons
IMC	International Medical Corps
IOM	International Organization for Migration
IVI	International Vaccine Institute
MoH	Ministry of Health
MSF	Médecins Sans Frontières/Doctors Without Borders
NGOs	Non-government Organizations
NIH	United States National Institutes of Health
OCVs	Oral Cholera Vaccinations
OFDA	Office of Foreign Disaster Assistance (USAID)
OLS	Operation Lifeline Sudan
PoCs	Protection of Civilians
PMT	Protection Motivation Theory
SHTP-II	Sudan Health Transformation Project – Part II
SPLA/M	Sudanese People’s Liberation Army/Movement
SPLA/M-IO	Sudanese People’s Liberation Army/Movement- in Opposition
SPLA/M-IG	Sudanese People’s Liberation Army/Movement- in Government
UN	United Nations
UNICEF	United Nation’s Children’s Fund
UNMISS	United Nations Mission in South Sudan
UNOCHA	United Nations Office of Coordination of Humanitarian Affairs
USAID	United States Development Organization
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

LIST OF TABLES

Table 1: Comparison of Dukoral and Shancol	17
Table 2: Epidemiological Considerations for OCV Deployment.....	26
Table 3: Summary of OCV Campaigns	29
Table 4: South Sudan socio-demographic indicators	45
Table 5: OCV Coverage in Juba PoCs ¹³²	59
Table 6: Countries with greatest numbers of attacks on aid workers, 2010-2014	63
Table 7: Breakdown of Study Sample Sizes.....	73
Table 8: Respondents by Vaccination Status	108
Table 9: Vaccination Status by Cholera Experience	110
Table 10: Reasons for partial and non-acceptance of OCV	121
Table 11: Characteristics of Country-level Professionals.....	128
Table 12: Contributions of each discipline.....	169

LIST OF FIGURES

Figure 1: Map of South Sudan	42
Figure 2: Map of UN House PoC.....	50
Figure 3: Communal latrines - Tomping PoC.....	51
Figure 4: Communal tap stand - UN House PoC	51
Figure 5: Guardian Article - 21st August 2014	55
Figure 6: Handwashing station at entrance of UN House	57
Figure 7: Chlorine spraying station at UN House	57
Figure 8: Cot for cholera patients- UN House CTC.....	57
Figure 9: Cholera treatment instructions - UN House CTC.....	57
Figure 10: Timeline of OCV Campaigns in PoCs & other key events.....	60
Figure 11: Epidemic Curve of South Sudan's 2014 Cholera Outbreak(134).....	61
Figure 12: Case Distribution of South Sudan's 2014 Cholera Outbreak as of 1th September(134).....	62
Figure 13: Children playing by their home -UN House.....	88
Figure 14: UNMISS tank "papa UN" in Tomping	88
Figure 15: Perceived Risks from various levels of society by respondents	99
Figure 16: Poster of Cholera flowchart in UN House PoC	103
Figure 17: Cholera vaccination card provided in both PoCs.....	109

PART I: INTRODUCTION

1. CHAPTER 1: Introduction

Cholera is the first disease studied by most students of public health. Through telling and re-enacting the story of John Snow's discovery of the Broad Street pump as the source of London's 1854 cholera outbreak, cholera becomes the disease through which basic principles of epidemiology and epidemiological methods are introduced (1). But this framing of the story as the birth of the discipline of epidemiology often comes without adequate weight to the socio-political context in which the outbreak occurs (2). Indeed, the cholera outbreak of 1854 was significant. It was however one of four cholera outbreaks which occurred in London over the century resulting in an estimated 40,000 deaths. The disease disproportionately affected poorer parts of the city where overcrowding, insufficient sanitation and lack of municipal services were commonplace. Although the link between cholera and sanitation was established before the Broad Street pump removal, the dominant theory of disease at the time led health officials to reject Snow's findings on the waterborne nature of cholera in favour of a belief that the disease could be eradicated by disposing of all wastes in the River Thames. The resulting fester of raw sewerage in the Thames and its associated stench piqued with what came to be known as London's "Great Stink" in the summer 1858. The smell from the Thames, as amplified by this unusually hot summer, led to a massive public outcry (3). The stench's journey into the halls of newly built Houses of Parliament in Westminster eventually eroded lawmakers' resistance to complete infrastructural overhaul of the Thames (4). The final cholera outbreak of nineteenth century London occurred in 1866 in a part of East London not yet reached by the Thames overhaul.

Today, almost 150 years later, cholera persists. It still follows the waterborne transmission routes established by Snow. It still affects the poorest among us. It still raises public outcry and demands action from those governing public health. What *is* different is that the burden of cholera has largely shifted to the poorest countries in Africa, Asia and the Caribbean. What *is* different is that outbreaks are occurring alongside humanitarian crises in these countries. What *is* different is that vaccination has been added to cholera response options. Such circumstances mean that the array of actors involved in cholera prevention and response in these countries have expanded beyond domestic authorities to include humanitarian and development actors. Each of these actors serve different

constituencies, require different resources and emphasize different principles in the ways in which they operate. These factors demand that contemporary studies of cholera extend beyond lessons in epidemiological methods to include theoretical frameworks which allow for generous consideration of the socio-political influences on individual and community perceptions and response.

This thesis adopts such a perspective in understanding cholera and cholera vaccination in the context of humanitarian crises in South Sudan. South Sudan became the world's newest country in July of 2011 following a referendum in which 97% of Southern Sudanese voted to secede from the north. The hope of this newly found independence has all but disappeared in the four years that followed as failure of leadership has systematically chipped away at burgeoning infrastructures and the country has descended into one of the worst humanitarian disasters in recent history. Cholera, in its characteristically opportunistic way, has seeped through the gaping holes in South Sudan's socio-political fabric to become a recurring feature of the disease landscape. The options people have to protect themselves from cholera are shaped, in part, by the maintenance of a complex relationship between South Sudan's government and the humanitarian aid community, who remain the primary provider of health services. And decisions people make about cholera vaccination are heavily intertwined with their evolving associations with risk and demand for health services against the backdrop of their fragile state. This thesis will analyse the cholera vaccination intervention among internally displaced Nuer in camps within Juba, South Sudan using multi-disciplinary constructs of risk, embodiment and statehood which allow for analyses at the individual, community and state levels. As with London's "Great Stink", we will find that cholera in Juba illustrates the inseparable nature of politics and public health in humanitarian crises.

This first chapter of the thesis introduces cholera and oral cholera vaccination from a global perspective. The story of advocacy for OCV against the backdrop of technological improvements in the vaccine and highly visible cholera outbreaks will be used to frame key question about cholera vaccination intervention—questions which ultimately serve as the overall research questions for this thesis.

1.1 Overview of Thesis

1.1.1 Rationale of Thesis

This thesis aims to contribute to the growing body of knowledge on cholera and OCV interventions in humanitarian contexts by providing an in-depth understanding of the way individuals from a target population and health professionals perceive and experience OCV campaigns in the midst of a political crises in Juba, South Sudan. The OCV campaigns conducted in South Sudan in the first months of 2014 were the first use of WHO's stockpile mechanism in the context of humanitarian crises. The target population were internally displaced Nuer people who reside in two camps (PoCs) in Juba. The health professionals were members of the United Nations (UN) and NGOs who are responsible for the provision of health services, including water sanitation and hygiene, within the two camps. Service delivery within the PoCs take place with the permission but not involvement of the government of the Republic of South Sudan (RoSS) due to the nature of ongoing fighting. The concerns associated with OCV interventions are examined within this context through the following objectives:

Objective 1: To understand Nuer IDPs perceptions of risk in the PoC context and their relation to cholera perceptions *and* considering the influences of the socio-political and humanitarian context

Objective 2: To understand perceptions driving Nuer IDPs acceptance, hesitancy and refusal of OCV in relation and their relation to reported hygiene behaviours after an OCV campaign

Objective 3: To understand country-level WASH and Health professionals' perceptions of cholera and OCVs and its impact on priorities and resources for cholera prevention in the humanitarian context of South Sudan.

Objective 4: To apply multidisciplinary perspectives to understanding the socio-politics of vaccination in the humanitarian context of South Sudan.

This thesis improves upon the current literature on OCVs by making contextual considerations central to addressing the said objectives. The tenuous relationships between state actors, the humanitarian community of UN/NGOs and the Nuer IDPs inform analysis of perceptions of risk, cholera, OCV interventions and vaccine decision making. In doing so, findings from ethnographies of Nuer peoples and of humanitarian aid are applied to interpretation of findings from multiple

levels. This thesis responds to the call for multi-disciplinary approaches to understanding vaccination decision-making.

1.1.2 Outline of Thesis

The second chapter of this thesis provides background on the context and actors. It begins with a description of the history of South Sudan, including the SPLM's evolution from a rebel movement to a government. The humanitarian community's role in this evolution is described with a lens on the relationship between state and international actors. The chapter then shifts to the December 2013 political crises and the circumstances around the internal displacement of Nuer within Juba. The Nuer people are described in further detail with particular emphasis on their role as subjects of classic and modern ethnography. The settings for their displacement, the PoCs, which are also the setting for the OCV campaigns, are also described in terms of their management and service provision by humanitarian actors. An epidemiological description of Juba's cholera outbreak as well as the OCV campaigns which took place in the PoCs are described. The chapter concludes with focus on the context in terms of the working environment for aid workers.

The third chapter describes the methods used to collect and analyse the data for this thesis. The chapter begins by detailing the process of recruitment and training of the research assistants. The following section summarizes the research design, data gathering process and analysis of 59 semi-structured interviews, one unstructured interview and extensive observation conducted after the vaccination campaign in September 2014. A reflexive section brings my previous experience living and working in South Sudan to bear and discusses the potential influence of this experience on methodological choices and interpretation. The chapter concludes with reflection on the limitations of this study.

The fourth chapter of this thesis is the first of two results chapters detailing the perceptions of Nuer IDPs. The chapter begins with their descriptions of their experiences of getting to the PoC as well as their perceptions of life within the PoCs. The various risks involved in this journey and their new lives as PoCs residents are revealed along with the impact of these experiences on their identity, their relationship with SPLM government and humanitarian actors. The chapter then described their perceptions of health services and illness in the context of the PoC. Cultural-historical insights from Nuer ethnographies are woven throughout this chapter to further illuminate said themes. The

chapter concludes by summarizing the socio-political factors in relation to perceptions of risk, conflict and health for the respondents.

The fifth chapter continues descriptions of Nuer perception as they relate to individual perceptions of cholera and decisions around the vaccination. Descriptions of cholera draw on the constructs of protection motivation theory to illuminate knowledge on cholera, perceived severity of the threat of cholera and the understanding and opinions of coping mechanisms available for cholera. The chapter then describes perceptions of the oral cholera vaccine and the range of reasons given for full, partial and non-acceptance of the vaccine. The chapter concludes by summarizing the feelings and behaviours respondents reported after vaccination with an emphasis on rationales related to hygiene behaviours.

This sixth chapter of this thesis transitions from describing Nuer perceptions to those of humanitarian health professionals involved in cholera interventions. Their perceptions of cholera are described in relation to their perceptions of governance and the people of South Sudan. Their narratives also describe how the decision to undertake OCV campaigns was made and the ways in which cholera response challenges their own ways of working. The respondents also describe their perception of OCVs and their feelings about its impact on the cholera outbreak in Juba. The chapter concludes with their views on the future of South Sudan with respect to cholera and the OCV campaigns.

The seventh chapter of this thesis discusses the various themes which have emerged from results of interviews with Nuer IDPS and humanitarian health professionals. The December 2013 political crisis is discussed in terms of its impact conceptualizations of risk and health among internally displaced Nuer. The socio-political relevance of perceptions of cholera and cholera vaccination decisions are also analysed. Humanitarian health professionals' descriptions of cholera and their interpretations of OVC's effectiveness is discussed in relation to the context in which they are working and the dynamics of their relations with the government of South Sudan. The chapter then extends these thematic discussions to the theoretical perspectives introduced in earlier in this chapter. The benefits and limitation of applying themes to theoretical perspectives are also discussed. The chapter concludes by offering a multi-disciplinary framework for consideration of future vaccination interventions in humanitarian crises.

The final chapter of the thesis discusses the need and opportunities to apply this multi-disciplinary perspective to the introduction of new vaccines in outbreak settings and emergencies. It argues for a re-conceptualizing pre-emptive vaccination in a humanitarian crisis context as not simply an equation of increased epidemiological risk, disease perception and acceptance on the part of the target population nor a simple decision of doing what is best on the part of humanitarian actors but as part of a complex process of reconstructing social dynamics through health interventions.

1.2 Cholera epidemiology

Cholera is an acute, diarrhoeal disease that results in an estimated 3-5 million cases and over 100,000 deaths annually (5). The first outbreaks of cholera are believed to have occurred around 460 BC according to descriptions found in the records of Hippocrates. The “modern history” of cholera however is that of a disease which has killed millions in seven global pandemics over the past 200 years in Europe, Asia and the Middle East. Cholera arrived in sub-Saharan Africa in 1970 and in Latin America in 1991 during what is known as the seventh pandemic (6).

Today, an estimated 1.4 billion people are at risk of cholera (7). Children under the age of five bear the greatest burden of this risk and account for almost half of estimated cholera deaths (7, 8). Cholera is transmitted through faecal-oral routes, often through ingestion of water and food contaminated with the bacterium *Vibrio cholera* (*V.cholerae*) in places with inadequate sanitation (6, 9). The majority of people infected with *V. cholera* will be asymptomatic and shed the bacterium through their faeces. Those who develop symptoms are subject to a broad range, from mild diarrhoea to rapid onset of profuse diarrhoea and vomiting leading to dehydration, shock and death within hours if untreated.

Global trends suggest that incidences of cholera are on the rise (10, 11). The frequency and duration of cholera outbreaks are increasing as are mortality levels (12). Whilst there is some evidence that adaptations of *Vibrio cholera*'s more virulent serogroups contribute to this trend, inadequate water, sanitation and hygiene ultimately drive transmission (13). WHO and UNICEF's Joint Monitoring Program (JMP) for water supply and sanitation's 2012 report cited the sub-Saharan Africa region to have the greatest proportion of people without access to improved sanitation. An estimated 45% of

people use unimproved¹ facilities whilst another 25% defecate in the open (14). The magnitude of this problem coupled with the reality of insufficient resources means that cholera will likely continue to be a global public health problem for the near future (11) (15, 16).

1.3 Cholera prevention, treatment and the introduction of OCVs

Epidemiological estimates of global trends and disease burden should not obscure the simple fact that cholera is preventable and treatable. As with other diarrheal diseases, infrastructural improvements in water and sanitation and hygiene promotion are the mainstays of prevention and have made cholera virtually non-existent in high-income countries. For those who suffer from cholera, the timely administration of antibiotics with oral and intravenous rehydration can easily and cheaply treat the disease and prevent death (17, 18). These strategies have been used to control and ultimately eliminate cholera outbreaks in North America, Europe and much of Latin America (6). The availability of these effective interventions notwithstanding, they remain inaccessible to most in parts of the world where cholera persists. This has inspired efforts by those in the global health community to develop other options for cholera prevention.

Oral cholera vaccination (OCV) is the latest such option. OCV has been added to the “toolkit” as a short-term measure in cholera prevention and response. Although the first cholera vaccine was developed and used in mass vaccination campaigns in Spain in 1885, limitations with the vaccine’s efficacy and duration of protection have proven elusive to overcome and prevented recommendations of their use (19). It was not until the 1980s that a better understanding of cholera and immunity combined to create the basis for the vaccines used today. In 2001, WHO prequalified Dukoral, which is manufactured by Crucell in the Netherlands, as the first OCV recommended for use. Shanchol, which is manufactured by Shantha Biotechnics in India, was added to the list in 2011. Shanchol has the added distinction of being the first vaccine developed with funding from the Bill and Melinda Gates Foundation (20). Scientists from International Vaccine Institute (IVI) developed and licenced the vaccine in 2009 by modifying one already approved and used in Vietnam.

¹ Unimproved sanitation facility is defined by JMP as one which does not ensure a hygienic separation of human excreta from human contact. They include: pit latrines without slabs or platforms or open pit, hanging latrines, bucket latrines, open defecation in fields, forests, bushes, bodies of water or other open spaces, or disposal of human feces with other forms of solid waste.

WHO (http://www.who.int/water_sanitation_health/monitoring/jmp2012/key_terms/en)

Although four licenced cholera vaccinations currently exist, Dukoral and Shanchol remain the only ones which have demonstrated the level of efficacy and effectiveness required for prequalification by WHO (21-23) (24, 25). Both vaccines are safe, require 2 doses and begin to confer protection within 7-10 days of the 2nd dose. Both vaccines have been shown to confer individual protection of minimum 50% for two years and evidence suggests that Dukoral provides herd protection at low coverage levels (25, 26). Table 1 provides a more detailed comparison of Dukoral and Shanchol.

Table 1: Comparison of Dukoral and Shanchol

	DUKORAL	SHANCHOL
safety	High	High
buffer required	Yes	No
cold chain and storage	Yes (2–8 °C), shelf-life : 3 years Stable at higher temperatures.	Yes (2–8 °C), shelf-life : 2 years Stability tests ongoing.
dosage and schedule	2 doses (3 doses in children 2–5 years) 7–14 days apart (max. 42 days apart) Booster every 2 years (<5 yo booster every 6 months)	2 doses 14 days apart Booster every 2 years
minimum age	2 years	1 year
earliest onset of protection	7–10 days after last dose	7–10 days after last dose
efficacy and field effectiveness (2 doses)	Bangladesh, Peru and Mozambique 60%– 85%, waning in 1 – 2 years Lower in children (38% – 47%) in 1 – 2 years Zanzibar: 79% (1 year follow-up)	Kolkata, India 66% at 3 years (all ages) 43% at 3 years (children 1–4 years old)
herd protection	Demonstrated - Bangladesh, Zanzibar	Expected but not studied
estimated cost per dose	~\$4.7-9.4 per dose	\$1.85

Source: World Health Organization, Use of Oral Cholera Vaccine in Humanitarian Emergencies, http://www.who.int/cholera/vaccines/OCV_in_humanitarian_emergencies_15Jan2014.pdf (last updated: 15/01/14)

1.4 Cholera's socio-political interpretations in colonial India

The current distribution of cholera and the development of OCVs have not come about in a vacuum. The disease and its various responses have been recurring features in histories of medicine and science from Hippocrates' descriptions to John Snow's Broad Street pump discovery and the global pandemics that followed. These narratives indicate that, even as the disease was coming to be understood in terms of its epidemiology and vaccination options, cholera and its responses reflected the social and political context of its day. The disease was a means by which cultural and socio-political issues came to wrestle.

One of the first documented examples of the collision between international and domestic framings of epidemic risk and disease intervention---a tension which is still obvious today in the PoCs of South Sudan--- is reflected in David Arnold's medical historical account of the British colonial government's struggles against cholera epidemics in India (27). Arnold describes how the disease came to be perceived as an existential threat to the expansion of the British empire. The militaristic overtones evident in words like "attack" of cholera and "combatting" the disease which came into being during this time, reflected the British government's construction of cholera as an opposing force to be defeated just as any army. This construction of disease outbreaks as a metaphorical battle has remained in today's vernacular of public health.

This framing of the disease also proved useful in rationalizing existing biases against their Indian counterparts. By conceptualizing the solution to the existential cholera problem in terms of ideas of externally originated "attacks", the British were essentially immune from consideration of their own role in originating and propagation of outbreaks (27). As a result, cholera outbreaks among British troops during the epidemics spanning 1817-21 were blamed on their Indian counterparts. Notes from James Jameson of the Bengal Medical Board described the chaos which ensued as Indians began to desert the British army during one of the worst outbreaks: "the Indian camp followers, having introduced the disease in the first place, now began to desert in large numbers, and the highways and fields for many miles around were strewn with the bodies of those who had left the camp with the disease upon them" (27). Cholera claimed the lives of nearly 10,000 "European soldiers under the Bengal command" over the 40 year period between 1818 and 1861. The blame for these outbreaks within the army was attributed to the lack of hygiene of the Indian camp followers who carried equipment and managed the daily living arrangements of soldiers. The idea that European soldiers could be a source of infection for their Indian counterparts was never a consideration of the British.

The reaches of cholera epidemics in British India extended beyond the ranks of the military into rural villages across India where people were also grappling with questions of causation and means of alleviating themselves of the diseases. According to Arnold, villagers also associated cholera with colonial conquest but in a different way. They attributed outbreaks among soldiers to “cosmic disorder” created by their marches on sacred ground and violations of prohibitions on cattle consumption (27). Their responses to addressing the consequences of this disorder for their own villages resulted in various rituals and representations intended to pacify the frustrated deities responsible for the cosmic disorder. One practice involved the passing a decorated pot (*karagam*) filled with a mixture of coconut, limes and flowers from village to village (27). The *karagam*'s arrival in a village necessitated certain sacrificial rituals before it could be passed to the next village accompanied by the expulsion of an animal or person in a symbolic gesture that represented the expulsion of a disease. According to Arnold however, such rituals were subjected to political “misinterpretation” by the colonial government who were often in search of evidence of plots for uprisings. The passing of *karagams* and other such icons between villages was interpreted and investigated as organized attempts at political subversion. Suspicions remained even as investigations proved otherwise.

In essence, the British colonial government interpreted villagers' attempts to protect themselves from cholera as either “primitive” practices or efforts to undermine their government. The latter and the assignment of blame for outbreaks on camp followers were indications of the governments' fear of cholera's potential for disruption of governance and fanning political unrest. With this Arnold's explains that the cholera epidemics became more: “a test of European authority, therapeutics and faith” (27).

1.5 Socio-politics of cholera in humanitarian crises

Epidemiological understanding of cholera has greatly improved since the nineteenth century. The disease's cause and modes of transmission are no longer subject to debate. Nor are the protocols guiding the stabilization and prevention of deaths of cholera patients. Improvements in epidemiological understanding of cholera has not spared us however from socio-political implications of the disease. While it may no longer be appropriate to blame the victims of cholera, the assignment of responsibility for cholera outbreaks and responses continues to have implications not only for state actors but for the international actors that come to aid or fill the void of a non-

functioning state. This has become especially apparent as the virtual elimination of cholera from high income countries has made cholera a disease of poorer countries and settings at highest risk of cholera are peri-urban slums and camps for refugees and internally displaced persons where water and sanitation infrastructures fall short of minimum requirements (22, 28). Humanitarian crises represent the most salient examples of these settings and provide grounds for understanding current socio-political underpinnings of cholera and cholera response. The most publicised cholera outbreaks in recent memory have been inseparable not only from the politics of the country but also from the politics of humanitarian intervention. Cholera outbreaks and responses have become indicators of performance on the part of national governments and international aid organizations. This theme resonates throughout accounts of cholera outbreaks in the past 25 years.

Co-construction of cholera and humanitarian reform. One of the most notorious examples of such a cholera outbreak occurred in refugee camps around Goma and Bukavu, (then Zaire) in relation to the Rwandan genocide in 1994. This outbreak resulted in more than 70,000 cases of cholera and 12,000 deaths in less than a month (29, 30). So overwhelmed were the UN and NGOs responding to the outbreak that an estimated 3,000 people were dying per day at its height. Mortality rates from this cholera outbreak were ultimately described as “unconscionably high” and “preventable” (31). Preventable because much of the blame was ultimately attributed to the mismanagement of cholera by inadequately skilled humanitarian aid workers (31-33). Workers were found to have not applied rehydration appropriately and effectively. Mortality was associated with cases in which oral and intravenous hydration therapies were offered too late or not at all (30).

The failures in response to the Goma cholera outbreak extended beyond the specific case management however. They came to symbolize a larger issue which was gaining more traction: the lack of “professionalism” and accountability in the wider humanitarian aid system (32). A multi-donor funded report called the Joint Evaluation of Emergency Assistance to Rwanda found that a “number [of NGOs] performed in an unprofessional and irresponsible manner that resulted not only in duplication and wasted resources but may also have contributed to an unnecessary loss of life” (34). In terms of cholera, there was little evidence of a uniform approach to treatment by the range of aid groups launching various responses on the ground. This was particularly concerning to those who were involved in generating a growing body of knowledge on good practice in what was then known as the “medical relief” industry. Reviews of disaster response by those at US institutions such as the Centers for Disease Control (CDC) and National Institutes of Health (NIH)

concluded that medical relief efforts benefited from prioritizing a public health approach². Learnings from responses to disasters from Bangladesh to Guatemala established the importance of public health emphasis guided by epidemiologically logical methods of assessment and monitoring interventions (35). Researchers had already established that diseases such as cholera were most likely to occur after mass displacement. They not only generated guidelines for treating these diseases but also the logistical aspects of treatment were addressed with supply lists and stockpiles of treatment kits. It was not clear the level of awareness, utilization or even what ultimate impact these existing practice guidelines would have had on cholera mortality rates in Goma. What was clear was that retrospective critiques linked to lack of professionalism and inexperience evoked the absence of systematic transfer of learning from previous efforts from a growing industry with a new generation of responders.

Calls for reform coalesced around the development of standards by which not only public health responses but all aid efforts could be better monitored. The most significant reform response came about with the SPHERE project. The SPHERE project, launched in 1996, was the first systematic attempt to improve accountability across all sectors of humanitarian response (36). The key output of this project is the SPHERE handbook which begins with a humanitarian charter that establishes the ethical and legal grounds for action by the humanitarian community. SPHERE established quantifiable indicators for four sectors of humanitarian response: water supply and sanitation, nutrition and food aid, shelter and non-food items, and health action (37). SPHERE standards associated with water and sanitation for example advise that basic water provision should be provided at a rate of 15 litres per person per day (37). This is the minimum amount considered necessary for drinking, cooking and maintaining a standard of personal hygiene standard which allows for personal dignity and disease prevention. SPHERE indicators are considered the minimum standards by which all organizations involved in aid provision can be held to account although the general expectation is that they would be surpassed as responses move from acute emergency phases into long-term assistance. The SPHERE handbook has undergone rounds of revision and remains the humanitarian aid industry's standard for professional guidance. Cholera outbreak prevention and experiences in Goma heavily influenced the development of SPHERE standards for WASH and other sectors in humanitarian response.

² These efforts were led by physicians such as Roger Glass and Alfred Sommer who gained extensive international health experience during the 1970s in places such as India and Bangladesh in the Ganges river delta areas where cholera is endemic and outbreaks often followed extensive flooding from seasonal rains.

Cholera as power struggles between state and international actors. In the case of the 1994 Goma outbreak, cholera exposed gaps in international aid interventions and contributed to practical reforms in operations. The nature of the context however, namely that people were fleeing as refugees from conflict, made the role of the state in the production of the outbreak a peripheral matter. Moreover, once Rwandans crossed over into Democratic Republic of Congo (DRC) and became refugees, their social welfare became the responsibility of the international humanitarian community more so than the government of DRC.

The role of national governments in the production and response to cholera is often more central however. This was the case in the 2008 cholera outbreak in Zimbabwe. This outbreak occurred in Zimbabwe's urban neighbourhoods around Harare after years of neglect led to the eventual collapse of the city's water supply, sanitation and garbage collection systems. The minister for water and infrastructure attributed the infrastructural collapses to insufficient funds for maintenance. The resulting cholera outbreak, which began in August 2008 spread to most of the country as well as to 4 neighbouring countries, took more than a year to contain. By this time over 98,000 cases and 4,200 deaths had been reported (38). This high fatality rate was attributed to malnutrition and a collapsed public health infrastructure stemming from the country's economic crises.

The high rates of mortality were also attributed to political influences on the initiation of response. Cholera's evolution from localized outbreak to an epidemic involving multiple countries was attributed to delayed responses on the part of Zimbabwean government. Delayed response was, in turn, attributed in part to the government's reluctance to declare the outbreak (39). WHO officials attributed this to the stigma around declaring cholera outbreaks and the economic isolation that comes with them. This attribution diplomatically sidestepped what were concurring statements by Zimbabwean president Robert Mugabe that their economy and health systems were compromised because of sanctions by Western governments in response to his land redistribution policy. Mugabe echoed these sentiments in a meeting with the head of UNICEF, which was the first visit to Zimbabwe by the head of a UN Agency in 3 years (40). As the epidemic continued, Mugabe and his party's attributions of blame on Western powers became even more pointed framing it as a genocide by the governments of the United Kingdom and the United States as a pretext for the invasion of his country (41). His comments found traction in the anonymous comments of a United States official who suggested that neighbouring countries close their borders both as a means of stopping the spread

of the disease and politically isolating Mugabe's regime (42). The US official said the economic devastation caused by this form of isolation would have forced Mugabe's party out of power.

Zimbabwe's neighbours never resorted to isolationist tactics however, even as the country's cholera epidemic grew and spread beyond its borders. The political wrangling served more as an indicator of the state of relations between the Zimbabwean government and those of the US and UK. The consequence of this wrangling was a mix of resistance to international intervention and slow commitments by western donors once the country became more open to international assistance. In the meantime, a potentially manageable cholera outbreak transformed into a something much more significant, killing more people than it should have and ultimately requiring international humanitarian intervention.

1.5.1 Advocacy for development and use of OCV in Haiti's humanitarian crisis

The most recent coupling of cholera, state fragility, and humanitarian crises occurred after the earthquake that struck Port Au Prince, Haiti in January of 2010. Haiti's history is often described as "beleaguered", a word which implicates the confluence of legacies of foreign occupation, brutal dictatorships and political instability which have undermined the country's potential since its beginning as the first successful slave rebellion in 1804 (43). Haiti was long considered the poorest country in the western hemisphere and the earthquake amplified its fragility leaving between 90,000 – 316,000 dead and more than 1.5 million people displaced (11). Haiti's rural areas and urban slums were at the heart of a cholera outbreak that began 8 months after the earthquake. By April of 2011, over 274,418 cases and 4,787 deaths due to cholera had been reported during the 5-month period.

The sheer magnitude of the earthquake's devastation and the subsequent outbreak brought the voices of long-time advocates for Haiti such as Paul Farmer to the fore. Farmer has long framed Haiti's public health problems in terms of historical inequities stemming from direct and indirect exploitation and abuse by US and European powers. His NGO, Partners in Health (PIH) have implemented health projects in the poorest parts of Haiti for over 30 years guided by principles of social justice. In May 2001, Farmer and forty-three prominent physicians and researchers called for swift and comprehensive action to combat Haiti's cholera outbreak including the use of oral cholera vaccination. They wrote: *"Past epidemics have been curbed without vaccines, but we believe that*

vaccination has a significant role to play in Haiti given the vulnerability of the post-earthquake health, water, and sanitation systems and the observed virulence of the El Tor strain” (11).

Farmer’s campaign was not the first instance of advocacy for the use of cholera vaccination in response to an outbreak in the context of humanitarian crises. OCV advocacy had advanced to the level of health policy considerations more than ten years earlier, in the years after the Goma outbreak. Considerations of the potential role of the vaccination was underway even as SPHERE guidelines were being established. Researchers such as John Clemens and colleagues at the International Vaccine Institute (IVI) in Seoul, South Korea were among the first and most vociferous advocates for the technological improvements in cholera vaccine. They problematized possibilities of incorporating cholera vaccination into response in a 1998 JAMA article that ultimately concluded that the vaccine, as it stood, was not cost-effective enough to be widely used in emergencies (44). Christophe Paquet of MSF advocated for the use of cholera and other vaccinations in complex humanitarian emergencies a year later (45). In his 1999 article for *Vaccine*, he cited two WHO studies in which a much less effective version of the cholera vaccine Dukorol (85% efficacy for 6 months) was given to Sudanese refugees in Uganda as evidence for the feasibility of conducting OCV in humanitarian settings.

The most important documented meeting on the matter was WHO’s Global Task Force on Cholera Control in 1999. Despite limited evidence of effectiveness, this meeting considered “the potential use of oral cholera vaccination (OCV) as an additional public health tool for the control of cholera.” This meeting was the first official body to propose the creation of an OCV stockpile with 2 million doses for use in endemic and emergency settings. The advocacy of Clemens, Paquet and the WHO’s Global Task Force focused mostly on issues of OCV’s effectiveness and improvements in the supply chain. In their view, these were the two most important obstacles to improving the cost-effectiveness of OCV, which was essential for its wider use in emergencies. Their advocacy also implied that a policy promoting the use of cost-effective OCVs would be necessary to bring about wider use of OCVs which, in turn, would bring about evidence of its effectiveness.

Early OCV advocacy contributed to two key developments, both of which moved the concept of OCV use in humanitarian context closer to reality. The first was the Bill & Melinda Gates Foundation's award of 40 million dollars to Clemens and his team at IVI to develop vaccines for cholera and dengue (46, 47). The award, which was made in 2000, opened the door to a decade of improvements in the effectiveness and cost of production of OCV and ultimately resulted in the development of Shancol. Second, as mentioned earlier, WHO prequalified Dukoral as the first OCV recommended for use in 2001. The prequalification of Dukoral allowed for its use in various settings, including humanitarian contexts, and for documentation of these experiences even as Shancol was being developed. Cholera outbreaks, which continued throughout the decade of 2000, provided plenty of documentation opportunities that further improved evidence of effectiveness. Outbreaks occurred in more than 15 countries between 2000-2010 (48).

Although he was not the first, the advocacy of Farmer and other prominent figures in the global public health world re-invigorated the case for OCV at an opportune time. As a renowned physician and anthropologist whose non-governmental organization, Partners in Health³, includes co-founders such as Jim Kim, the current president of the World Bank, Farmer has considerable influence. Farmer's voice was also unique in its ability to couple rational arguments with unabashed appeals to conscience. As with other public health issues in Haiti, he framed the issue of access to cholera vaccination in moral terms. With Farmer's voice, the provision of cholera vaccination was not merely one of cost effectiveness and logistical feasibility, it was one of social justice for a marginalized population. The denial of "proven" therapeutics, based on cost, would be unjust. This advocacy coincided with the availability of Shancol, whose efficacy and cost exceeded all previous cholera vaccinations.

1.5.2 WHO's OCV stockpile and first deployment in humanitarian crises South Sudan

Farmer's call for action also coincided with changing policy at WHO and the prequalification of Shancol. In 2010, WHO recommended that cholera vaccination be used in conjunction with other cholera prevention and control strategies in endemic and epidemic settings (12). In an effort to

make cholera vaccination more widely and readily available, they created an oral cholera vaccine stockpile. The OCV stockpile project is a three-year endeavour which began in 2013. The aim of the stockpile project is to create and effectively deliver oral cholera vaccinations in response to outbreaks and/or pre-emptively in humanitarian emergencies in countries with the highest cholera disease burden. The operational model for the OCV stockpile project will follow the meningococcal and yellow fever vaccine stockpile models developed by the International Coordinating Group (ICG) including MSF, IFRC, UNICEF, and WHO. The OCV stockpile comprises approximately two million doses which are stored by the vaccine manufacturer and maintained on a rotating stock basis.

The process of accessing OCVs from the stockpile has been exceptionally streamlined. A stockpile request is activated when a national or international organization requests vaccines through an application system. The ICG has 48 hours to make a decision (approval, partial approval, more information needed or rejection) after receiving the application. Once approved, the request is sent to the manufacturer for delivery to the relevant country within seven days. This operational model has delivered over 50 million meningococcal vaccines for outbreak response since 1997 (49).

Table 2: Epidemiological Considerations for OCV Deployment

<i>Criteria</i>	<i>Indicator</i>
<i>Susceptibility of the population</i>	Number of cases reported in the affected area during the past 2 – 3 years
	Attack rate of previous outbreaks in the area
	CFR of previous outbreaks in the area
<i>Vulnerability of the population</i>	Refugee camp, IDPs or slums are present in the area
	Area with important population movements (border, market hubs...)
	Population density in the area
	Access to WASH
<i>Risk of extension</i>	Time elapsed / Maturity of the outbreak since 1st case reported
	Attack rate since the beginning of the current outbreak (i.e. cumulative cases)
	Proportion of health units in the district that report cases
	Time at which 1st cases were notified during the epidemic season

Source: Oral Cholera Vaccine Stockpile by Alejandro Costa, ARO logistic Meeting, 7-9 November 2012 Emergency Vaccination and Stockpiles (EVS), WHO

The OCV stockpile project plans to distribute more than one million oral cholera vaccinations to several countries over the life of the project (50). They anticipate 5-10 requests. The epidemiological and demographic considerations for granting requests can be found in Table 2 (49). Priority will be granted to low and middle income countries with a history of recurring cholera outbreaks, and particularly those in sub-Saharan Africa with high cholera burdens.

The first deployment of OCVs from WHO's stockpile occurred in South Sudan in February of 2014. It was almost 3 months after a political crisis among the country's president and his cabinet escalated into violent civil conflict which quickly spread across the country.⁴ The resulting humanitarian crisis left more than one in five South Sudanese displaced from their homes (51). OCV campaigns with *Shancol* were conducted across six UN-protected sites where internally displaced persons (IDPs) had fled to for their safety. The campaigns were a collaborative effort between WHO, UNICEF, MSF, Medair, IOM and IMC. Coverage estimates for the second dose of OCV (those who received their second dose of OCV) across all sites were estimated to be 64-95% (51). Although the coverage estimates were assessed with different methods with various degrees of certainty attached, the estimates were described as "generally high" (51). This coverage combined with the efficient logistical management of the vaccine from the initial stages of request from the ICG to the arrival of shipments throughout South Sudan, contributes to the narrative of success around this unprecedented undertaking.

1.6 Theoretical perspectives for understanding OCV campaigns in humanitarian crises

The stories of the British colonial government and recent examples of Goma, Zimbabwe and Haiti suggest important themes in socio-political considerations of cholera and cholera response. The disease and its responses may acquire socio-political patterns of the context and expose the relational dynamics of those involved. In the case of British India, cholera became embued with the inherent tensions of expansion and resistance to colonial state or foreign intervention. In the case

⁴ Details of the war and the OCV campaigns in Juba are discussed in chapter 2.

of Goma, failures in cholera response became an indicator of the need to “professionalize” the humanitarian industry. In the case of Zimbabwe, delays in cholera response were indicative of an extended history of political tensions between international and state actors. In the case of Haiti, technological improvements in OCV coincided with moralistic global health advocacy equating access to technologies to a form of justice for in poor communities. In each of these instances, the numbers presented by disease morbidity and mortality estimates would have provided a limited perspective of the complexity of cholera and cholera response in each context.

One would be remiss not to assume that South Sudan was exceptional in this regard. The OCV campaigns in Topping and UN House took place within a larger narrative of emergence and decline of statehood. South Sudan emerged from decades of civil war to become the world’s newest county in 2011 (52). The country has experienced significant social, political and economic strife in the years since and has gradually returned to civil war. The government of South Sudan, its citizens and the international community have all been part of this recent history. These actors have played various roles amid this evolving context and the humanitarian operations.

The 2014 OCV campaigns in South Sudan have benefitted to some extent from the culmination of global level policy changes and technological improvements to OCV in the years since Goma. The collaborative achievement of WHO and partner organizations in the completion of multi-site vaccination campaigns with vaccines from the stockpile in the midst of a humanitarian crises could be considered a milestone. The completion of the first stockpile supported OCV campaigns in South Sudan has provided a unique opportunity for understanding the introduction of this new vaccine in the context of an ongoing humanitarian crises. Nevertheless, the challenge of gaining an in-depth understanding of OCV vaccination campaigns in this complex setting lends itself to multiple levels of analysis. There are several potentially useful ways of approaching understanding of this vaccination in this context. A review of various approaches to understanding vaccination and health interventions in the context of humanitarian crises may provide framework for understanding the OCV campaigns in South Sudan.

1.6.1 Social Epidemiological perspectives on vaccine acceptance

As one of the most effective public health interventions, vaccination interventions and their impact on various diseases have traditionally come under the umbrella of epidemiological analyses. Such analyses often begin with understanding statistical estimates of the numbers of people who received

a particular vaccine (vaccination coverage). Although limited in the number of documented examples, OCV campaigns have been analyzed in terms of these coverage statistics. Only 7 countries had documented experiences of using OCV as of 2014---India, Bangladesh, Vietnam, Guinea, Haiti, Thailand and Tanzania, with the latter three comprising humanitarian actors (53). *Table 3* summarizes their measures of vaccine coverage. The experience of these countries indicate extremely wide variations in full oral cholera vaccination coverage, between 46 – 90% for the second dose. This wide variation coverage prompts further questions when juxtaposed to the various countries and settings in which the the campaigns took place and who initiated the campaigns. Médecins Sans Frontières (MSF) Switzerland conducted a campaign in Guinea, which was the first documented outbreak response using OCV in Africa (54, 55). By contrast, OCVs are provided by the government of Vietnam as part of routine immunizations programs.

Table 3: Summary of OCV Campaigns

<i>Country</i>	<i>Setting</i>	<i>Number Targeted</i>	<i>Number Receiving 1st and 2nd dose</i>
<i>India</i>	Urban Slums	108,965	Kolkata: 64% received at least one dose; 61% received 2 doses
	Rural	51,488	Odisha: 61% received first dose; 46% received second dose recipients
<i>Bangladesh</i>	Urban and Rural	160,00	Mirpur: 89% received the first dose; 77% received the second dose
		35,000	Keranigani: 83% received the first dose; 76% the second dose
<i>Vietnam</i>	Nation-wide	Included in routine vaccines for EPI	Since 1998, 10.9 million doses of OCV have been provided
<i>Guinea</i>	Rural	209,000	Boffa: 89.4% [95%CI: 86.4–91.8%] received the first dose; 79.8% [95%CI:75.6–83.4%] the second dose
			Fore’cariah: 87.7% [95%CI: 84.2–90.6%] received the first dose; 82.9% [95%CI:76.6–87.7%] the second dose
<i>Haiti</i>	Urban and Rural	100,000	100,000 people vaccinated. 90.8% received the second dose of vaccine
<i>Thailand</i>	Refugee Camp	43,968	Numbers not available; Noted that second dose was substantially lower with lowest coverage among males aged 18-54
<i>Tanzania</i>	Per—urban and Rural	50,000	Approximately 50% received second dose

Source: Table adapted from Hall et al, Introducing cholera vaccination in Asia, Africa and Haiti: A meeting report, *Vaccine* 33 (2015), p. 489-490

Although they form the essential baseline of understanding, the questions of variation in coverage within the diverse contexts where campaigns took place indicate key limitations of statistical estimates of OCV coverage. This problem points to the general limitations of survey-based research for uncovering the social determinants of vaccine decision making. For this reason, epidemiological analyses of vaccine coverage often accompany descriptions of reasons associated with vaccination decisions. Such reasons come under the general purview of the social epidemiology of vaccine decision-making. Social epidemiology addresses the socio-structural factors that influence the health of a population at any given time (56). Social epidemiology has been effective at uncovering the proximate reasons for childhood vaccination hesitancy and non-acceptance among parents (57). Vaccine hesitancy is broadly understood as people with inconsistent patterns of vaccine uptake. They may question vaccines, seek alternative schedules or delay vaccination (58). They exist on a spectrum between acceptance and refusal of a vaccine and is a considerable concern with the introduction of new vaccines (59, 60). Reasons for vaccine hesitancy have been attributed to insufficient knowledge about vaccines, poor levels of trust in the healthcare providers and sources of information about vaccination, particularly exposure to anti-vaccination media (57). Trust has also emerged as a key part of soci-epidemiological considerations of vaccine hesitance globally (61).

Social epidemiologic perspectives have also come to bear on understanding OCV acceptance and non-acceptance in relation to results of coverage surveys from the limited information in these seven countries. In Haiti, Guinea and Thailand, there were clear indications that OCV acceptance was lower among adult men. The greatest barrier to OCV uptake in Tanzania was absence from home because of competing obligations or priorities such as in relation to work, education and or visiting relatives. This was followed by lack of information about the campaign, sickness and fear of possible side effects (62). In Guinea and Haiti, non-vaccination was mostly attributed to being absent during the time of the campaign (55, 63). This was common among men who prioritized agricultural activities during the time. Most of the data on reasons for non-acceptance of OCV were collected as part of coverage surveys, a methodology which only allowed for quickly acquired short answers. MSF acknowledged that the awareness and understanding of cholera vaccination by the target population was limited. They identified the need for qualitative research as a means of exploring these issues in more depth. Only the data from Tanzania included in-depth interviews and probed into socio-cultural factors associated with non-acceptance.

Focusing on these proximate determinants of vaccine acceptance and non-acceptance have provided some benefits in terms of indicating points of intervention for public health professionals. But the persistence of vaccine hesitancy has called for a greater understanding of the contexts in

which they exist and their relation to psychological, political, economic and historical factors (57). The incorporation of theoretically grounded qualitative research is needed to illuminate the relational dynamics between these determinants. Nevertheless, social epidemiology has its own body of theories underpinning its perspective. Social epidemiological theories draw on uncovering and exposing the role of social inequality on the assumption that “the distribution of advantages and disadvantages in a society reflects the distribution of health and disease” (64, 65). Working on this assumption, social epidemiological investigations have focused on factors such as gender, race and ethnicity, social class, education as they relate to discriminatory practices perpetuating inequality and long-term social deprivation leading to ill health. Social epidemiological theories have been especially effective in analysis of health outcomes in marginalized groups. Studies of health disparities among people of colour in the United States for instance, effectively explains how experiences of discrimination come to be embodied through material and social practices such as slavery and property to result in lower life expectancies” (66-68).

The application of social epidemiological theories to global health research has been limited (69). Given the evidence of social factors for OCV acceptance in the seven countries, it would be important to understand the extent to which these factors exist in South Sudan and to see whether theories of inequities underlying social epidemiology apply to vaccine decision-making in humanitarian contexts.

1.6.2 Health Psychology perspectives on vaccine acceptance and behaviour

Understanding patterns of OCV acceptance and non-acceptance is important for improving vaccination coverage. Analysis based solely on population coverage and social determinants overlooks the contribution of individual level decisions and behaviours relating to vaccination. Individual level analysis of health behaviours falls within the remit of psychology. Psychological perspectives on vaccine behaviour, particularly in the context of epidemics and outbreaks, have been informed by health behaviour theories such as Protection Motivation Theory. This posits that decisions to adopt protective behaviours stem from individual appraisals of a given threat and the required coping mechanism (70, 71). The theory draws heavily on constructs underlying risk perceptions and self-confidence in one’s ability to adopt the behaviours needed to mitigate that risk.

Risk perceptions and coping appraisals are the key components of Protection Motivation Theory. The Royal Society's report on Risk Analysis, Perception and Measurement defined risk perception as "people's beliefs, attitudes, judgements and feelings, as well as the wider social or cultural values and dispositions that people adopt towards hazards and their benefits" (72). This definition acknowledges the cognitive and emotional dimensions of risk perception as well as the importance of social context in shaping them. This multi-dimensional understanding of risk perception accommodates findings of risk perception studies which indicate they can vary by demographic and socio-cultural factors (73-75). Protection Motivation Theory draws on this multidimensional model of risk perception in relation to health behaviours. A meta-analysis examined studies of risk perception as they relate to vaccination behaviour by using three cognitive dimensions of risk perception found in protection motivation theory: severity of illness, likelihood of illness and susceptibility to illness. All three dimensions were associated with vaccination uptake although the strength of association varied (76). This analysis also indicated that first time vaccinations may be better indicators of a causal relationship between risk perception and vaccination than routine vaccination, because of the potential for vaccination behaviours to become habit. Most of the studies examined risk perception in relation to uptake of flu vaccinations. A study of risk perceptions and behaviours during London's 2009 swine flu outbreak examined both cognitive and emotional dimensions of risk perception. The study found that while most people did not adopt recommended behaviour changes such as hand washing, greater anxiety and perceived effectiveness of hygiene behaviours were strongly associated with behaviour change (77). The perceived effectiveness of a behaviour is part of coping appraisal. An individual's coping appraisal of vaccination in response to the threat of avian flu would comprise their perceived effectiveness of the vaccine, the costs associated with getting vaccinated and their confidence in their ability to undertake the act of getting vaccinated. Avian flu maybe perceived as a health risk and vaccination perceived as an effective way of mitigating that risk but coping appraisals may determine that the queues for vaccination and the price of the vaccination affect one's intention to get vaccinated. For these reasons, risk perceptions and coping appraisals beg equal consideration in the application of Protection Motivation Theory to analyses of vaccination behaviours.

Behavioural considerations around OCV not only apply to individual decisions around vaccination but also to decisions after vaccination. Concerns about behaviours following acceptance of OCV represent the reality of partial protection conferred by the vaccine and for a limited period of time. There are also many other diarrheal diseases against which OCVs will not protect. For these reasons,

sanitation and hygiene practices will continue to play important roles in the control of cholera and other infectious diseases, particularly in places of increased risk such as humanitarian settings.

The fear that hygiene behaviours may decrease following a cholera vaccination is reflected in the concept of risk compensation. Risk compensation is defined as an observed change in behaviour whereby people tend to adjust their behaviour in response to their perceived level of risk, behaving less cautiously when they feel more protected and more cautiously when they feel a higher level of risk (78). The idea of risk compensation can subtly but significantly permeate public health safety interventions such as vaccination—which potentially increase perceived levels of safety whilst still requiring its recipient to maintain preventative practices at a rate comparable to not having received the vaccination. Fears of risk compensation fuelled some of the initial resistance to the human papillomavirus (HPV) vaccine as concerns were raised that adolescents would perceive themselves to be at less risk for HPV and other STIs after vaccination resulting in their engagement in riskier sexual behaviours. The evidence thus far has not supported this fear (79, 80) (81). Similar concerns have been raised with regard to pre-exposure prophylaxis for human immunodeficiency virus (HIV) i.e. that those who receive vaccination or treatment would perceive themselves to be at less at risk for HIV infection and practice riskier behaviours (82-85).

Similarly, the risk compensation hypothesis when applied to OCV suggests that perceptions of the protection afforded by the cholera vaccine may lead recipients to be less likely to adopt or maintain hygiene practices. Although, risk compensation has been voiced as a potential unintended consequence in the utilization of OCVs, research on whether cholera vaccination does or does not impact of hygiene behaviours has been limited (86). Only one study in Haiti measured hygiene and sanitation knowledge and practices before and after an OCV campaign. Their findings indicated that both knowledge and reported practices increased post vaccination. This increase was attributed to the messages and activities of health promotion staff (87). The study did not incorporate perceptions of risk nor did it provide psychologically informed discussion of the relationship between vaccination and the reported behaviours.

1.6.3 Medical Anthropological perspectives illness, power and social and cultural contexts

Although social epidemiology and health psychology perspectives provide a basis for comparison of OCV acceptance and behaviours to that of other vaccines, the nature of these perspectives makes them less suited for analysis of the contextual circumstances surrounding vaccination campaigns and the relational dynamics between various actors involved. In Haiti, for instance, the first OCV

campaign occurred in April of 2012, almost a year and half after the beginning of the outbreak. More than 500,000 cases of cholera were reported and 7,000 deaths had occurred by that time (88). The delay was due in part to resistance to the introduction of OCVs. Louise Ivers, of Partners in Health, led this first OCV campaign. In a commentary written shortly after the first 57,000 doses of Schancol were distributed in Haiti, Ivers listed various reasons for resistance to OCVs among Haitian health officials and other NGOs. These reasons included: “fear that [the] limited number of available doses would be inequitable and might trigger social unrest during an election year; fear that logistics capacity (especially for cold chain storage) would be insufficient to implement the programme effectively; concerns that use of the vaccine would reduce other prevention practices of good hygiene and use of potable water; concern that the project would interfere with a planned national campaign to reinforce other basic childhood vaccinations, including polio; and uncertainty about the use of vaccine in epidemic settings compared with endemic settings, in which oral cholera vaccines have been better studied” (88). Ivers noted that OCV campaign was only able to take place after the election of a new president of Haiti and the subsequent nomination of a new Minister of Health who looked favourably on the intervention. The concerns that contributed to resistance towards OCV in Haiti were echoed in other countries. For instance, in 2012 government health officials in the Democratic Republic of Congo’s (DRC) South Kivu region were unable to reach a unanimous decision on the use of OCV, with some advocating instead for scaling up of water and sanitation interventions (89). Resource considerations also featured prominently in ambivalence towards OCV by health officials in Sierra Leone (90). Although initial supplies of OCVs may have been all or in-part covered by humanitarian donations, there was concern about the need and cost of subsequent OCV campaigns. In both instances, officials struggled with the question of whether OCVs are the best approach given that water, sanitation and hygiene interventions are the most effective long-term solution to the problem of cholera. In both instances, health officials ultimately decided against implementing an OCV campaign.

The concerns of government and NGOs health actors in Haiti, DRC and Sierra Leone indicate a wider scope of discourse around OCV hitherto not represented in the story of global level advocacy and research and population level acceptance. The voices of country-level government officials and health actors, who are ultimately responsible for implementing the OCV campaigns, have been less prominent or missing altogether. Nevertheless, as the frontline cholera responders, their perspectives and the relational dynamics informing those perspectives beg accommodation in attempts to understand OCV interventions in humanitarian crises. Critical medical anthropological perspectives provide space for considering these actors within the socio-politics of transnational

global health intervention such as the OCV stockpile project. Unlike the social determinants model, there is no inherent assumption of inequality in these relations. The global level advocates, governments, country level health professionals can be considered alongside target populations to make meaning of the reasons for decisions around OCV. A couple of Medical Anthropological perspectives are particularly well suited to this sort of consideration.

1.6.3.1 Cultural concepts of illness and explanatory model frameworks

As a discipline, Medical Anthropology remains particularly well-suited to exploring the contextual factors shaping the cultural constructions of health and illness. Such exploration has often been guided by a methodology uniquely associated with the discipline: ethnography. Ethnography is the practice of undertaking intense descriptive fieldwork to “produce an understanding of natives of inhabitants of particular culture” (91). Ethnographic approaches to medical anthropological topics have applied cultural, biological and historical perspectives to construct explanatory frameworks for experiences of health and illness of a people in a time and place.

An essential idea underlying the most relevant explanatory frameworks is that the human body can be conceptualized in multiple ways. The medical anthropologists, Nancy Scheper-Hughes and Margaret Lock called this the concept of “the three bodies” in their discursive work entitled *“The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology.”* Through a critical analysis of the ways bodies have been portrayed in biomedical and anthropological literature, they argue that bodies are natural and cultural constructions of their time and place which may be understood in three ways: “(1) as a phenomenally experienced individual body-self; (2) as a social body, a natural symbol for thinking about relationships among nature, society, and culture; and (3) as a body politic, an artifact of social and political control” (92). The latter, body politic, which draws heavily on Michel Foucault’s work, encompasses the various means through which the state exerts social control over bodies to maintain power. They argue that the social control exerted by the body politic ultimately eclipses the other two bodies. The body politic therefore provides the most pragmatic lens for understanding what expressions of health and illness have to tell us about “personal and social resistance, creativity and struggle” (92).

This idea that the consequences of actions by the state and other institutions play out in and on human bodies is the concept of embodiment. Literally defined as the “representation or expression

of something in a tangible or visible form”, the idea has come to represent a cross-cutting construct for social sciences but particularly in medical anthropological approaches to work among conflict affected populations. Ethnographic studies of displaced persons and those affected by violent conflict have demonstrated how the people subjected to those actions embody the social and political consequences of actions of various state institutions. In her research on various aspects of war in the former Yugoslavia, Olujic describes wartime as a context in which individual bodies are transformed into social bodies through acts of rape and ethnic cleansing (93, 94). She explains how “institutions- that is medical, religious and government establishments –further reinforce the wartime process by manipulating individual/social body into the body politic by controlling and defining human life and by using political rapes to entice military action by the West.” This interpretation of embodiment describes how bodies are politicized through the decisions of actors motivated to advance the causes of their institutions. This is in keeping with Nordstrom’s observations on the impacts of war among Mozambicans that “identity, self, and personhood are strategic targets of war” (95). In this instance, various state-sponsored perpetrators used everyday household items as weapons of torture and murder to not only terrorize but to undermine people’s ability to associate those items with memories and future prospects of a normal, humane, innocuous existence.

Embodiment is a dual process, however ---simultaneously external and internal. In so much as bodies are used by external forces during wartime, the construct also recognizes internal processes whereby individuals reconceptualise notions of reality and use their bodies to express preferences for new realities. In the same work, Nordstrom recognizes the body as the “locus of political will” (95). People use imagination to salvage the same human will that is targeted through acts of terror. Mozambicans described the necessity of maintaining hope by imagining a future safe from all threats of war. Their embodiment of this hope is manifested through physical and symbolic acts of defiance such as creating purification rituals to re-introduce those who had been kidnapped back into communities. In his research on the meaning of hypertension among Sierra Leonean refugees, Henry wrote that “when separated from its previous context of place and history, the body, as the existential ground of culture, becomes the referent on which new classifications are created and contested” (96). For the Sierra Leonean refugees, the way they spoke of coming to terms with and managing their hypertension provided a lens for their coming to terms with the grief and trauma experienced during war and the expression of desires for their future.

1.6.3.2 Account of power in context of globalism in critical medical anthropology

Taking forth the idea of these dual processes of embodiment for state-sponsored trauma for the body politique in conflict settings, it is reasonable to conclude that similar themes arise with interventions of transnational actors such as the United Nations and international NGOs. The use of one's body to express preferences for new realities is the focus of Vinh-Kim Nguyen's work on the biopolitics of therapeutic citizenship in the context of global humanitarian interventions (97, 98). Nguyen argues that global level AIDS advocates, international donors, biomedical researchers and the pharmaceutical industry combined to form an "AIDS industry." This industry gradually transformed HIV interventions from local listening groups of people living with AIDS to means of access to antiretroviral therapies for a local NGO in Burkina Faso. By effectively leveraging distress narratives to European counterparts, the leaders of this local NGO gained access to medications that their state-run public health institutions were unable to obtain. Some of the early local leaders of this time were eventually able to settle in France after overstaying visas to obtain treatment for their illness. HIV global advocacy reversed policies of deportation of HIV positive Africans. In this stance, survival, as defined as access to treatment, was determined in part by the willingness to subjugate oneself to a global force of institutions collectively known as the AIDS industry. This encapsulates Nguyen's interpretation of therapeutic citizenship in the early days of the AIDS epidemic in places where "widespread poverty [meant] that neither kinship nor a hollowed-out out state can offer guarantees against the vicissitudes of life" (98). This perspective recognizes the various international interests that contribute to the making of a humanitarian intervention, particularly when a specific disease garners the advocacy and recognition which grants its sufferers a transnational status. Moreover, the transnational status of a globally generated disease category such as "people living with HIV/AIDS" has the potential to draw, in turn, transnational interventions that bypass state institutions to reach its citizenry directly.

Theories of biopolitics and therapeutic citizenship have not been applied to the understanding of OCV interventions in general and in humanitarian contexts in particular. However, the themes that emerged in the stories of the socio-political implications of cholera, the advocacy, development of OCV and the voices of resistance to the vaccine by health and state actors all suggest a need for consideration of socio-political analysis of the intervention in South Sudan.

1.6.4 The case for a multidisciplinary approach to understanding vaccine acceptance

The disciplinary perspectives and theories described illustrate multiple ways of understanding and interpreting vaccination interventions. Each perspective has the potential for building on current understandings of vaccination. Social epidemiological perspectives have yielded proximal factors for OCV acceptance and non-acceptance that afford a basis of comparison with other vaccinations, particularly highlight trust. But theories underlying social epidemiology have not extended to interpretation of distal determinants of vaccine decision making. Psychological theories such as protection motivation have provided means of understanding individual level vaccination decisions in terms of perceptions of disease risk and calculation of coping mechanisms while risk compensation has provided the hypothesis for considering the unintended consequence of riskier behaviours after vaccination. Anthropological theories on embodiment have not been applied to analysis of OCV interventions but they provide room for consideration of the wider influences and interactions of state and non-state actors. This perspective appears particularly relevant in the consideration that the South Sudan OCV campaign took place among a population internally displaced by civil war. Each of these perspectives comes with discipline-specific strengths of analysis that can contribute to existing knowledge of vaccination interventions whilst producing new insight into context-specific aspects of OCV interventions in humanitarian settings.

The potential value of applying all three perspectives in to understanding OCV intervention in South Sudan is the essence of a multi-disciplinary approach to studies of vaccination. The argument for a multidisciplinary perspective to studies of vaccine acceptance has been a recurring conclusion in reviews of vaccine acceptance studies (57, 61, 99). One advocate for this approach was the late Pieter Streefland, a medical anthropologist and sociologist who conducted research on determinants of vaccine acceptance in Bangladesh, Ethiopia, Malawi, the Netherlands and the Philippines. His findings led to the conclusion that context played the greatest role in understanding acceptance and non-acceptance of vaccines but that different explanatory perspectives were needed to explain the patterns of vaccine acceptance in each context (99, 100). These explanatory perspectives included: variations in rational vaccine use, collective decision making, trust in the provider, risk perceptions and perspectives of state, power and body. These perspectives drew on an array of social science disciplines and the extent of their influence depended on local knowledge and culture.

A recent review of reasons driving vaccine hesitancy has found that a mix of psychological, socio-cultural and political factors combine in complex ways to influence vaccine decision-making (101). In light of this, Larson et al recommend that *“When introducing a new vaccine, think beyond the vaccine*

and the vaccination to consider the contextual historical as well as current societal and political factors that could influence public confidence in the vaccine and the vaccination programme. Sometimes the solution lies outside the vaccination programme” (61). And even more recently, a commentary stemming from a review commissioned by the American Academy of Arts and sciences concluded that “findings and perspective from a variety of disciplines, including but not limited to public health, were needed to understand and address the complex and, multi-faceted issues surrounding vaccine hesitancy and vaccine acceptance.” A multi-disciplinary framework recognizes two important things. The first is that no one discipline can fully explain the vaccination acceptance and non-acceptance in a given place. The second is that consideration of acceptance patterns of the target population may be better illuminated with simultaneous consideration of the health systems and actors involved in delivering the campaigns. The recognition of the potential benefits of a multi-disciplinary approach however has provided few examples of how to go about it. With the exception of Streefland’s work, primary studies of vaccine acceptance have remained largely devoid of theoretical perspectives and have been entrenched within one discipline.

2. CHAPTER 2: Background - Conflict, humanitarianism and a cholera vaccination campaign in South Sudan

The World Bank estimates approximately 300 million civilians around the world to be currently affected by wars and violent conflict, with numbers increasing by the day. The devastating impact of violent conflict on the health of these people is well documented. Violent conflicts inflict physical and psychological casualties on all who encounter it. The most direct health consequence is loss of life through violence. But, as conflicts continue unabated, the loss of lives becomes increasingly attributable to epidemics, malnutrition and inability to access health services (102, 103). This happens as hospitals, roads, schools and civil society are destroyed. In essence, violent conflict drains the societies it comes to inhabit not only by creating mass casualties but by destroying the infrastructures best placed to mitigate its impact.

The people of South Sudan are familiar with this toxic cycle. South Sudanese have endured varying degrees of violent conflict for the past 40 years. Less than 10% of deaths from 1999-2005 were attributed to direct violence in South Sudan (104). Like other countries affected by violent conflict however, there are contextually specific dimensions to consider in trying to understand who is most at risk for diseases and the nature of mitigating interventions. The following describes the power struggles which have fuelled conflicts spanning two generations and the current humanitarian crises. It also introduces the role of humanitarian organizations as main purveyors of public health services in the face of a state which is unable and unwilling to do so. Finally, it aims to show how these dynamics have played out in the 2014 cholera outbreak and cholera vaccination intervention.

2.1 Brief political history of war and peace in South Sudan

South Sudan became the world's newest country on 9th July 2011 after a referendum in which over 98% of its citizens voted to secede from Sudan but its statehood came at the cost of millions of lives, displacement and underdevelopment in two civil wars spread over forty years (52). The journey towards an independent South Sudan began even before the withdrawal of the Anglo-Egyptian Condominium Government of Sudan which ostensibly ended British colonial rule (1898-1955). The military unity required to expunge the British was a tenuous one which belied a long history of slavery, religious domination and economic hardship suffered by southern Black African Sudanese at

the hands of the predominantly Arab Muslim northern Sudanese. For black Sudanese tribes, the fight for the end of colonial occupation was partly motivated by a promise of increased autonomy from the north.⁵ This promise quickly rang hollow however as black Sudanese found no indication of a steer towards greater political power or economic advancement with this transition of governance. Their frustrations festered and eventually sparked a seventeen-year civil war (1955-1972) during which the Sudanese government fought various Southern militias collectively called the Anyanya rebels. The first civil war would ultimately end with a period of southern regional autonomy, lasting eleven years. But, as we would often come to find in South Sudan, peace was not guaranteed. In this instance, it was threats by then Sudanese President Gaafar Nimeiri to undermine this regional autonomy through further divisions of the South, to construct a pipeline which would take oil from the South to Northern refineries and to bring the South under Sharia Law led to boiling over of tensions once again and the second civil war (1983-2005).

The second civil war was fought not only between the Sudanese government and the Sudan People's Liberation Army/Movement (SPLA/M) but also between factions within the SPLA/M. Inter-SPLA tensions stemmed from different visions of the ultimate goal for the South, with one group advocating for the creation of a united, democratic, secular Sudan and the other for complete independence. These tensions ultimately resulted in a split within the SPLA into its Torit faction led by John Garang, the SPLA/M founder, and its Nasir faction led by Riek Machar.(105) Garang and Machar's split played much too neatly into the ethnic divide between the Dinka and Nuer, the two tribes to which they respectively belong. Tribal divisions were exploited by both men to fuel endless cycles of violence which decimated Dinka and Nuer communities throughout the south. Under Machar's leadership, the Nasir SPLM underwent several iterations including alignment with the Sudanese government against Garang's SPLA and an eventual reconciliation which set the stage for the end of the second civil war (105). The 2005 Comprehensive Peace Agreement (CPA) effectively ended this war with the Arab north by reinstating the South's regional autonomy, providing creating power-sharing arrangement at the level of national government and allowing the option of a 2011 referendum. By the end of the second civil war an estimated 2.5 million people were dead and another 5 million externally displaced as refugees in neighbouring countries.

⁵ Black Southern Sudanese tribes include the Nilotic tribes, the largest of whom are Acholi, Anyiak, Bari, Dinka, Nuer, Shilluk and others, who first entered South Sudan sometime before the 10th century and the Bantu tribes, the largest of whom are the Azande, Mundu, Avukaya and Baka people, who entered South Sudan in the 16th century.

Figure 1: Map of South Sudan⁶

Source: United States CIA World Fact Book (last updated: 08/01/16)

2.2 OLS and the politics of humanitarian intervention in South Sudan

The second civil war period also ushered in the business of humanitarian aid provision in the context of an ongoing war. This undertaking was rife with complexity and involved the delicate balance of the various interests of the then Government of Sudan (GoS), United Nations organizations, NGOs and military groups to distribute the most basic forms of aid to populations on the brink. This complex business was encapsulated in the Operation Lifeline Sudan (OLS) program. OLS began as a UNICEF led food aid program, which began in 1989 in the midst of Sudan's second civil war (106).

⁶ Source: United States CIA World Fact Book (last updated: 08/01/16)

The program was initiated after the United Nations and western governments pressed the then Government of Sudan (GoS) for access to conflicted affected communities. UNICEF and more than 40 other NGOs gained what became known as “negotiated access” which ostensibly meant that they had to come to agreements with military entities such as SPLA/M and other rebel groups in order to operate under their areas of control (106). Their negotiations involved coming to agreements on the common principles guiding OLS such as the fair and transparent distribution of aid and more location specific guidelines such as where and how humanitarian aid would be delivered in a given area, the protection of aid workers and schedules by which goods could be safely transported along roads. OLS was considered the “largest-ever coordinated humanitarian programme” of its day (107). Its original mandate of food assistance evolved over its years of existence to include other sectors and capacity building goals, some of which were more indicative of long-term development programs.

OLS lasted over a decade and opinions on its legacy are mixed. Reviews of OLS acknowledged its unprecedented accomplishments in successfully providing needed relief to severely affected communities in the midst of a civil war. However, there were also several critiques with regards to OLS’s overall impact and unintended consequences. One category of critique questions the program’s contribution to prolonging Sudan’s second civil war. People such as Dan Maxwell and others who have critically analysed the legacy of OLS describe the ethically fraught positions of UN and NGOs in balancing their humanitarian imperative to care for those in war zones with the potential contribution of this care to disincentives for cessation of hostilities. This is because the act of negotiation with military actors, such as rebel groups, for access to communities lent the same groups a degree of international legitimacy that they likely would not have had otherwise. Maxwell and others have argued that this legitimacy further served to enhance their position and strengthen their position for negotiations with the government in Khartoum and thus prolonging the conflict (106, 108). The argument that humanitarian assistance contributed to the legitimization of military actors is furthered by Alex de Waal who describes the alignment between SPLA and humanitarian assistance during this period as deliberate engineering by Garang to demonstrate that the rebel army could transform into a governing movement (SPLM) (109). The SPLM created a humanitarian arm officially dedicated to purposes of coordination with UN and NGOs. OLS activities came to a halt in certain instances when NGOs refused to sign memorandums of understanding for joint operations with SPLM (110). De Waal goes further to describe how the legitimacy gained by the SPLA through negotiations of access conferred power that morphed in some instances into corruptive practices such as taxation and diversion of food aid. This practice of diversion of aid from its intended

recipients to further military purposes was corroborated in interviews conducted with former SPLA soldiers and is believed to have contributed to some extent to a second famine in Western Bahr El Ghazal in 1998, in the very heart of OLS operations almost a decade after the program began (111).

Another critique of OLS was one which effectively amounted to “mission creep” --- expansion of project beyond its original goal after initial success. This critique refers to OLS’s expansion beyond immediate life sustaining humanitarian activities such as emergency food aid into long-term development projects with emphasis on capacity building, education and livelihoods programs for communities. Forays into these activities were undertaken with the rationale that OLS’s operating model was evolving to reflect the changing needs on the ground, needs which grew to encompass preparation of a skilled populace ready to build their state after the civil war. But there are others who argue that these shifts were undertaken without ample consideration of the role and objectives of humanitarian aid provision in the context. These activities brought questions of whether humanitarian aid agencies can remain neutral actors whilst conducting activities with secondary objectives of state building (112). The activities also generated contradictory messages of self-reliance and aid dependence.

A third category of critique of OLS, which is related to the aforementioned, was that it created an expectation that outsiders would always come to address the social welfare needs of South Sudanese people (113). This critique lies in part with OLS’s expansion of its operational mandate beyond emergency food aid into other “sectors” such as education and livelihoods generation---sectors which were more indicative of responsibilities of the state. The expectations created by these programs were attributed to both the local authorities who allowed the programs to occur and by beneficiaries who took part in the programs. Such expectations were described by Maxwell as ultimately “undermining directed links between authorities and human needs in the nascent state (both before and after formal independence)” (112).

2.3 CPA period and humanitarian aid as development

OLS ended with the second civil war in 2005 with a transition to what is now described as the Comprehensive Peace Agreement (CPA) period, the 6-year period from January 2005 until the referendum of 2011. The signing of the CPA also solidified the SPLA/M’s identity as a political party with formal responsibilities for governing through what was named as the Government of Southern

Sudan (GoSS). The CPA established the autonomous region of Southern Sudan which consisted of ten states bordered by Central African Republic, DR Congo, Uganda, Kenya and Ethiopia. Garang became the first president of Southern Sudan with Salva Kiir Mayardit as vice-president. Garang's tenure as president lasted less than six weeks however when, in a sudden turn, the man known as the father of its independence and the architect of its future development was killed in a plane crash returning from a meeting with President Yoweri Museveni of Uganda. Salva Kiir succeeded Garang as president and Riek Machar became the new vice president.

The leadership challenge posed by a nascent Southern Sudan was significant. With little in the way of agriculture or other sectorial development, the region was almost solely dependent on oil as its source of revenue for public expenditure. This and other indicators of development would have to improve during the CPA period if the autonomous region was going to generate confidence in its transition to a viable state. With this in mind, GoSS identified six areas of priority for its expenditures: security, roads, primary health care, basic education, water and production. Within these priorities, sectors such as health and education suffered from the outset with respective allocations of 8% and 4% of public expenditure as compared to 38% for security (114). Actual health and education expenditure for this period proved to be even lower than budgeted as their reported combined expenditure did not exceed 6% (114).

Table 4: South Sudan socio-demographic indicators

<i>Indicator</i>	<i>South Sudan</i>
<i>2015 population</i>	12,042, 910
<i>2014 per capita GDP</i>	\$2,1000
<i>2015 Median age</i>	17
<i>2015 Total fertility rate (children/woman)</i>	5.31
<i>2015 Maternal mortality per 100,000 live births</i>	789
<i>2015 Infant mortality per 1,000 live births</i>	66.4
<i>Adult HIV/AIDS prevalence</i>	2.71%
<i>2015 – Access to improved drinking water</i>	58.7%
<i>2015 – Access to improved sanitation</i>	6.7%
<i>Literacy rate - 2009</i>	27%

Source: United States CIA World Fact Book (last updated: 08/01/16)

GoSS's prioritization of the security sector at the expense of human development sectors continues to pose challenges to their attempt to rise from the lower end of all markers of progress. Today, the Republic of South Sudan (GRoSS) is a country of 11.2 million. Most of its population is dotted across its rural landscape. Forty-two percent of the population is under the age of 15. Life expectancy at

birth is 55 years (115). Diarrhoea is the third leading cause of death as only 60% of people have access to safe drinking water. Under 5 mortality ratios have seen some improvement but still have a way to go 99 per 1000 live births. However, at 2,054 per 1000 live births respectively, South Sudan has the highest maternal mortality rate in the world. A commonly cited statistical illustration of the desperate state of affairs in the country is that South Sudanese girls are more likely to die from childbirth than to complete primary education. Health service utilization indicators such as contraceptive prevalence, antenatal care and measles immunizations are consistently lower than those of the rest of East Africa (115).

It is possible to construe that GoSS's prioritization of security investments over social services was a calculated one, influenced to some extent by expectations that the humanitarian aid would continue as it had during OLS—one in which outsiders took on responsibility for the social welfare of Southern Sudanese. GoSS was likely aware, as with relief operations undertaken during the OLS, that the international community had an interest in constructing a narrative of success around its substantial investments in Southern Sudan's transition from war to peace and eventual statehood (116). This was further reflected in the magnitude of financial commitments made soon after the signing of the CPA. South Sudan's Ministry of Finance and Economic Planning recorded donor commitments of more than \$7 billion dollars in aid between 2006 and 2013 (112).

Prior to January 2012, donors funded 75% of health services in South Sudan (114). UNICEF estimated about 80% of health services were provided by NGOs as compared to only 20% by government (117).

Aid monies were channelled towards significant investments in improving Southern Sudan's social and physical infrastructures. Health systems strengthening grants such as USAID's Sudan Health Transformation Project, part 2 (SHTP-II) used the referendum as a deadline for transferring responsibility of services to the ministry of health. This meant for instance, that the construction of facilities and training of health workers were undertaken by various NGOs with the goal of transferring facilities to the local ministry of health by the referendum. There was an expectation that health workers would transition from NGO to government payrolls after the post-referendum. The timing of the need for transfer and the actual preparedness and ability of government to pay health worker salaries however were often misaligned (118).

The significance of the evolution of the relationship between SPLM and humanitarian organizations as represented by programs such as SHTP-II deserves highlighting. Specifically, the approach to programming demonstrates the change in the SPLMs need for humanitarian organizations from the OLS to CPA period. During the OLS period, the SPLA needed the legitimizing interactions of humanitarian aid organizations to build its credibility as a viable political force worthy of international recognition. During the CPA period, the SPLM needed the legitimizing interactions of humanitarian aid organizations to build its credibility as a viable government. The result of this history is a state whose inception and existence have been tightly entangled with international humanitarian organizations. The complexities of this entanglement have been manifest in the interdependencies and interplays in the process of providing servicing such as healthcare to the citizens of South(ern) Sudan.

2.4 Conflict in Juba the making of PoCs

The fracture and reconciliation of the Machar and Garang arms of the SPLA/M during the second civil war was emblematic of the power struggles which would continue within the SPLA/M. In the years following the CPA, and with Machar as his vice president, President Kiir kept SPLA generals united only through ever increasing payments from oil revenues. The salaries of SPLA generals doubled between the CPA and independence (109). Many, including Machar, argue that Kiir also used these funds to consolidate power into the hands of his Dinka ethnic groups and undermine democratic processes in South Sudan.

Kiir and Machar's tenuous alliance reached a breaking point in July of 2013 when Kiir dismissed his cabinet and Machar as vice-president (109). Machar later announced that he would run against Kiir in the next presidential election. A full-blown political crisis ensued four months later on 15th December 2013 when Kiir accused ex-vice president Machar of an attempted coup (119, 120). Although the exact details of events which ignited the fighting are in dispute, it is widely known to have begun among the presidential guards in their barracks in Juba after an attempt to disarm, allegedly Machar loyal Nuer soldiers following Kiir's coup accusation. Fighting in the barracks quickly spilled into Juba town with two days of gunfire and shelling which UN estimates to have left 500 people dead (119). This violence took on what has been described as an ethnic cleansing element in which government loyal soldiers targeted and killed Nuer men (121, 122). Women were also reported to have been raped and killed at the hands of soldiers. Nuer homes across Juba were looted and burned (122).

News of the attacks in Juba triggered retaliatory fighting between rebel soldiers loyal to Machar and the SPLA/M government soldiers loyal to Kiir. In regional towns such as Bentiu and Bor, where loyalties were more polarized, both Dinka and Nuer communities were respectively decimated. Foreign aid workers were evacuated from various posts and eventually from the country. Juba was ultimately stabilized with the help of the Ugandan army. They quickly secured the airport and stopped SPLA/M soldiers. The Ugandan army continues to work in South Sudan in what some have likened to mercenaries for the SPLA/M (121).

In fear for their lives, civilians across South Sudan ran to United Nations bases for protection with the onset of violence. International news agencies aired photos of desperate women and children clamouring at the gates of UN compounds in scenes vaguely reminiscent of other African crises. The UN opened their gates however, in what appeared to be a clearing of their conscience from past crises, and their premises become known as Protection of Civilian Areas (PoCs)⁷. PoCs are protected by UN Mission in South Sudan (UNMISS) which comes under the UN secretariat and constitutes peace keeping soldiers from various countries. UNMISS guards peripheries of PoCs, monitoring who and what comes in and out.

The UN never anticipated what would become the scale and duration of this refuge on their compounds. Humanitarian organizations first brought in water, food and emergency health services. Tarpaulin sheeting soon arrived to be distributed for the construction of shelters as people were formally registered as internally displaced persons (IDPs). Over a matter of days, weeks and months, PoCs mushroomed into full-blown communities. As donor funding streams were established, other services such as food distribution, education and advanced health facilities arrived. Alongside social services, IDPs created informal markets, restaurants and communication centers. The UN were forced to expand the PoCs, where permitted, clearing surrounding land, erecting fencing as more people arrived (See Figure 5). Funding for service provision in the PoCs primarily came from the UN's Office of Coordination of Humanitarian Affairs (UNOCHA), which manages all emergency

⁷ PoC and IDP (Internally displaced person's) camps are used interchangeably in many instances beyond the context of thesis. It's important to note however, that PoCs are categorically distinct from internal displacement and refugee camps in terms of their management vis a vs UN, NGOs and their host government. They represent an unprecedented type of settlement. <http://odihpn.org/magazine/protection-of-civilians-sites-a-new-type-of-displacement-settlement/>

funding coming from UK & EU donors to South Sudan through the Common Humanitarian Fund (CHF). CHF spent a 43.5million USD for camp management and service provision in PoC sites over the course of 2014 (123).

As the months progressed and peace talks between Machar and Kiir continued without success so did the growth of PoC populations. A total of eight PoCs sites in Juba, Bor, Mingkaman, Malakal and Bentiu housed over 174,000 people by the end of 2014. This is a fraction of the estimated 2.5million people who have been displaced across South Sudan or as refugees in neighbouring countries (121). At least 50,000 have died in the year and half since the political crises began (121).

There were initially two PoCs in Juba, Tomping and UN House/Juba 3. Both camps were managed by the NGO ACTED. Although, official statistics on ethnicity are not published, it is known that the Nuer ethnic group were the predominant occupants of these PoCs. Tomping was located in the UN base by Juba International Airport, making it an inescapable symbol of the extent to which things had and could deteriorate for anyone with the freedom to come and go from the country. At the height of the crises, Tomping was known as the most congested PoC in South Sudan with a population of over 19,000. By August of 2014, UN began moving residents of Tomping to UN House which was located farther approximately 40 minutes across town on the outskirts of Juba. Today, UN House remains in Juba with a population of approximately 33,000 people.

Figure 2: Map of UN House PoC



Figure 3: Communal latrines - Topping PoC



Figure 4: Communal tap stand - UN House PoC



2.5 Nuer peoples, governance and prophets

Tompson and UN House PoCs are predominantly occupied by Nuer people. Nuers are the second largest ethnic group in South Sudan, comprising an estimated 1.8million people. They are loosely divided into four sub groups which correlate to their geographic origin within three states in South Sudan: Unity, Upper Nile and Jonglei State (Fangak and Greatest Lou). Despite some cultural differences, all Nuers share the same language, Thok Naath (124).

Nuers occupy a distinctly rarefied position in cultural anthropology as the subjects of ethnographic research which have both shaped and served as a critique of the discipline. Some of the richest sources of information about Nuer culture to date can be found in the classic ethnographies of the British anthropologist, E. E. Evans-Pritchard. Evans-Pritchard was sent to what was then known as “Nuerland” by the Anglo-Egyptian Condominium government to better understand the workings of a people who were proving almost impossible to govern. Based on his observations during 11 months of field research, Evans-Pritchard wrote *The Nuer, Nuer Religion and Kinship and Marriage Among the Nuer*. Almost 50 years later, the American anthropologist, Susan Hutchinson continued where Evans-Prichard left off in her book, *Nuer Dilemmas: Coping with Money, War, and the State*. Katarzyna Grabska has, in turn, been informed by Hutchinson’s work in her own ethnographic analyses of the impacts of forced displacement on gender and inter-generational relations among Nuers in her book, *Gender, Home & Identity: Nuer Repatriation to Southern Sudan*. With very few scholarly works on Nuer, Evans-Pritchard, Hutchinson and Grabska’s rich descriptions of Nuer religion, perceptions of governance and experienced of forced displacement provide invaluable points of reference for interpreting the impact of recent events (124).

This thesis does not endeavour to augment the ethnographic accounts of Evans-Pritchard, Hutchinson and Grabska rather it draws on key ideas expressed in their works which enable us to better contextualize the lives of Nuers in the PoCs. One of those ideas is the historical identities of Nuers as a people rooted in pastoralism with cattle as a central feature of social, cultural, and economic security. Young boys take on the names of their favourite bulls and the progression to manhood is defined by the ability to own one’s own herd (124). Cattle are recurring themes in songs and stories and the array of names used for cattle are vast and describe a seemingly endless combination of cattle colouring. Cattle also link human relationships; following death, a man’s herd is divided among the sons who have tended to the herd throughout their lives. Men can only marry

after acquiring enough cattle to compensate the woman's family for the loss of a daughter. Grievances are resolved through payment of cattle. Evans-Pritchard called cattle the "idioms through which Nuer think." Although Hutchinson has described more thoroughly the modernizing forces that have accommodated other forms of wealth, she also found that the status of cattle remain integral to the economic and social identities of Nuer and Dinka communities, particularly in rural South Sudan (124). This idea begs consideration of the potential impact of confinement to PoCs for people whose culture and economic survival remain heavily rooted in freedom of movement necessary generate and maintain wealth of cattle.

Another important idea from Nuer ethnographies relate to understandings of government (*kume*). Evans-Pritchard described Nuer culture as deeply democratic, one in which "no man recognizes a superior" (124). The master-servant construct was notably absent and all Nuer thought themselves to be equal to their fellow persons. Evans-Pritchard observed the innate tension between this deeply engrained sense of equality and the premise of colonialism and the colonial administration. The experiences of the Anglo-Egyptian government were not dissimilar to those of the SPLA/M with respect to the challenges faced in attempts to bring Nuerlands under the traditional governance models of the nation-state (124). Hutchinson acknowledges Nuer concepts of *kume* as unbound to "static, unitary or homogenous entity" and extends its meaning "beyond the state" (125). But she also observes how this has and continues to evolve with Nuer experiences of war. The abundance of oil wealth in traditional Nuer homelands has situated generations of Nuers at the centre of decades of war and have merged questions of *kume* with those on the legitimate use of violence. She argues that multiple civil wars have necessitated the conceptualization of *kume* to include the state's military challengers, assorted militias, and related institutions" (125). Hutchinson described that claims of government authority in Nuerlands weakened with the proliferation of powerful automatic rifles during the war years" (124). This and other factors have undermined the boundaries between government and civilians (126).

Limitations in the application of conventional nation-state frameworks to meanings of *kume* also highlight the importance of understanding ideas around Nuer practices of prophecy, particularly as they relate to the "moral limits and spiritual consequences of lethal violence" (125). The spiritual cosmology of traditional Nuer religions is centred on *Kuoth (Divinity God)*, the spirit of the sky as the ultimate guardian of human morality. Nuer prophets (*guk*) are lesser versions of *kuoth* that descend from the sky to manifest itself in any man, woman child or animal (125). Every prophet must

demonstrate his or her divinity bestowed powers over illness, fertility and mortality through routine performances of blessings and curses. The emergence of Nuer prophets coincided with “state-based assertions of exclusive control over the legitimate use of force and, thus, over the lawful power to kill or protect” during the Anglo-Egyptian Condominium Government (124, 125). As such, they have come to occupy a moral space above government and military as the ultimate judges of legitimate uses of force and reconciliation for both Nuers and Dinkas. Although prophets are generally understood as forces for peace, they have a wide range of options in terms of their advice on strategies for the attainment of peace, with some encouraging followers to take up arms and others advocating that arms only be used in defence (125). Hutchison and others describe the power of Nuer prophets as not only significant but one “largely invisible” to international observers trying to understand the recent political crises in South Sudan. Both Kiir and Machar must take the perspective of prophets into account in efforts to maintain their respective legitimacy. This was evident with a visit made by Kiir to the most respected prophet, Gatdeang, following a raid on Gatdeang’s cattle (125). Kiir recognized the importance of Gatdeang’s perspective to preventing further escalation of violence ahead of a coming election. Gatdeang, in turn, demonstrated his reputed orientation towards peace by preventing retaliation by his followers.

Finally, Hutchinson’s description of the role of Nuer prophets allude to what is a fundamental circumstance of her and Grabska’s ethnographies: that Nuer are not new to war and adaptations in response to war. Whereas Hutchinson focused on this existential dilemma from the perspectives of Nuers in Nuerlands, Grabska examined it from the perspective of Nuers returning to Nuerlands after a generation of displacement in Kakuma Refugee camp in Kenya, in Khartoum and other parts of South Sudan during the second Sudanese civil war. Grabska conceptualizes forced displacement, particularly among Nuer women, as means for social changes allowing them to access political rights, livelihoods and land within Nuer societies (127). Grabska’s work begs consideration of how this latest round of conflict and displacement into PoCs may further shape Nuer identities.

2.6 OCV Campaigns in Tomping and UN House PoCs in Juba

The prospect of a quick resolution to the political crisis was already eroding by the beginning of February 2014, two months after the crisis began. Tensions remained high although a setting for bringing both parties together had been established in Addis Ababa, Ethiopia. A ceasefire brokered in January between representatives of President Kiir and Machar, who by then had been named the “rebel leader” was almost immediately broken (128). The narrative depicting the crisis as an ethnic

conflict continued to gain traction as rebel-loyal troops regrouped outside of Juba and fighting spread to strategic towns such as Leer and Malakal. The United States' president called on both parties to resolve the causes of the conflict even as US marines continued to evacuate US Citizens from South Sudan.

None were more aware of this bleak outlook than the people of South Sudan who continued to flow into the PoCs in Juba and other UNMISS protected areas around the country. Long before the first confirmed cholera case in Juba, there were fears of cholera in the PoCs⁸. The fears and rumours of a potential cholera outbreak began almost immediately upon influx into the PoCs due to the initial sanitation conditions and overcrowding. Early rains came to exacerbate the situation in February and March 2013. Conditions were especially precarious in Topping PoC where MSF reported flood waters to have destroyed 150 latrines---a dire situation considering they were already under the minimum numbers required for humanitarian emergencies (129). Bentiu's PoCs became branded with imagery by international news agencies which pictured IDPs in shelters overtaken by knee-deep water after flooding. By all the accounts the perception of the PoCs were changing from a places of refuge into places where inadequate international responses were contributing to conditions which posed risks to the health and wellbeing of those they intended to protect (130).

Figure 5: Guardian Article - 21st August 2014

home > world > africa middle east cities development europe US americas asia australia

Global development Conditions at UN's South Sudan camp inhumane, says MSF

People forced to sleep standing up with children in their arms as flooding and insecurity near Bentiu make living conditions desperate

Guardian Global development is supported by:
BILL & MELINDA GATES foundation
 About this content

Sam Jones
 @swajones

Thursday 21 August 2014 07:00 BST

f t e p in g+

< Shares
 642



People struggle in flooded conditions at a UN camp near Bentiu, South Sudan. Photograph: Ivan Gavron/MSF

⁸ Personal correspondence from MSF

These deteriorating conditions were not lost on the health and WASH NGOs in the PoCs. Discussion of the risk factors for cholera outbreak began in January 2014. A rapid assessment of both PoCs soon followed. The assessment team, using WHO's risk assessment matrix and decision making tool for the deployment of OCV in complex emergencies, concluded that conditions in both Topping and UN House posed sufficient risk to warrant immediate planning for response by all partner organizations. Although cholera prevention and control fell under their routine service provision activities, preparations for outbreak response now topped the agenda of coordination meetings of the Health Cluster.⁹ A cholera task force was established within the Health Cluster to initiate preparation activities.

WASH organizations led efforts to increase chlorine levels in water supplies and set up additional hand washing facilities. The entrances of each PoC were equipped with hand washing stations and a person charged with spraying chlorine on the bottoms of shoes of everyone entering the premises (see figures 6 and 7). Health organization headed activities such as training community health workers, compiling of health education materials and the construction of cholera treatment centres (CTCs) within each PoC. The CTCs were outfitted with everything needed to treat a cholera patient, including oral rehydration and cots with the distinctive hole through which watery diarrhoea passes directly from the anus to a bucket below (see Figure 8). Cholera treatment guidelines were adapted into the posters which were mounted in all health facilities (see Figure 9).

⁹ The Health Cluster as led by the Ministry of Health and WHO is a coordination forum of all UN/NGOs involved the provision of health services in South Sudan. Through regular meetings, information on disease surveillance, responses are shared. Similar Cluster coordination mechanisms exist for WASH, Nutrition and other humanitarian response sectors. The WASH Cluster is led by UNICEF.

Figure 6: Handwashing station at entrance of UN House



Figure 7: Chlorine spraying station at UN House



Figure 8: Cot for cholera patients- UN House CTC



Figure 9: Cholera treatment instructions - UN House CTC



The decision to deploy oral cholera vaccination as a part of prevention response within the PoCs came about in the Cholera Taskforce forum. The NGO Medair ultimately agreed to lead OCV campaigns in Tomping and Juba 3 PoCs with support from WHO and other NGOs. Before the campaign, Medair recruited and trained approximately 80 social mobilizers, vaccinators and health/hygiene promoters. Social mobilizers were charged with getting people to come for vaccinations. They made people aware of the planned vaccination with announcements over loudspeakers and radios 2-3 days before the vaccination campaign. They adopted more interpersonal approaches during the campaign by going from house to house advising people to go for vaccination at the designated posts. Once at a vaccination post, people would queue until their turn to allow a vaccinator to place placing two drops of the vaccine directly into their mouth. They were offered drinks of water with each dose and soap was given as an incentive for completing the second dose. OCV doses were tracked using vaccination cards. Health and hygiene education interventions also took place during and after the OCV campaigns. Health/hygiene promoters went from house to house using pictures to pass educational messages on home hygiene practices. Medair trained health/hygiene promoters passed such messages from February until end of August 2014.

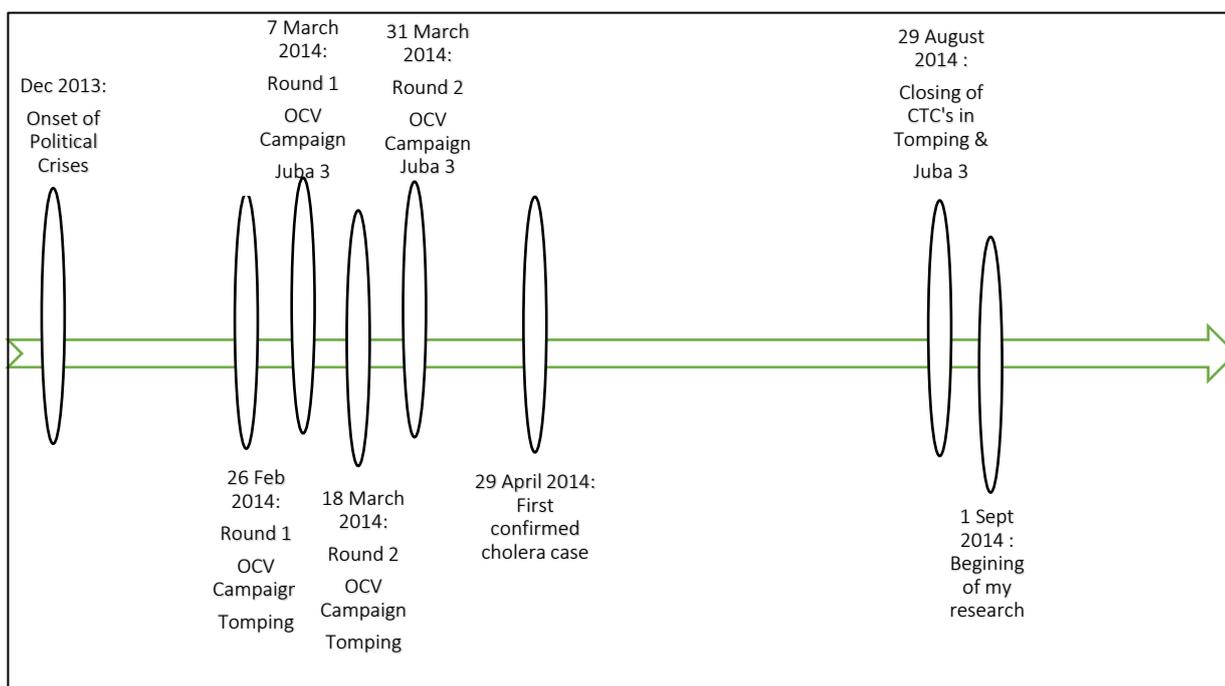
Medair's OCV campaigns in Tomping and UN House were the first to use OCVs from WHO's stockpile mechanism in the context of a humanitarian crises. As such the mechanism itself was at test. WHO led all aspects of logistical coordination with regards to getting the vaccines into South Sudan and keeping them safely stored and transferred to each PoC. Around 44,000 doses of shancol were received by Medair for the vaccination campaigns in Juba(131). The same regimen for distribution of vaccines was followed in both PoCs: notification of the coming campaign by social mobilizers, the erection of vaccination posts, conduct of the first round and the conduct of the second round two weeks later. A third round "mop-up" which involved vaccinators walking through sections of the PoC in hopes of finding those who had not come to be vaccinated or those who missed a dose was implemented after the second round of vaccination in each PoC. Medair ultimately distributed 43,169 doses of OCV in Tomping and UN House over the course of 5 weeks. WHO estimates that at least 60% of the target population to were covered with both doses in each PoC (132).

Table 5: OCV Coverage in Juba PoCs(133)

	<i>Tompson</i>	<i>Juba 3/UN House</i>
Pop. Estimate	19,000	12,000
No. of People Round One	14,024	6,920
No. of People Round Two	12,695	6,123
No. of People Catch-up round	2,135	1,272
No. of vaccines given	28,854	14,315

The OCV campaigns in Tompong and UN House were generally perceived to be successfully implemented by those involved. This perception of success will be discussed in detail later in the thesis. Success was coupled however with acknowledgement of challenges. One challenge described in MedAir’s report of the OCV campaign was that of security. Juba was still experiencing unrest at the time of the OCV campaign and NGOs daily operations were subject to hourly monitoring of security conditions by UNDSS. The activities that *were* able to proceed were limited by curfews requiring staff to reduce their working hours. Medair delayed the start of the second round of vaccinations in Tompong due the inability of its staff to move within Juba as a result of ongoing unrest (131). A second challenge came with estimating vaccination coverage. The constant influx of new IDPs along with the daily movement of resident IDPs into Juba for all manner of business made it difficult to ascertain exact population estimates within the PoC. This posed challenges to determining a denominator for vaccination coverage. A third challenge was the problem of tracking OCV doses via vaccination cards. Tracking was made difficult by the loss of vaccination cards by adults and children between the first and second rounds. Vaccinators had to rely on recall of recipients in many instances but this proved especially difficult when unaccompanied children came to be vaccinated. A MedAir staff indicated the problem of maintaining vaccination cards was linked to lack of understanding that two rounds of the OCV were needed. Finally, men’s participation was reported to be lower than that of women in both rounds.

Figure 10: Timeline of OCV Campaigns in PoCs & other key events



2.7 South Sudan's 2014 cholera outbreak in Juba

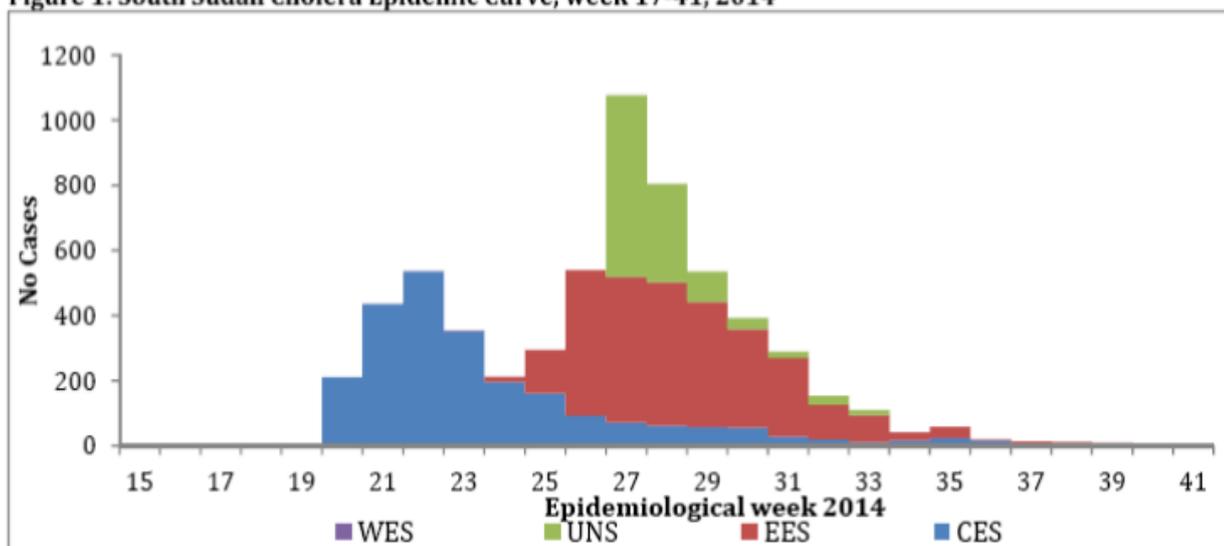
Cholera was not a new disease to South Sudan. Although there is no way of knowing exactly how many cholera outbreaks occurred across the country over the decades of civil war, WHO's last documented cholera response in, what was then, southern Sudan was in 2006. The outbreak occurred over the course of four months (February to May) primarily in the towns of Yei and Juba although six out of ten states confirmed cases. By then conclusion of this outbreak, the cumulative number of cases in southern Sudan was 13, 852, with 516 deaths (CFR 3.73%) (134).

The response to this outbreak embodied what would be key features of the Ministry of Health's standard response plan: establishing a taskforce to coordinate response, strengthening cholera surveillance and reporting, standardizing the management of cases, chlorination of public water supplies and health and hygiene promotion activities. Cholera vaccination never featured amongst MoH's cholera preparedness and response options. As many of the same people continued to work in the South Sudan's MoH, cholera detection in South Sudan became embedded in the integrated disease surveillance systems. WHO continued to train and work with state surveillance officers to remain vigilant of cholera cases, especially during the rainy seasons.

This system showed its effectiveness when about 3 weeks after OCV vaccination campaigns in Topping and UN House, the first confirmed case of cholera occurred in Juba. This case marked the beginning of South Sudan's cholera outbreak of 2014. The outbreak began in Juba, which includes Topping and UN House PoCs. The outbreak curve for Juba is delineated in Figure 11 as CES, Central Equatoria State, and beginning at week 20. The outbreak in CES is contained relatively quickly in a little over a month as cases were beginning to rise in Eastern Equatoria State (EES) and Unity State (UNS).

Figure 11: Epidemic Curve of South Sudan's 2014 Cholera Outbreak(135)

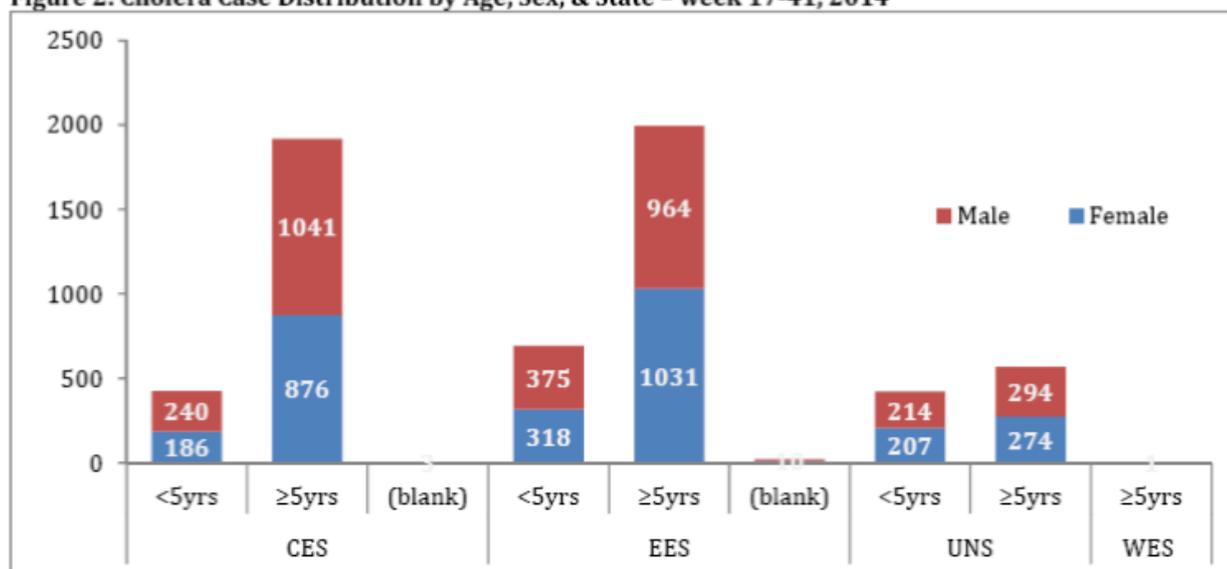
Figure 1: South Sudan Cholera Epidemic Curve, week 17-41, 2014



The first confirmed case of the Juba cholera outbreak was identified at the MSF clinic in UN House PoC on 29th April 2014 (week 18) (136). The patient was identified as a 28-year old man who had left the PoC to go visit relatives in another part of Juba town. During his visit, in the morning hours, he reported to have eaten beans, eggplant and bread bought from a street vendor. By mid-afternoon, he developed severe diarrhoea and vomiting. He was brought to the MSF clinic by his relatives the following morning. Lab tests indicated *V. cholera*. Further investigation found he had also received one dose of the oral cholera vaccination on 11th March.

Figure 12: Case Distribution of South Sudan's 2014 Cholera Outbreak as of 1st September(135)

Figure 2: Cholera Case Distribution by Age, Sex, & State – week 17-41, 2014



The cholera outbreak in Juba continued until the week of 12th October 2014, when its end was officially declared. By this time a total of 6,141 cholera cases, including 139 deaths (2.26 CFR) had been reported across South Sudan. Many of those who died were reported to have arrived at health centres close to death or to have died in transit.

Despite the first confirmed case coming from a PoC, only 159 of total cholera cases had occurred among people in Tomping and UN House PoC. The PoCs therefore endured roughly 2.8% of the cholera outbreak burden, 72 in Tomping and 87 in UN House. A total of 3 deaths resulted from these cases.

2.8 Hostile environments for aid workers

The political crisis and the cholera vaccination intervention have occurred in the context of a changing operating environment for humanitarian aid workers spanning from the aforementioned days of OLS through the CPA period, post referendum to the current crises. Post referendum South Sudan has come to exemplify the increasingly inhospitable circumstances under which humanitarian

aid workers worldwide must operate (137). The country has consistently ranked alongside Afghanistan, Pakistan, Somalia and Syria as one of the most dangerous countries to work based on attacks on national and international aid workers and as well as forces associated with the UN's peacekeeping operations (138, 139). Attacks on national and international humanitarian workers have included vehicle ambushes, unlawful detentions, kidnapping and bodily assaults. Such attacks spiked in the period following the referendum and have remained high in the period following the violent political crisis.

Table 6: Countries with greatest numbers of attacks on aid workers, 2010-2014

	2010	2011	2012	2013	2014	Total
<i>Afghanistan</i>	57	51	56	81	54	299
<i>Pakistan</i>	10	12	17	17	12	68
<i>Somalia</i>	8	18	17	19	9	71
<i>South Sudan</i>	0	8	21	35	18	82
<i>Sudan</i>	11	20	4	16	12	63
<i>Syria</i>	0	1	21	44	26	92

Source: The Aid Worker Security Database (last updated: March 2016)

The attacks documented in the Aid Worker Security Database are considered separately from the more common, opportunistic crimes that occur with greater frequency. Aid workers and their associated assets have become attractive targets of armed robberies in Juba. During a particularly violent episode, there were 37 robberies at aid agency compounds over a period of just 90 days (140). Organizations working in the country attributed this trend to increasing “lawlessness” which have come from collapses in state institutions (139). The leader of the South Sudan’s NGO Forum, a coordinating body for NGOs operating in the country, called on South Sudan’s authorities to ensure the safety and security of staff in Juba and throughout the country. This request is more complicated than it appears however as the same “authorities” who are being called on to protect NGOs are associated with a government which itself perpetuates an environment of hostility towards NGOs and foreign aid workers. An example of this came in September of 2014. In what appeared to be an ill-considered move, the Ministry of Labour issued a decree ordering all private companies and NGOs to replace foreigners occupying certain positions within their organizations with South Sudanese Nationals (141). The orders would have affected thousands of expatriates, particularly Kenyan,

Ethiopian and Ugandan nationals working in the country. After outcries by several international organizations, the decree was “clarified” by Ministry officials who said that foreign workers were not being kicked out of the country and the “ministry was still in the process of working on employment regulations that would give skilled locals a fair chance to get jobs in private companies and non-governmental organizations” (142).

Although no similar law has been drafted since, the spirit of the attempt spoke volumes and was perhaps just as significant. This is because it exploited the perception of disadvantage on the part of South Sudanese relative to other groups---a perception based in part on their actual history of marginalization by Sudan. The Ministry’s attempt to pass the law validates the framing of expatriates as an unjust presence taking resources which South Sudanese people are entitled. At best, this further complicates the relationship between expatriates and South Sudanese nationals. At worst, it contributes to an environment which rationalizes crimes against aid workers and their assets. Moreover, this perception and its contribution to a hostile operation environment also has an impact on aid workers.

Summary. War and conflict have been integral components of the story of South Sudan’s journey to statehood. But so has the involvement of humanitarian aid. Operation Lifeline Sudan was the largest humanitarian intervention of its time. The negotiations with the SPLA for access to populations under their control directly and indirectly contributed to legitimizing the SPLA as a state actor and increasingly afforded rights of negotiation for their eventual separation from Sudan. Humanitarian and development organizations continued to work alongside the SPLM to build social infrastructures in the year before and immediately following the referendum. But the increasing cracks in governance in the years following the referendum crumbled altogether as the same state actors who have worked alongside the international community fuelled the December 2013 political crisis. The crisis, which has since mushroomed into a full blown civil conflict, has left thousands dead and over a million fleeing from their homes. The permutation of this conflict in Juba resulted in the violent targeting of Nuer peoples in retaliatory attacks at the hands of Dinka dominated government soldiers. They fled to UN bases for protection and have remained. Given the sudden onset of the crisis, UN and NGOs initially struggled to get basic services such as water, sanitation and hygiene facilities in place. This, along with the introduction of seasonal rains, fuelled the risk of a cholera outbreak. Pre-emptive OCV campaigns were conducted in both PoCs in Juba with vaccines from the WHO’s stockpile. The first confirmed cholera case occurred after these campaigns with a PoC

resident who had received one dose of the OCV. The number of cholera cases in the PoCs however were ultimately substantially less than those in the Juba town in the months that followed. Humanitarian aid professionals have conducted interventions such the OCV campaigns against the backdrop of an increasingly hostile environment. South Sudan has become one of the most dangerous countries for aid workers and certain government officials have contributed to hostility with arbitrary pronouncements which feed into anti-expatriate sentiments.

3. CHAPTER 3: Methods

This thesis is a qualitative study of perceptions of PoC residents and humanitarian health professionals in relation to the oral cholera vaccination campaigns in the Juba PoCs. Qualitative methods of inquiry and analysis were deemed the most appropriate approach to addressing the stated research objectives whilst giving ample consideration to the complexity of this context. The following chapter explains the research methods employed to collect, analyse and interpret the data used in this thesis. The chapter begins by describing the processes around recruitment and training of the research team. The chapter then describes the methods used to generate and analyse data. This is followed by a reflexivity section that brings my previous experience living and working in South Sudan to bear and discusses the potential influence of this experience on methodological choices and interpretation. The chapter concludes with a discussion of the limitations of this study.

3.1 Study site and Research Team

The data presented in the following chapters were generated through interviews and observations conducted during fieldwork in South Sudan. Fieldwork was occurred over two months (7th August – 30th September 2015) in both PoCs in Juba. Research ethics approvals were secured from the London School of Hygiene and Tropical Medicine and, locally, from the Republic of South Sudan's Ministry of Health's ethics committee prior to arriving in Juba (see Appendix A).

Study Sites. This study was conducted in Topping and UN House PoCs in Juba, nearly four months after the cholera vaccination campaigns. Upon arrival in Juba and after orientation with WHO's South Sudan office, the first priority was getting access to the PoCs and acquiring the contextual understanding necessary to operate safely within them. PoC access was restricted to essential personnel. Private security guards regulated entry by checking the identification of people and vehicles numbers against a pre-approved list. These security guards were backed by armed UN peacekeepers. Those essential personnel permitted into the PoCs were required to complete all activities between the hours of 6am – 7pm each day.

Both PoCs were managed by the same NGO, ACTED, and offered the same range of humanitarian assistance services including food distribution, health and water/sanitation services. UN House PoC occupied more land area but Topping was more densely populated due to proximity to Juba airport

and greater visibility. Although Topping no longer exists as UNMISS relocated residents to UN House, at the time of this study these differences justified data collection in both PoCs. After being granted entry as essential personnel in both PoCs by ACTED's team my name and vehicle number were added to the pre-approved list.

Recruitment and selection of Research Assistants. The two PoCs were located within a 40-minute drive of each other. Given this proximity and dedicated transportation, data collection and daily meetings with the research team occurred simultaneously in both PoCs with morning activities in one and afternoon activities in the other. Initial visits to both PoCs were undertaken with the goal of understanding how spaces were organized and service delivery was structured. Observational walks were conducted with the help of PoC management staff. The walks provided an opportunity to become familiar with the layout of each PoC, the NGOs providing services and to meet leaders from the population. Having conversations with leaders was the first crucial step to obtaining support and assurances of access to the community for the study. Furthermore, WHO provided names and numbers of leaders they had recently worked with in both PoCs, both of whom eventually served as supervisors of research assistants during data collection.

These initial visits also informed a strategy for recruitment, selection and training of research assistants. Research assistants who were fluent in English and Thok Nath were needed to conduct and transcribe semi-structured interviews with the PoC residents. The process of finding such persons began with drafting and posting job descriptions on public notice boards within each PoC for 3 days. Applicants responded to the posting via email. Others were brought by community leaders. Due to a low number of applications, all who applied were granted an interview.

Thirteen applicants (2 women and 11 men) were ultimately interviewed. All applicants were Nuers who had lived in the PoCs since July 2014. The interviews consisted of completion of a personal information sheet, a 15-minute written test on research methods and 5 minutes to transcribe a short voice recording. Two applicants chose to forego the transcription test. The interview setting for Topping was not without distractions as the only space allotted was an open-air hangar with several classes occurring on either sides of us. Furthermore, rainstorms and movement of airplanes overhead constantly interrupted activities. In spite of these circumstances, the performance of those in Topping was generally better than those of UN House as indicated by their higher scores. Based on the scores from the test and transcription, total of 2 supervisors and 5 research assistants (1

woman and 6 men) were ultimately selected for training.¹⁰ Selection entailed another meeting to explain the study and the scope and duration of their responsibilities. Supervisors were senior with the authority which enabled them to negotiate access to different sections of the PoCs and stand by whilst interviews were conducted. Research assistants were ultimately responsible for conducting and transcribing interviews. Employment contracts with salaries were presented for their signature if they ultimately agreed to continue.

Ethical considerations were taken into account at all stages of recruitment, selection and work with supervisors and research assistants. One consideration was that, due to a scarcity of work opportunities within the PoCs, hiring decisions such as who is chosen and how much they are paid can easily become source conflict between both the hiring entity and applicants as well between applicants. A second consideration was whether being known as employed would make them vulnerable to crimes such as theft within their communities. A third point of consideration was whether the process of conducting interviews might trigger distress among research assistants. This became more of an issue as the first transcripts began to emerge. Although there could be no guarantees that these potential pitfalls would not come into play, they were addressed through conversations with the research team. Regular meetings during the course of the study allowed me to monitor the emotions of the research team in relation to their interactions with other residents and the stories they were being exposed to. Advice from other humanitarian aid staff working within the PoCs was also an invaluable means of establishing and monitoring that the treatment of the research team was in line with normal practice. The need for transparency in recruitment and hiring procedures was emphasized to me by PoC Management¹¹.

Training of Research Assistants. All supervisors and research assistants were trained before beginning data collection. Training began immediately after employment contracts were signed with the research team. Training took place over the course of one week. Because of the safety issues associated with the movement of Nuers outside of the PoCs, it was not possible to train the entire research team in one place. Training was therefore packaged into half-day sessions which could be delivered at UN House PoC in the morning hours and Topping in the afternoon hours. Training

¹⁰ Finding skilled women workers can be quite difficult in South Sudan. Unfortunately, the woman recruited did not return after the first day of training.

¹¹ One of the applicants I interviewed but subsequently did not select did engage in email harassment of my selection process. He complained of an ethnic imbalance in my hiring decision and insisted on being able to take part in the training. UN Police were ultimately notified and nothing further came of his complaints.

aimed to improve the team's understanding of the study and their ability to conduct semi-structured interviews ethically using the topic guide. (See Appendix B for Research Training Agenda).

Most of the research team had experience conducting house-to-house surveys. It was therefore important to emphasize the distinctions between those surveys and conducting interviews for qualitative research. Training began by introducing basic principles of qualitative research, interviews and informed consent. This part of the training emphasized the differences between open-ended interviews and the survey questions. The majority of training time however was dedicated to practical exercises, namely on understanding, and translating and back translation of the interview guide, use of digital recorders. The practice of probing, in logical and sensitive manner, warranted the most training emphasis. Research team members alternated roles as interviewer and respondent while other team members observed and digitally recorded. Interviews were then replayed and critiqued. After reaching a level of comfort, they then invited acquaintances to play the role of respondents. Another emphasis of training time was the concept of informed consent and how to obtain it. Different scenarios and possibilities for responses were discussed. The voluntary nature of the study participations was emphasized. By the end of training all research team members had committed most of the interview guide and the consent form to memory. Research assistants took time to translate the consent form into Thok Nath (see Appendix D).

3.2 Data collection tools

Development of Interview Guides. Two interview guides served as the primary data collection tools for the study, the interview guide for WASH/Health Professionals and the interview guide for the target population. Both guides were developed in London as part of the initial study proposal and further revised with feedback during training and piloting (see next page for details). The majority of changes to the target population interview guide occurred during the training. The guide grew in length as more appropriate introduction and conclusion questions were added. Questions calling on the respondent to think hypothetically were added as research assistants felt they were conceptually feasible. The guide was also significantly reformatted to make markers of transition and conditional questions stand out more clearly (see Appendix C for Interview Guides).

The interview guide for health professionals comprised five main sections. The first section allowed respondents to describe their professional background and how they came to South Sudan. This was

followed by questions on their perceptions of health priorities in South Sudan and how cholera fits into this. The next three sections focused on their awareness and opinions of oral cholera vaccination, their reflections on the campaigns and their perceptions of the campaigns impact. The final section focuses on their long-term outlook for cholera in South Sudan specifically in terms of what interventions should be prioritized and if/where vaccination fits into this.

The interview guide for the target population was similarly divided into five sections. The first section opened broadly with the question of how the respondent came to live inside the PoC and their feelings about life within the PoC. The guide then turns to perceptions of health and help seeking behaviours among PoC residents. The next section introduces the topic of cholera by beginning with their emotional response to the word itself and then to questions of cholera awareness. The third section focuses on the cholera vaccination with subsets of questions to be delivered according to the respondents' vaccination status. The fourth set of questions pertain to perceptions of cholera and behaviours after being vaccinated. The questionnaire concludes with questions on their long-term outlook on cholera in the PoC and their feeling on how long they will stay in the PoC. The interview guide also included a form to collect demographic information such as the number of people in household and the WASH practices of the respondent.

Piloting of Interview Guides. Both interview guides underwent piloting before being finalized for data collection. The interview guide for WASH/Health professionals was piloted by practicing the questions with two colleagues in the WHO Juba office. The questions and consent form were deemed to be sufficiently clear and inoffensive enough to not warrant further changes.

The interview guide for the target population was piloted along with the informed consent and demographic forms in the final part of research team training. Piloting consisted of walking through different sections of each PoC with the research assistants, introducing ourselves, at which time the team supervisor would proceed with explaining the studying and obtaining informed consent. If consent was obtained, then a research assistant and respondent would determine a place to sit and conduct the interview. This process was repeated until each research assistant had two opportunities to conduct interviews. The team then debriefed on their interview experience and necessary changes to the guide in light of interviews. The initial introduction and informed consent were identified as challenging areas. This process took more time than anticipated as some were suspicious and wanted to be assured of who was conducting the study. There was one person who

agreed to be interviewed but did not want to provide a signature. There were no further changes to the interview guide, however.

3.3 Methodological approach for data collection

The primary modes of data collection were 1) semi-structured interviews with PoC residents, 2) semi-structured interviews with humanitarian professionals from the WASH and Health sectors and 3) unstructured observation. Data were collected by myself and selected research assistants from the PoC population. The following section provides detail on all aspects of data collection for this study.

Data collection methodology for target population. Data collection began immediately after piloting and continued over the course of three weeks. A purposive sampling strategy was used to select individuals for interview in the target population. The target population consisted of the estimated 31,000 residents from both Tomping and UN House PoCs (see Table 5). The primary selection criteria for PoC residents were: Adult (18 and over), they were residents at the time of the cholera vaccination campaigns in their PoC, they were fully or partially vaccinated or not vaccinated as evident by their vaccine card. Fully vaccinated people were defined as having received both doses of OCV and partially vaccinated received only one dose of OCV. Selection also aimed for a balance of genders in each category. The study aimed to interview 15 people in all three categories, in each of the two PoCs, or until saturation was reached with regards to the reasons they provided for their vaccination status. The target sample size of 15 was based on general guidance on sample sizes for qualitative research (143). PoC residents who were health workers (including health promotion, hygiene promotion, medical assistant, etc) were excluded from interviews because of their potential to have more knowledge on the cholera and oral cholera vaccination.

Potential respondents from the target population were found by walking through residential areas in different sections of the PoC. Approaching people in their homes was deemed as the most appropriate means of finding people as this was the method used for household level surveys and community awareness activities. Upon identifying a potential respondent, the team supervisor approached to make introductions. One-hundred and thirty-four people were approached to participate in the study in this manner of which 48 people refused interviews in Tomping and 37 people refused interviews in UN House. Ongoing relocation of people from Tomping to UN House PoC made finding participants in Tomping increasingly challenging. Food distribution, which required people leaving houses to queue, occurred during the week of 15th September in UN House.

In terms of vaccination status, those receiving partial and no vaccinations were ultimately more difficult to find than fully vaccinated people.

Upon agreeing to participate in the study, informed consent and a demographic form was completed. The research assistant then arranged for a convenient time and place to complete the interview. All interviews ultimately took place in and around respondents' homes at different times of day. Interviews lasted between 30 and 45 minutes. With the exception of one interview which was conducted in English, all other interviews with PoC residents were conducted in Thok Nath. Interview respondents received two bars of fragrant soap as a courtesy for their time.

Data collection methodology for humanitarian health professionals. A purposive sampling strategy was also used to select WASH/Health professionals for interview. There were no readily available estimates of the number of the number of these professionals working in the PoCs at the time. The selection criteria for WASH/Health professionals were: Awareness of Oral Cholera Vaccination and the recent campaign (26th Feb-29th April 2014), working in South Sudan since beginning of the recent cholera outbreak and having a role in the cholera response. Respondents from WASH/Health professionals were found through a combination of nominations from WHO colleagues and from attending WASH Cluster meetings. Upon receiving a name, an email introduction of myself and the study were sent to offer further discussion. A few people were identified as integral but no longer working in South Sudan. Refusals among WASH/Health professionals were non-existent as respondents were generally interested in talking and providing direction to colleagues who they thought would be more helpful. Nevertheless, three interviews had to be rescheduled because of work commitments and one interview was cancelled for the same reason.

Interviews with WASH/Health professionals followed the similar pattern of arranging a convenient time and place. The consent form and discussion guide was always shared ahead of the interview time to allow opportunity for respondents to reflect. Interviews took place either in the office of the respondent or in local restaurants and cafes. All interviews with professionals were conducted by myself in English. WASH/Health Professionals did not receive anything for participation but preliminary study results were shared with all who expressed interest in seeing such data. Table 7 shows the breakdown of study respondents in each PoC in terms of refusals and gender of those interviewed.

One aid worker (not from the WASH or Health sector) was interviewed after data collection in South Sudan. The person was worked in South Sudan during the onset of the crisis. An open-ended interview approach was used for this person to allow them to narrate their experience during this time. Summary notes were taken during this interview.

Table 7: Breakdown of Study Sample Sizes

<i>Sample Source</i>	<i>Number Refused</i>	<i>Number Interviewed</i>	<i>Gender break-down of numbers interviewed</i>
<i>Tomping PoC</i>	48	25	10 women & 15 men
<i>UN House PoC</i>	37	24	10 women & 14 men
<i>WASH/Health/Other Professionals</i>	0	10	7 women & 3 men
<i>Totals</i>	85	59	27 women & 31 men

Observation. Different forms of observation were used at all stages of fieldwork to become oriented with the context and understand dynamics between the population, government and humanitarian professionals. Observation of PoC residents occurred through informal observations of daily life in the PoCs throughout the course of data collection. Participant observation of humanitarian professionals occurred through my attendance of weekly WHO staff meeting and WASH Cluster meetings. Notes on observations were documented in field notes taken throughout the course of data collection.

Data Storage and Management. All interviews were recorded. Each research assistant was provided with a digital recorder on which they recorded every interview for the duration of fieldwork. After each interview recordings were downloaded onto password protected laptop computers for transcription. A copy of each recorded interview was taken from Research Assistant in daily meetings in each PoC. All recordings were deleted from the laptops of Research Assistants on the final meeting with the research team.

Transcription of Interviews. Interviews with PoC residents were simultaneously translated into English and transcribed immediately after interviews. Interviews of Topping respondents were transcribed by the interviewer while those of Juba III were transcribed by a designated transcriptionist and checked for discrepancies by the interviewer. A copy of each transcription was taken from the Research Assistants and the Transcriptionist as they were completed in daily meetings in each PoC. Research Assistants compared the transcriptions against the recorded interview for accuracy of translation. As a means of checking the overall quality of transcription, four interviews and their corresponding transcripts were traded between research assistants in Topping and UN House. All transcriptions were deleted from the computers of Research Assistants after the final meeting with the research team. Interviews with health professionals were transcribed by persons from a professional agency after return to London.

3.4 Methodological approach to data analysis

The following analysis chapters present data from the transcripts of interviews with Nuer IDPs and humanitarian health professionals. Analysis and interpretation of these data took place over several months in London upon return from fieldwork. The choice of analytic approach prioritized uncovering of the substantive meaning of what was said over the structural attributes of how it was said. This led to an analysis approach that combined grounded and thematic analysis. Grounded theory is described as the “generation of analytic categories and their dimensions, and the identification of relationships between them” (144). The generation of analytical categories in grounded theory begins during the process of data collection. The end of data collection is determined by the end of discovery of new themes in the relationship between analytical categories (also known as saturation) (144, 145). Thematic analysis is a systematic way of working through texts to “discover, interpret and report patterns and clusters of meaning within data” (144). The approach used in this thesis is described as a hybrid because while a grounded theory approach, based on reasons for vaccination and non-vaccination, was used to determine the end of field data collection, thematic approach to textual analysis was used to generate new analytic categories from the data and interpret meanings beyond vaccination decisions. The use of thematic analysis with other qualitative analysis approaches are well-established qualitative data analysis strategies (146).

Familiarization with data. Data analysis began with the process of becoming familiar with the data. The data familiarization process occurred in two phases. The first phase began in the field while the transcripts of interviews were coming in. All transcripts were read twice. The initial reading was for

the purpose of familiarization with narratives and editing to improve the clarity. Each transcript was reviewed and clarified with the research assistant who conducted the interview. Quotes were edited only as needed to improve readability while maintaining the structure and intention of the language. The results of these reviews and discussion of cultural relevance of various phrases and ideas were documented with notes and some were recorded with the permission of research assistants. The second reading of transcripts allowed for documenting general impressions of knowledge of cholera and cholera prevention, reasons for full, partial and non-vaccination and remaining questions about the vaccine. This round also allowed for anonymization of respondents and changing identifying information in the narratives. This phase of familiarization also served to generate a presentation of preliminary findings which were shared with health professionals before leaving Juba.

The second phase of data familiarization occurred in London after completion of fieldwork. This phase began by revisiting the original research objectives. A subset of 9 transcripts (3 from each category of vaccine decision) were then chosen. The transcripts were read to identify the topics relating the research questions that were present across all transcripts regardless of vaccination status. The topics and previous notes were used to generate a preliminary coding list. The preliminary coding list served as the first phase of determining the themes that would be used to sort and compare data.

Coding phase. After generation of the preliminary coding list, all transcripts from interviews with PoC residents were imported into NVivo for coding. Coding began under the main themes covered in the interview guide, including perceptions of cholera, perceptions of the cholera vaccine and reasons for full, partial and non-vaccination. The first round of coding was guided by gaining a descriptive understanding of the range of responses under the broad categories of perceptions of cholera, risk perceptions of cholera, reasons for full, partial and non-vaccination, behaviour after vaccination and remaining questions after vaccination. Subthemes were created for these categories based on the nature of response. For instance, reasons for non-vaccination gained subthemes such that distinguished deliberate reasons for non-vaccination such as “refusing” from passive reasons such as being away at the time of the campaigns.

A validation of coding framework took place through two open-coding seminar sessions. The first was a seminar-style meeting with 10 other researchers to get their general impressions of the data.

The researchers were provided with two transcripts to read before the meeting. A 15-minute overview of the research design and context was followed by a 40-minute of discussion on the main themes. The second meeting was a smaller session with 5 other PhD students during which the same transcripts were shared to discuss emerging themes. After each session, notes of their observations were compared with my coding framework. This iterative process allowed for a few additional themes to emerge which were later reorganized as sub-themes after additional reading of transcripts by the author (see Appendix E).

Building categories and interpretation phase. A second round of coding was guided by the additional topics from the preliminary coding list, the emerging categories from the descriptive analysis and coding validation sessions. By this time, additional themes such as “perceptions of government” and “perceptions of NGOs” emerged as potential categories for linking various themes. This stage was characterised primarily however by the beginning of interpretation of data. A series of notes summarizing my hypothesized linkages between various themes documented this process. It was also at this time that I revisited the notes from discussions with research assistants as well as ethnographic works described in chapter two to aid my refinement and validation of emerging interpretations of the significance and relationships between themes. For instance, a theme such as “perceptions of illness” and “god” became linked through contextualization provided by ethnographic descriptions of Nuer spiritual traditions.

Although it may appear so from this description, the analysis and interpretation of data from this thesis was not a linear process. It was rather an ongoing iterative process over many months during which conceptual categories were clarified, themes distilled and explanations developed. This was characterized by constant shuttling between the data, ethnography and the theories of social epidemiology, psychology and anthropology in the revision of explanatory summaries.

3.5 Reflexivity

Before proceeding to analysis and discussion chapters, it is essential to acknowledge the entirety of my previous experience in South Sudan and consider its bearing on this thesis. My experiences in South Sudan began long before this study. As a humanitarian aid worker with the International Rescue Committee (IRC), I initially provided technical support to IRC’s programs in South Sudan before eventually moving there to work. I lived in Juba for a year over the course of 2009 -2010

during which time I held the title of Community Mobilization Advisor for the Sudan Health Transformation Program II (SHTP-II). The project was in the second phase of a USAID funded health system strengthening project which aimed to deliver Basic Package of Health Services (BPHS), an approach used for health sector development and strengthening in post-conflict settings (147). Although the BPHS, as it was implemented in Southern Sudan at the time, was an infrastructural heavy approach aimed at achieving quantifiable levels of equipment, staffing and policies to deliver health services at each tier of governance, a key component of the approach was the creation of demand on the part of Southern Sudanese for services. The Ministry of Health approach to demand creation consisted of establishing functional village health committees to serve as the bridge between health service infrastructure and community members. As a community mobilization advisor, my job was to ensure that the NGO who was sub-contracted to implement the BPHS in each county was working with village health committees to undertake health promotion and other activities aimed at driving service utilization. I visited most states and counties in South Sudan during this time and learned a great deal about the daily struggles for survival by many Southern Sudanese, of which health service access was only a part. Although the challenges were many, the mood was hopeful as the country worked towards its anticipated independence from Sudan.

This research took me back to South Sudan, almost exactly 4 years later. I was based in the same ministry of health compound where I previously sat and found some of the same ministry of health officials I previously worked with. What was indeed most staggering to me was just how little seemed to have changed in the years. There were more buildings in Juba, more expat restaurants, nicer roads, and better living accommodations. Nevertheless, the themes of conversations among NGOs and governments resonated with those of past conversations. The operating environment was more delicate and the movement of internationals was more restricted and there was a palpable sense of a perpetual emergency around us. While this familiarity was the reason that I was ultimately able to enter and navigate layers of operations to collect such a great deal of data in two months, it was also disappointing to see what little stuck.

Reflexivity is a process of acknowledging the possible role of these experiences to the introduction of conscious or systematic bias in my collection, interpretation and presentation of data in this thesis (144). While acknowledging there is no such thing as “completely neutral or objective knowledge”, reflexivity recognizes the process by which exposing a researcher’s own beliefs and values can improve the credibility of these data. In this vein, I also acknowledge trying to balance a reasonable

level of objectivity as a social scientist with beliefs I carry from my previous experience. On a practical level, my previous experience in South Sudan was essential to my ability to confidently move about the context. It was essential to building a keen sense of my own safety with regards to the people and places I encountered throughout fieldwork. My previous experience also helped me gain access to humanitarian professionals who felt more comfortable talking to an experienced aid worker than an academic researcher. My methodological approach was also shaped by experience. I had a sense of what could be accomplished in the time and budget allocated. I also had a sense of how to manage research assistants, given the importance of fairness and transparency to all aspects of interactions. But my experience also translated into beliefs about South Sudan and its people. These beliefs tend towards a sense of sympathy for the people of South Sudan. Having witnessed first-hand the extreme levels of poverty and amount of struggle they have endured to meet basic needs, from a health services perspective, it is difficult to not see them as perpetual victims of an unjust history. Given this narrative and my acknowledged disappointment with limited progress, it is easy to overlook their sources of resilience and the ways they demonstrate agency over their lives. I had to continually be aware of this narrative of victimhood and be very cognizant of looking for the counter explanations and the nuances. For this reason, the interpretation phase of analysis took time. The triangulating and validating by interpretations with ethnographic work and with others who worked in South Sudan played a greater role than I initially expected. Ultimately, I would never assert that this thesis is without my own biases. What I *can* say is that I have made considerable effort to identify my biases and use various theoretical lenses and perspectives to challenge these assumptions.

3.6 Methodological limitations

As there was no way of knowing for certain where a cholera outbreak and OCV response would occur, this study was initially designed to be amenable to a range of settings and refined as South Sudan humanitarian crisis emerged as the place where the study would be conducted. As with all research studies, the subject and context presented certain methodological constraints which should be taken into consideration in tandem with results. The main methodological limitations associated with this study are discussed below.

Relatively high refusal rate for study participation. One methodological constraint of this study lies with the number of people who refused to participate in the study. A total of 85 people (63% of the total number of people approached) refused to participate in the study. This relatively high refusal rate implies that people in both PoCs were less likely to participate than participate. Because the demographic details and reasons for refusals were not formally noted, it is difficult to speculate as

to what sort of impact this relatively high refusal rate may have had on study results. Given the socio-political violence that drove Nuer people into the PoCs, it is reasonable to assume that a degree of comfort with one's surroundings and the interviewers needed to be established before respondents participated interviews. It is possible that those who were able to establish such comfort and therefore participated may have also possessed other characteristics such as more knowledgeable about water, sanitation and hygiene practices and more positive perceptions of NGOs---all of which would have influenced their responses. While the methodology used for this study does not allow me to determine if and the extent to which this might have been the case, I acknowledge this limitation and encourage results to be considered along with this caveat.

Time in between vaccination campaigns and data collection. Another limitation of this study pertains to its timing. My arrival in South Sudan was determined by factors such as the approval of WHO in Geneva, obtaining local ethics approvals, getting security clearance and the preference of the WHO head of office. All of these factors converged to result in the first interviews of PoC residents and humanitarian health professionals occurring approximately four months after the oral cholera vaccination campaigns in Juba. This delay had implications for the range of people to interview and what they would recall. The limitations on the range of possible respondents particularly impacted my options for speaking with health professionals. In a few instances, people were suggested who had been involved in the campaigns but had since left Juba. After failed attempts to get in contact with two of them, I decided to limit the sample of health professionals to those who were still in the country. The time delay can also be considered in terms of respondents' ability to remember the details of their feelings around vaccination. The potential impact of this time delay with regards to respondents' recall is not known. However, it is plausible that a degree of recall bias existed, with participants who were not vaccinated being more likely to recall negative perceptions or discussions about the vaccine than those who were vaccinated. While it is difficult to ascertain if and how this delay influenced respondents' perceptions, I acknowledge it as a limitation in so much as it would have preferable to have conducted these interviews sooner.

PART II: ANALYSIS OF INTERNALLY DISPLACED NUER PERSPECTIVES

“The spread of cholera is no doubt a great evil but the awakening of a feeling of mistrust throughout India would be a greater evil still.” ---Lord Roberts, commander-in-chief of the Indian Army, 1892(27)

4. CHAPTER 4: Results - States of transition: becoming and being a Nuer IDP in the PoCs

There were very few signs of the chaos of December 2013 by the time of my first visits to Tomping and UN House PoCs in August 2014. Entrances to each PoC was limited to one location where UN, NGO and other vehicles queued. The passengers and number plates of each vehicle were verified before entry. Any vehicle that did not meet all requirements of identification was waved to the side to begin a potentially tedious mix of repeating the process of checks, arguing with guards and/or being directed to the UN’s Security office. All of this meticulous inspection was led by a “locally” contracted security agency. Their guards were South Sudanese men and women usually of Equatorian ethnicity. They were “armed” only with batons, pens and printouts. Perched above them, watching through reflective sunglasses on raised platforms, were the blue helmets and military fatigue clad UNMISS soldiers. They stood detached, with guns clearly visible, in a way which gave little suggestion as to the extent to which they were engaged in the mundane bureaucratic entry exercises taking place beneath them. Upon successful completion of checks a security guard manually raised a metal pole barricade granting entry.

This twice daily ritual was required for access to PoC residents. This is the first of two chapters that present findings from the perspectives of Nuer residents within those PoCs. A total of 49 interviews were conducted with Nuer IPDs in Tomping and UN House. Respondents were almost evenly divided between the two PoCs with 25 from Tomping and 24 from UN House. The majority of respondents (29) were men. All respondents were 7-10 months into their residence in the PoC at the time of their interview. The average age of respondents was 33 years (range 20 - 56 years). Less than half said they had some level of formal education in from a primary, secondary or tertiary schooling. With the exception of one person who was from the town of Malakal, the capital of South Sudan’s Upper Nile State, all respondents were previously living in Juba or in the immediate vicinity of Juba at the onset of the political crises.

This chapter focuses specifically on Nuer experiences of getting to the PoC, life in the PoCs and perceptions of health. Their narratives evoke political context and contribute to a collective story of Nuers coming to terms with betrayal by their government and coming to trust UN and NGOs. Woven throughout these findings are aspects of Hutchinson's ethnographic work with Nuers which may help to illuminate the cultural relevance of particular perceptions. This chapter concludes with a discussion and illustration of what constitutes Nuer perceptions of risk in this PoC context.

4.1 Getting to the PoC: the problem of trust

The Nuer have a distinct word for risk: *rik*¹². Literally translated, *rik* means any dangerous thing that can harm a person. The seemingly vast realm of possibilities which could comprise such a concept implies that it would have been difficult to ask about it directly. As such, understandings of Nuer IDPs notions of *rik* were surmised through narratives of their IDP experience. Each interview began with the question of how the person came to live in the PoC¹³. Responses varied in their delivery, from one sentence answers to detailed narration of the journey marked by challenges to existence at every turn. They recounted their narratives with great degrees of exactness and stoicism; everyone remembered the precise circumstances of their arrival in the PoC, and some made allusions to a universal circumstance of war and migration. The range of responses detailed IDPs' perceptions of their position within the political crises, their evolving perceptions of trust and the consequences of their experiences of violence and loss. These elements provide a picture of the physical and emotional turmoil involved in the decision to flee to the PoC, their journey and their decision to remain contained, indefinitely, within its boundaries. Moreover, these stories begin to introduce conceptualizations of *rik* in this context as a constant negotiation between risk assessments and opportunities for protection.

Conceptualizing the crisis. Nuer IDP's journey to the PoCs began with ideological shifts. Before their first steps on foot, they grappled with the creation of an ideological distancing between themselves, their political leaders and the crisis. This distance was evident in the language used to describe the

¹² Risk in Nuer language can be spelled both as *rik* and *riek*. *Rik* is the most appropriate spelling however as *riek* has a distinct meaning as the pole on which one leans or attach spears, gourds or animal skins onto. The spelling *rik* also serves to stem confusion from the vice president Riek Machar.

¹³ Research Assistants were trained to avoid probing on this question as we were not equip to cope with the emotional intensity of potential responses. This approach did not serve to buffer the intensity of narratives however.

conflict that led then to PoCs. Nuers did not use the words “political crisis.” Rather, the ongoing conflict was mostly referred to as “the problem” and to a lesser extent as “the war” or “fighting which broke out in the military barracks”. Regardless of what they called it, their words were unequivocal in assigning blame for “the problem” on their political leaders. Both Reik Machar and Salva Kiir were implicated in describing the original source of “the problem.” John was one of several respondents who were engaged in a normal day’s work as a boat driver at the onset of the fighting. In considering the events which led him to the PoC, he asked, “This big problem between Riek Machar and Salva Kiir, how will they solve it?” ----male, 38 (29)

John’s framing of “the problem” as one between political leaders was echoed by other respondents. This framing is significant in terms of illustrating their lack of ownership of both the conflict and those causing the conflict. For John, “the problem” has come as an assault on what was otherwise a normal existence, free from the shadows of war. This framing is in contrast to the sense of collective struggle inherent in narratives about the previous periods of civil war in South Sudan, wars for which struggle could be rationalized as a means to the just end of freedom from the Arab north. The normal existence “the problem” now interrupted broke the very promise of that struggle: a new, peaceful state of South Sudan. This sense of alienation from the current conflict made it difficult to assign a sense of purpose. Respondents did not indicate a goal that the fighting was aiming to achieve. This made the suffering of Nuers in *this* “problem” simply a matter of collateral damages of feuding political leaders. This lack of purpose made the question of how it will end an elusive one. Not only was this “problem” not theirs but the ends were at best ambiguous and at worst unjust.

Lack of ownership of the “problem” and of the leaders who created the “problem” indicates the disapproval which permeated respondents’ perceptions of their political leaders. Respondents did not shy away from criticizing the actions of their two most prominent leaders. Both leaders, Machar and Kiir, were associated with the cause of “the problem.” Disapproval of Kiir was unequivocal. The words “Kiir, “government”, “soldiers”, “policemen” and “Dinka” were associated with sources of harm and death from which they were trying to escape. The following quotes illustrated this frustration and disapproval:

Actually this is a very good question to let me begin to narrate why [did] I come here. When the crisis happened on December 15, 2013 it happened that there were private army trained by President Salva Kiir. They were targeting unarmed civilians from Nuer, killing them from house to house. Therefore, I decided to come here in PoC for my safety so that I will be given protection. I came with my relatives.---male, 30 (3)

More people were killed in front of me. So my community, they all [ran] away from Salva Kiir government because they are killers...We decide to come here for protection from UN. The minority of Nuer, they been targeted that is why we come here.---male, 29 (45)

These denouncements of Kiir and government soldiers' (SPLA) actions were meaningful in as much for what was said as for what was not said. Denouncement of Kiir and government soldiers were not balanced with pronouncements of support for Machar. In fact, favourable mention of Machar was conspicuously absent from respondent narratives. This absence of praise for Machar can be considered in light of his own physical absence. In the days immediately after the onset of the political crises, Machar went into hiding and ultimately fled Juba and South Sudan. During this time, many Nuer soldiers in the SPLA defected and either took refuge in PoCs or fled Juba altogether. While Machar's absence was subject to multiple interpretations, one consequence expressed by respondents was that it allowed Kiir-loyal factions of the SPLA to proceed with exacting revenge on Nuer civilians without military opposition. Language of solidarity with Machar was absent from the respondents' narratives.

Betrayal of trust. Alienation from their political leadership did not prompt Nuers to leave their homes. Similarly, the onset of violence caused concern but not movement. This maybe related to the common practice of sheltering in one place or "lockdown" as a first line risk mitigation measure. It was rather the realization that they were the targets of violence that eventually sent most Nuers on their journeys. This realization was the final betrayal by their government. Respondents said they did not immediately fear for their lives after the onset of the dispute amongst the presidential guard which led to "the problem" between Machar and Kiir. Their lack of fear was based on a fundamental disbelief that government soldiers would turn guns on civilians. My initial reaction this was also one of disbelief. Violence seemed ubiquitous in South Sudan. Even after the official "cessation of hostilities" associated with the CPA, violence continued. No protracted stay in the country was complete without daily UN security reports of violent clashes throughout the country and particularly in Dinka, and Nuer strongholds around Leer and Bor, leaving many civilians dead. Violence leading to deaths of people in Juba was less common but not unheard of. Their perception had another aspect of meaning initially lost on me. My bewilderment with what appeared to be a collective underestimation of risk was deciphered by one of the research assistants. He shed light on the cultural relevance of this perception with the following:

But what happened this year it is the worst, very, very worst life. And even in the life of the Nuer is the very worst. Because you see, since the lady cannot be involved in the fighting,

only men. And even the civilian cannot be involved also. [...So, in Nuer, fighting is mostly just for male fighters]..Yes, if they say they will fight, they will not fight around the people. They will go if there's a field, they will go and fight there. [Right..ok, they take it away from the community.]...Yes, they are telling themselves 'ah' let us not fight around children, let us go there or let us go there....

His explanation of norms associated with violent conflict in Nuer culture as something conducted by men—away from civilians provided some insight as to why Nuers in Juba may have delayed fleeing homes with the onset of violence. The explanation is further illuminated by Hutchinson's descriptions of customs around Nuer warfare. Killing of non-combatant Nuers was associated with greater penalties on the part of the perpetrator. Hutchinson attributed this to the blood curse of *nueer* which is incurred by inter- Nuer killing and can only be rectified through cleansing rites conducted after fighting (124). The *nueer* cost of killing women and children were higher than those of killing male combatants as their death effectively limits both future earning and the opportunity to propagate life. This “added value” on the lives of women and children virtually eliminates them as targets during warfare and restricts settings for warfare away from homes and other places where they predominantly reside. This helped to explain the grim astonishment and feeling of betrayal which accompanied Nuer IDPs realization they, as “civilians”, were vulnerable to attacks by soldiers. John went on to describe this realization as something of a tipping point which ultimately drove the decision to flee to the PoCs:

John: You know I am a civilian when fighting broke out in Juba last December among the Presidential guards. Civilians from the Nuer tribe were targeted. That is what brought me to UNMISS. My brothers were killed in front of me. I thought I will not survive, thank God I am still alive. I never saw UNMISS compound before the war. I was working as a boat driver but everybody was [targeted] because he/she is from the Nuer I ran to the PoC. [To] live outside the PoC is worst [because] there is no protection.

Interviewer: Why did you decide to come?

John: There was killing. Nuer people were killed from door to door in Juba. Soldiers came and dragged people out from their houses, killed them. Why [did] government soldiers kill civilians?

Violence and loss. The decision to flee presented a host of new risks on the journey from one's home to the PoCs. This journey was characterised by terror of the ever present threat of being killed or watching others be harmed. Because of the betrayal experienced at the hands of government soldiers, there was no longer a guarantee of safety from men in uniform—quite the opposite. Police and soldiers now represented the worst forms of threat and contact with them posed a risk to one's life. Safety would only be achieved by passing through the gates of the PoC. Talek explained that

even close proximity to the gates was not an adequate reason to feel safe, “I was living in Kor-william. Early in the morning the town was woken up by gun shots. I told my brother to go to UNMISS instead of to be killed at home sitting. They accepted and we came. Along the way, about 20 meters away from UN main gate we saw some policemen carrying a gun. We were afraid, thinking that they will kill us but, they didn’t do it.”---male, 40 (9)

Most respondents described experiences of violence during their journey to the PoC. They were confronted with violence either through personal experience or by witnessing violence perpetrated on others. Several men spoke of violence experiences in the form of beatings. Both men and women spoke witnessing someone being raped and/or killed. In the worst instances, IDPs witnessed such violence perpetuated on family members. A few said they continued witnessing violence even after they were inside the gates of the PoCs as government soldiers killed people in full view of PoC residents. This happened in the beginning of the crises before the perimeter fencing was fully constructed and effectively served to further terrorize and contain Nuers within the PoCs. Naping described her fear of not being safe even within the PoC in those early days:

In December, January and February no one could even go outside the western gate of the compound. People were shot and killed at the gate and inside the PoC as those Dinka climbed on top of those building near the PoC and fire at everyone in the PoC which result to many death and injuries as people were crowded. But now it is a bit ok as some people can go up to the main road. The only positive change to me is the protection but I am thinking of where is my husband. ---female, 34 (20)

Naping’s story also introduces the element of loss. Once some level of safety was assured, thoughts turned to what has been lost. All respondents mentioned some form of loss. Loss was an explicit, implicit and constant element in narratives about the journey to and life in the PoCs. It was most commonly expressed in two forms: loss of loved ones and loss of property. Loved ones were lost through death and separation during the course of the journey. Someone who was lost to death had clear implications for grieving. This experience of not knowing if someone was dead or alive and how to find them presented another sort kind of distress.

I never saw killing like what happened in December of last year---killing people on basis of tribe. Nuer men were dragged out from houses and before us. When I saw people were killed intentionally, not a crossfire we ran away. My three children ran on their own went to Gumbo village the other side of the Nile and later went to Mangala and then to Bor. They are now at Bor PoC. I am worried about them since we were separated, we did see not each other. My husband ran his own way up to now I do not know where he is. When those men

brought me to UNMISS, I said I am safe only worried of my children and their father whom I do not know his whereabouts since we were separated. ---female, 34 (20)

Loss of property presented another source of devastation for Nuer IDPs. Property loss was also attributed to government soldiers. A few respondents indicated that the soldiers' desire to steal Nuer belongings was of the motivation for turning on civilians. A 40 year-old man named Gatong described coming home after the December 2013 crisis to find his possessions had been plundered: "Everything in my home, including my chickens were killed and my properties were stolen."—34. Gatong was one of the most persistent holdouts in terms of coming to the PoC. He and his brother arrived in February, almost a month and half after most in the PoCs. This devastation of losing all of one's property proved too much for some. For them, the recovery of property was ample motivation to leave the security of the PoC for the risk of returning to abandoned homes. But those who chose to do this were not described with any degree of admiration. Rather, they were labelled as foolish for forgetting the reason they sought refuge in the PoCs.

Respondents' narratives of their journeys to the PoCs are marked by the worst consequences of failure of political leadership. Failure turned into betrayal as they suffered violence at the hands of government soldiers. These are the elements of the collective narrative of what drove many Nuers to in the Juba PoCs. However, as days became weeks and months this narrative grew to incorporate life in the PoCs. It is only then that the narrative strand that frames Kiir's government as the source of malevolence begins to be counteracted by the United Nations and NGOs, as agents for benevolence. It is also then that the nuances of an apparently benevolent relationship are exposed, strained and negotiated.

4.2 Perceptions of life within the PoCs

The experience of entering the PoCs was characterized by displays of processes which imply passage into a space of heightened order and security---a space distinct from its surroundings. This image of order continued beyond the gates where it comes to be manifested through the brands and logos of the UN and international NGOs. Their brands demark transition into a space no longer controlled by SPLM. Flags, the most conspicuous symbols of laying claim to a space, was important part of this. Driving past the security barricade required passing beneath a UN flag. This flag stood prominently at the entrance, almost distracting one from consideration of the possibility that any other flag, such as the South Sudan flag, might accompany it. Another kilometre drive into the PoC was needed

before the structures and movements of daily life began to emerge. The common sights included dusty young boys eager for your vehicle to pass so they could continue their football game and a road veering off the main one lined with various makeshift stalls selling everything from grains, to paracetamol and mobile phone chargers. Women zipped between structures carrying big yellow jerry cans with babies tied to their backs or trailing behind. They wove from water collection points to their shelters made of white tarpaulin emblazoned with the blue symbol for IOM, (the International Organization for Migration), the organization in charge of providing shelter in the PoCs. Most shelters and stalls are made from some combination of this tarpaulin with the wooden beams provided. The shelters sit close to each other in clusters identified as blocks and then zones, a common way organizing refugee camp spaces in other countries. Figure 13 shows the types of living structures inhabited by PoC residents.

Perhaps one the most unique images of international presence however was the presence of military vehicles such as armoured tanks which wove through the main paths and to a lesser extent the tight corridors between shelters. The tanks are driven routinely through the camp by UNMISS soldiers in an unequivocal display of might and resources for maintaining order. Their black branding distinguishes the peacekeeping, military arm of the UN from the blue branded humanitarian service provision arms of the UN such as WHO. A research assistant said that even the children in the PoCs have come to learn the distinction between this branding in calling the black UN “papa UN” and the blue UN “mama UN”. Figure 14 is a photo of UNMISS tank that typically patrolled the PoCs.

Figure 13: Children playing by their home -UN House



Figure 14: UNMISS tank "papa UN" in Topping



Expectations of service. The children's distinction demonstrates the extent to which symbols of UN and international NGOs became commonplace features of the PoC landscape. There was little opportunity for residents and anyone else entering the PoCs to not notice the brands of their new hosts. The association of the international community with service provision also appeared to serve the function of establishing the fundamental basis of the relationship Nuer IDPs enter with UN/NGOs upon entering the PoCs: that the duty of UN/NGOs was a caretaker role as demonstrated through the maintenance of the PoC boundaries and the provision of social services for residents. All respondents attributed the help they received to the "international community". The international community were credited with "community [coming] in and [giving] their support on all necessities" ---male, 40 (22).

Respondents' perceptions of the UN/NGOs indicated not only an expectation of refuge from the on-going violence but also on the establishment and gradual improvement of the services provided within the PoCs. Both Tomping and UN House PoCs were repeatedly described in terms of the level and quality of services available. When asked about life in the PoC, respondents like Talek immediately framed responses in terms of service provision, "Yes the situation became normal now, not like before. UN did its best during IDPs arrival here. They gave shelters, food, water and many other things." ---male, 40 (09) Nyagine, a 30 year-old woman who arrived at Tomping PoC with family members similarly described services in the PoC, "The earlier days in the PoC life was very hard, there was no water, food, latrines and medicines but now water is available food was brought, more latrines were erect and clinics were opened. ...I also thank the NGOs which protected people from various diseases like typhoid, malaria and cholera." ---(32). Both Talek and Nyagine's descriptions situate praise in terms of service provision.

Thus, in as much as the words Kiir and government became associated with killing, rape and death, UN/NGOs became associated with words such as protection, health, water and medicine. These associations appeared to solidify reorganizations of perceptions that were set into motion with the political crisis. The perceptions also demonstrated a great degree of polarization and seemingly devoid of two things. First, there was little evidence of bidirectionality in the relationship between Nuer IDPs and UN/NGOs in the context of the PoC. In other words, there was no indication of reciprocity. The only requirement to receive services is physical presence in the PoCs. Services are

freely provided to all regardless of access to resources beyond the PoCs. Second, respondents' perceptions also lacked reference to the current or future responsibility of their government. The SPLM government is excluded from all workings of the PoC creating a clear disconnect between the PoC and the state in which it sits. The implication of this framing for the relationship between IDPs and the international community will be analysed more in depth in following chapters. At this point however, it is important to note that both factors support the PoC space as a place whereby the expectations of the state are being transferred to the UN/NGOs without the reciprocal expectations and opportunities of citizenship.

Beyond survival. Access to services did not translate into a singularly positive perception of life in the PoCs. On the contrary, reflections on day to day life were often presented with some degree of ambivalence. Observations made whilst walking from house provided some insight on the question of how residents spent their time. With the exception of food distribution days, most knocks on the door would be greeted with a response by someone inside. More often than not, it would be a woman engaged in some aspect of housework and looking after children. A few were clearly awoken from naps. Several women occupied themselves with needle point, stitching colourful patterns onto solid coloured bedsheets with the intention for sale at markets within Juba. Small scale trading attempts such as selling small bags of popcorn and cups of tea were also common.

These were different from the activities of men however. The few observed instances of housework by men were usually accompanied by explanations such as separation from his wife and children. Opportunities for formal employment within the PoCs were very limited to jobs generated by UN/NGOs in relation to service provision. Market stalls were usually operated by men. Those who could found day work such as porting various items from their source to destination. Playing cards games, dominoes and watching premier league games further chipped away the hours. But mostly, I observed and was told of the overwhelming sense of boredom that many felt as they "tried to push the time." Income generation was seen as something best accessed by leaving the PoC at a risk to oneself. The level of risk depended on the sort of position one previously held. For instance, those who were previously engaged in work with the government did not see hope of being reinstated in their former positions. Their previous association with government also meant they were at even greater risk as they thought of themselves as more easily identified by those in government who would know they were Nuer. This alienation from sources of income was another perceived

transgression by the government towards Nuers, particularly Nuer men. One man described the tension between safety of the PoC and his alienation from work:

In fact, life here in PoC is ok because as a human being if you know that your security is guaranteed, I think you feel comfortable for that. I am really very comfortable because I can see my security is ok and I cannot expect Salva Kiir's soldiers to come and kill me since the UN troops are there for me, so to me, I can say currently life in PoC is ok.The only thing we are missing is because we do not have full interaction with other communities in South Sudan....Economically, before the crisis I worked with the government where I earned money at end of the month. I lost my job as a result to war and crisis, now am here in the PoC only depending on what UN can give, only the ration to sustain me. ---male,30 (3)

In describing their sense of isolation from economic opportunities, the language respondents used to characterise their presence in the PoCs changed from the previous descriptions of safety and service to one of forcible confinement. They were now restricted. They spoke of their sense of physical restriction both in terms of the boundaries of the PoC space and in terms of other Nuers. Many compared their confinement to the PoC to that of being imprisoned. John described himself as a hard working man who lived peacefully with his children before "the problem" but now he is "like a prisoner." "When you try to go out the PoC there is killing, UN Peacekeepers said anyone who will go out, they are not responsible even at outside the gate." ---male, 38 (29). The prison metaphor is evoked most strongly when the language becomes more political in condemning Kiir. Tabol takes this notion even further by saying "We [were] brought to this prison by the President Salva Kiir" --- male, 36 (30).

Identification and Identities. The prisoner, the IDP and the beneficiary of services were all among the labels respondents continuously adopted and discarded as part describing their lives in the PoC. Just as UN/NGOs communicated their dominance of the PoC space and benevolence intentions through branding, respondents appeared to communicate sentiments around various aspects of their predicament with a fixed set of visible labels. These identities, individual and communal, also appeared to be fluid and important. Interactions with my research assistants illuminated this significance. After their training, they asked for t-shirts. I knew exactly the sort of t-shirts they wanted by looking around the storage hangar-turned-hospital where we regularly met. Darting between benches of those waiting to receive care were the few but clearly discernible providers of care. They were always in some combination of lab coat, blue, white or yellow t-shirt, sometimes with a very pedantically worded health message and always with some combination of NGO logos. Their attire communicated their role and the significance of that role but, more importantly, it distinguished them from others. After explaining that it would not be possible to acquire WHO

branded shirts, we settled on blue raincoats, notepads and pens. The raincoats were leftover, unbranded ponchos from WHO's storage retrieved by a colleague who no longer had use for them. They were a particularly ironic choice of uniform considering we were well past rainy season by the time of data collection and well into the days where the sun blazed from 8am, to peak in the lower forties before relieving us around 6pm. It was common practice for work in the PoCs to cease between the hours of 1 to 3 in order for people to find reprieve from the unrelenting heat. Raincoats were perhaps the least useful item of clothing one could have in this environment and yet my assistants brought them out in the first days of interviews and at the slightest hint of rain thereafter. For them, discomfort was less of an issue than the identity the ponchos conferred as trained employees of the benevolent WHO. They said this was needed in order to gain trust from the community and that the identification was just as important to them as the remuneration.

The significance of identity emerged again when it came time for the first round of payment. WHO policy required that each person receiving payment needed to present some form of legally issued identification. Knowing that South Sudan identity cards were widely issued around the time of the referendum to facilitate voting, there was little reason to believe there would be a problem. This assumption proved to be misguided however as most of my research assistants were unable to produce a South Sudan identification card. Instead, they cobbled together various forms of permits and passes, prioritizing any that had a photo. Some were tattered to the point of barely recognizing the person depicted. When asked about their national identification, I was told that stealing such identification was a tactic used by the government soldiers. Their cards were taken in the process of being beaten or killed. Without South Sudan identification cards, the evidence of one's existence became theoretical. They did not need to elaborate on the risks that accompanied the possibility of questioning one's existence. One research assistant did have his South Sudan identification. He kept it pristine and safely stored away. He did not carry it with him for fear it would be the first thing government soldiers would confiscate if he were detained. Their level of trust in me became clear as he and the others allowed me to take their identification cards off the PoC grounds and overnight to be photocopied.

In addition to grappling with the significance of individual, group-level identities were also evolving. The PoC was perceived as a place in which inter-Nuer social dynamics were being reformulated. By sheer force of proximity, the regionally specific aspect of Nuer identification was being reconsidered in terms of its significance. Respondents described a setting whereby they were meeting Nuer from

the four main clans for the first time in one place. This mixing presented complications in the initial phases of PoC existence as it fuelled pre-existing tensions competition for resources. Social tensions were described as cooling and solidarities forming as the situation in PoCs became more stable. For some such as Nywok, a 25-year-old woman living with her family, this mixing was not just leading to tolerance but to generation of new bonds and social support:

There are many people whom I did not know before I come here but now we are living together and become like a family or close friends which were not my relatives. That is why I like the PoC because before we were known as Nuer of four groups. We do not know ourselves because there is Nuer from Bentui, Lou, Jikany and Gaawar of different states now here we come together as one and I am happy for that. ---(7)

But the changes were not good news for everyone. Certainly, there were others who felt the new-found proximity led to observing behaviours which were uncharacteristic of Nuer culture. Samson, a 50-year-old man who escaped with his children after his home was looted, did not see much positive about life in the PoC. His perception of “suffering” and threats to one’s existence within the PoCs had not diminished over time. And the presence of fellow Nuers was less a source of comfort than it was a new set of risks:

There were a lot of things I saw here. Before in the history, Nuer was not having any criminals or thieves that can steal things belong to others. Now the generation we have become is different. Second when I first arrived, people were quarrelling among themselves but in Nuer culture you don’t quarrel with someone you don’t know before. ---(25)

Whether positive or negative, it was interesting to see that Nuer IDPs descriptions of themselves at the group level did not incorporate national identities. For instance, the label of South Sudanese did not naturally emerge in any aspect of their narratives. Responses to questions about the likelihood of leaving the PoCs implied that while initial entry into the PoC met immediate needs for safety, the exclusion of their government from every aspect of PoC operations was as important motivation for staying. Surely by passing under the UN flag, accepting explicitly non-government branded services and not asserting a south Sudanese identity, there is some level at which Nuer IDPs were accepting United Nations and NGOs as their new government. The choice to stay could therefore be interpreted both as a practical and political act. Some said the decision to leave is “up to the UN [depending] on where it plans to relocate me.”---male, 40 (22). “Peace” was the primary factor but the UN would determine when it was safe to leave and, for a few, continue to be seen as the one to provide services such as food and treatment even after leaving the PoC.

4.3 Perceptions of health services in the PoCs

If service provision was the basis of the relationship between Nuer IDPs, UN and NGOs in the internationally governed PoC space, then health services were the cornerstone of this service provision. In as much as income generation activities were limited or beyond the boundaries of the PoC, maintaining one's health, and thereby defying threats to existence, was by contrast an integral aspect of what it meant to be in the PoCs. As dictated by standards in humanitarian aid, health services were available free of charge to all PoC residents at any time of day. The statistics on health service utilization indicate that residents accessed them with some regularity. In the yearlong period from January to December 2014, WHO reported over 2.4 million health consultations, 7,177 surgeries and 14,849 assisted deliveries in PoCs across south Sudan (148). Malaria, acute respiratory infections (ARI) and acute watery diarrhea (AWD) were the most common diagnoses given at hospital consultations (149). These diagnoses were in keeping with what were considered the primary causes of illness across South Sudan. Thus the PoC health facilities were well structured in terms of mechanisms for their diagnosis and treatment. Health facilities also included a range of obstetric, gynaecological and primary care services provided on inpatient and outpatient basis. Services ceased, however, at the level of minor surgeries. Beyond this point, patients were referred outside of the PoC to Juba Teaching Hospital.

Medicines as service. Health services in Tomping and UN House PoCs were initially provided by MSF. Nevertheless, six months into the political crisis, at what was considered by WHO and humanitarian health service providers as the end of the emergency phase, MSF began the process of handing over health service provision to another NGO, the International Medical Corp (IMC). They were in the final stages of this transition at the time of interviews. The change did not go unnoticed to PoC residents. Quite the contrary, when asked about the health of their fellow PoC residents, most felt the health of residents was generally good but this was always coupled with comments on NGO's performance in service provision. Gatleck's response was typical of most: "The health of people in this camp is not like before. It is improving because NGOs had done a lot of work"—male, 40 (06). Most respondents believed that the health of people in the PoC had gradually improved as MSF or IMC's performance in service provision improved. Respondents did not waiver from this narrative nor did they have alternative attributions to improved health. This association remained with less positive perceptions of health. A few respondents believed health in the PoCs to be poor and because of inadequacies in performance of MSF and IMC. Dominic and Nyla expressed the general tenor of such criticisms:

Yeah, there is some case of people becoming sick, the MSF which run the clinic do not have more facilities which lead some people to seek medication outside the PoC which is very risky because of insecurity and there no money. MSF do not have laboratory. They have only the emergency kits which test only malaria. ---male, 28 (11)

Now there is problem with IMC, they don't have enough medicine. If you feel sick and want to go to clinic they just tell you there is no drug for this disease unless you can go outside and buy it in the main pharmacy.---female, 29 (18)

Their statements illustrate a common thread in criticism of health service provision. They identify shortcomings in material aspects of health service provision such as inadequate facilities or lack of medicines. Nuers were fluent in the language of medicines, often using the brand names for pills. Their statements indicated the degree to which interactions with NGO health service providers was coupled with an expectation of a medication. Their fluency in the language and workings of these medications led to not only to preferences for certain brands over others but an expectation of introduction of new brands. Gatong described his exasperation with receive Panadol:

About the health of people, the health of people here is very poor. People are dying every day and children do feel sick always. Once you go to hospital they only give you Panadol. This tablet called Panadol is not liked by Nuer; they refuse it because it is only for headache. ---male, 40 (34)

Hutchinson's ethnography also discussed Nuer's familiarity and admiration of biomedicines. She described it as part of what was a growing influence of Christianity coupled with a search for the alleviation of disease outbreaks which regularly afflicted humans and cattle. Christian conversion emphasized germ theory of disease and medicines were the most common feature of aid packages from the various Western churches supporting missionaries to Southern Sudan. So fluent were Nuers becoming in the language of biomedicine that she found young children versed in the *thok naath* equivalents of chloroquine, streptomycin and penicillin (309). Hutchinson argues that access to biomedicines may have been the most common reason for Nuer conversions to Christianity in the early 1980s. With this, we can begin to consider the transfer of medicines as not only a key aspect of health service provision but also as a historically entrenched aspect of Nuer relations with the international community.

The disappointment with medicines and facilities remained part of an overall sense of dissatisfaction with the handover of health services from MSF to IMC for a few respondents. They reframed this dissatisfaction in terms of risk to themselves and implied that more deaths were occurring because

of the diminished standards of the new service provider. There was no indication among health staff that this was actually the case. Nevertheless, this dissatisfaction seemed to have gained more traction in the form of a press release issued almost a year after these interviews were conducted on 28th June 2015. The press release authored by the “IDPs Community Voices Representatives” claimed that IMC was contributing to deaths of IDPs by employing unqualified staff and not providing essential medicines and facilities. It called for immediate changes though it didn’t specify what the changes should be. The release concluded with the signatures of ninety-nine Nuer IDPs and was sent to various donor organizations.

The tone of the press release led to greater consideration of another quote regarding medicines. It was a continuation of Gatong, the former soldier’s interview. He said, “Yes I want to know [why] these NGOs are not doing the right thing because they even said war is a business. Now people are dying while good medicine are taken to pharmacies’ like Juba Teaching Hospital. [Here] is empty. There is no medicine in here. Where are the good medicines they say [are] serving the community?” His statement was the first to go beyond the absence of medicine to imply a wider conspiracy in which medicines meant for the IDPs were being diverted for sale at pharmacies. While not directly implicating UN and NGO service providers, he clearly points their general direction. His statement introduces the element of distrust previously only associated with the government. The sentiments expressed in the press release and Gatong’s interview illustrate the tenuous nature of the relationship between UN/NGO service providers and Nuer IDPs in matters of health. Praise can be quickly exchanged for blame for perceived deteriorations in service in an evolving relationship. The potential power of these perceptions becomes even more salient when considering the breakdown of trust and traumatic experiences of respondents.

4.4 Understandings of Illness in the PoCs

Questions relating to illness were met with responses that reflected concerns about the common diseases for South Sudan. Respondents named malaria and, to a lesser extent cholera and typhoid, as the most common illness affecting people in the PoCs. The illnesses that were described as bringing about the most fear and worry however were cholera and HIV/AIDS. The fear associated with them was related to either the speed with which the disease could kill you if a remedy wasn’t easily accessible or the absence of a remedy altogether. Although they described the PoC as a setting that predisposed them to illness, most respondents did not perceive themselves as more susceptible to illness than other PoC residents. Illness was generally perceived as something that

“catches” other people. The weaker ones in society, mostly women, children and elderly were described as having increased risk for all illnesses.

These stock descriptions of illness and susceptibility took on more nuanced form only when respondents were asked why people in the PoC become ill. The most common reason provided related to the living conditions within the PoC. Crowding, and hot temperatures were most often attributed to illness as Biel said, “They [get] sickness because they live in congested environment and shelters are placed without separation. When people are many in one place, they get sick always”-- -male, 32 (15). But often the reasons were accompanied by the considerations of the role of god versus the role of the environment in a way that implied people were vacillating between germ theory rationales of the Christianity and traditional notions of the workings of god provided by Nuer religions. “I do not know whether it is from God or maybe malaria or because people are crowded in one place” ---female, 30 (16).

The two roles were not mutually exclusive. This was evident in the example of crowding as a source of illness. Initially, I interpreted respondents’ identification of crowding’s contribution towards illness solely in terms of germs theory---as something that made personal hygiene more difficult to maintain. Further discussion with research assistants and Hutchinson’s ethnographic perspective led me to conclude otherwise. According to both, illness in Nuer culture can come from two sources: the physical and the spiritual. The latter source is rooted in Nuer religion, which frames illness as a consequence of breaking cultural taboos. A taboo often cited as a reason for childhood diarrhoea for example is that of engaging in sexual intercourse while breastfeeding. The consequences of breaking taboo is not limited to the person who broke it; a taboo broken by one person can have its consequences endured by another. Crowding in the PoC can present a risk for suffering the consequences of taboo. This is because it creates conditions where one is surrounded mostly by strangers. This lack of familiarity reduces one’s ability to know what people are doing. It further makes it difficult to intervene in those behaviours which might result in taboo. The risks to health presented by what is called crowding the PoC therefore has multiple meanings in the context of Nuer culture.

This dual understanding of causes of illness rationally carried over into responses to illness. Most respondents said they go to the clinic or hospital for treatment when they become ill. A few mentioned traditional medicines would be used in the first resort or instead of going to the hospital.

These distinct options for treatment were entered into based on cause: if the cause of the illness was taboo, then traditional remedies needed to be sought. As put more clearly by Biel, “People have different ways of living. When they become sick, some believe that they should use the traditional means and others go to hospital for treatment. Some remain at home and die or survive”---male, 32 (15).

4.5 Typologies of *rik*

Respondents’ descriptions of their journeys to the PoC, their lives within the PoCs and their perceptions of health in the PoC provide insights into how they may conceptualize *rik* in this context. First, it demonstrates the evolving nature of *rik* for Nuer IDPs. Notions of the sources of risk had to change as the SPLM government became a source of the worst forms of harm imaginable. Their sense of betrayal, alienation and distrust of South Sudan’s government is evident in language which distances and disavows them from their political leaders and their actions. Entering the PoC was perceived as the safest option for most. Upon entering the PoCs, UN and NGOs come to fill the leadership roles left vacant by their government. Their relationship with these organizations whilst presenting new agreements for safety and service provision is also tenuous however as perceptions of the benefits of humanitarian interventions can be eroded by perceptions of risk posed by inadequate service provision. The risk posed by UN and NGO is significantly less than that of their government. This is sufficient basis for establishing some level of trust in this context.

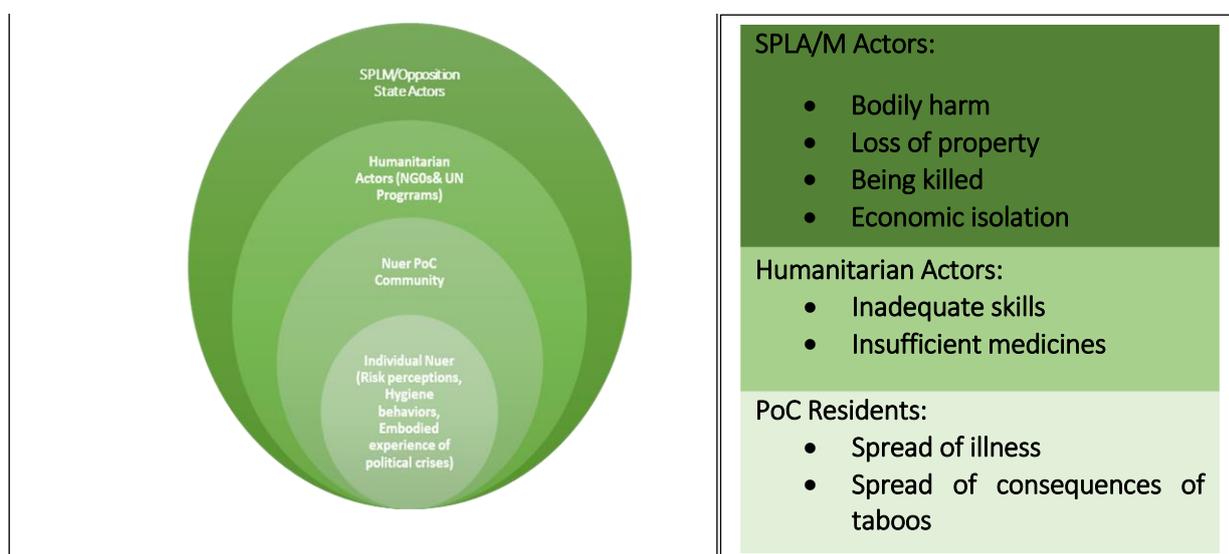
Rik is also a factor in how Nuer IDPs perceive their lives in the PoC. Life in the PoC poses risks from the environment and from other Nuers. The PoC environment is perceived with ambivalence rooted in its dual perceptions as a place of refuge and a source of risk. Refuge is gained from the clear and present risks of death beyond the gates. There is also opportunity to get social support amongst themselves both as individuals who have lost family structures and as a Nuer people. Fellow Nuer IDPs are also seen as a source of risk. There are physical and metaphysical risks by crowding with other Nuers. The greater proximity with people one does not know translates into risk of contamination from the negative consequences of their behaviours.

Risk considerations factor into decisions of whether or not to leave the PoC for the perceived benefits of employment, medicines and to retrieve lost properties. Nuer IDPs journeys and life within the PoCs demonstrate the persistence of risk within all relationships and decisions. Thus, “the problem”

has created a situation in which socio-political factors are inseparable from all aspects of risk perception.

Figure 15 is a generic illustration the types and levels of risk articulated by respondents in narrations of their journey to and lives within the PoCs. The worst kinds of risk however are posed by the SPLA/M state and effective serve to contain Nuer IDPs. The humanitarian actors buffer Nuers from the SPLM state with relatively milder set of risks but ones to which they are more frequently exposed to in their pursuit of health within the PoCs. And then there are risks posed by other Nuers.

Figure 15: Perceived Risks from various levels of society by respondents



5. CHAPTER 5: Results - Perceptions of cholera, vaccination decisions and behaviours after vaccination

On August 8 2014, WHO declared the Ebola virus disease an international health emergency. The announcement from Geneva shifted the priorities of WHO's Juba office. This shift in focus was announced at the following all staff meeting when the head of office declared the cholera outbreak as "under control" and Ebola as the new priority. Ebola quickly eclipsed cholera as the new health crisis for the South Sudan's WHO office regardless of the fact that there was no case of Ebola in Juba or anywhere else in the country. Funds and technical expertise for WHO's efforts focused on preparedness activities which consisted primarily of erecting passenger screening at Juba International airport, directly across from Topping PoC, and setting up what could be the beginning of an Ebola treatment centre at Juba teaching hospital. A new disease had arrived to overtake cholera in terms of the level of fear it inspired in the minds of health professionals.

The fear of Ebola had not reached the PoC communities of Topping and UN House, however. There was no evidence of posters or messages about Ebola virus disease anywhere in the PoCs. The preparations taking place across the road from Topping PoC might as well have been a world away. Cholera remained at the forefront of the minds of people in the PoCs, the disease continued to occupy a unique place of fear and frustration with their circumstances. This chapter examines those perceptions and their impact on decisions in relation to the oral cholera vaccine. Analysis begins with perceptions of cholera and continues to examine how those perceptions influenced vaccination decisions. These analyses address key aspects of protection motivation theory in terms of framing the threat of cholera and feasibility of the coping option represented by OCV. Respondents' reasons for their vaccination decisions are considered in-depth as they relate to what is already known from previous chapters about their arrival and life in the PoCs.

5.1 Perceptions of Cholera

There is no single word for cholera in thok nath. When talking about cholera, respondents used either the English name, "cholera", or *caamjiec kepitiboor*. The latter directly translates as "diarrhoea which is white." The "white" refers to the white liquid stool characteristic of cholera with an appearance described as rice-water. Calling it diarrhoea which is white also serves to distinguish it

from other types of diarrhoeas in thok nath such as the diarrhoea which comes with water *ciamjiec kepiw* and the diarrhoea which comes with blood *ciamjiec keriem*.

The three diarrhoeas exist on a spectrum that indicates their perceived severity on the part of Nuers. The diarrhoea with blood is worse than the diarrhoea with water but the worst is the diarrhoea which indicates cholera. Respondents described the “diarrhoea which is white” with anxiety and fear. In response to the question of what comes to mind when he hears the word cholera, Anthony said “I really worry because cholera is a quick killer disease.”- 3. His fear was echoed by most others as cholera was consistently named along with malaria, typhoid and HIV/AIDS as the worst illnesses facing PoC residents. While respondents considered malaria as the illness people get most often, cholera was considered the worst illness to get.

Cholera’s ability to kill quickly. The reason for this fear was evident in their responses: speed. Many responses indicated the speed of cholera’s onset and the speed of the sufferers’ demise if not quickly treated. The challenge of accessing care maybe further complicated by the question of whether it is the *right kind* of care. In chapter four, we saw the role that medicines play in shaping perceptions of the right kind of health service. The emphasis on medicines necessitated that particular kinds of medicine were preferred. These concepts appeared to transfer to thinking about treatment for cholera---that there are particular medicines for cholera. Nylath illustrated this point when she says, “Cholera is powerful. When you don’t receive the [right] medicine, it can kill a person very quick”---female, 26 (26). Her statement does not equate accessing health services and receiving the right form of treatment. It rather indicates that getting appropriate care would be another step in the negotiation process that is accessing care---another step would translate which ostensibly translates into further demands for time. More time is precisely what one would not have in the face of cholera. The “right medicines” must also be available. Even after the challenges of getting to a hospital, families are not certain that medicines will be there. This was Pal’s experience. He recounted how three women in his family “were caught by cholera” but “they recovered without even treatment from hospital because there was no drug for cholera by then” ---male, 38 (8).

Furthermore, in the worst instances, where care was not accessed in time, the speed of cholera was described as having implications for how one dies. Nywok described provided a salient description in the following: “Because once you contract cholera you cannot take a day or two hours before you die. You cannot reach for help from relatives and friends. But malaria or typhoid, a relative from far

can visit you. Cholera cannot give that chance for one to be visited because you can die [so] quickly” ---female, 25 (7). Nywok’s description implies a lonely death with respect to limitations on those who could reach one’s death bed.

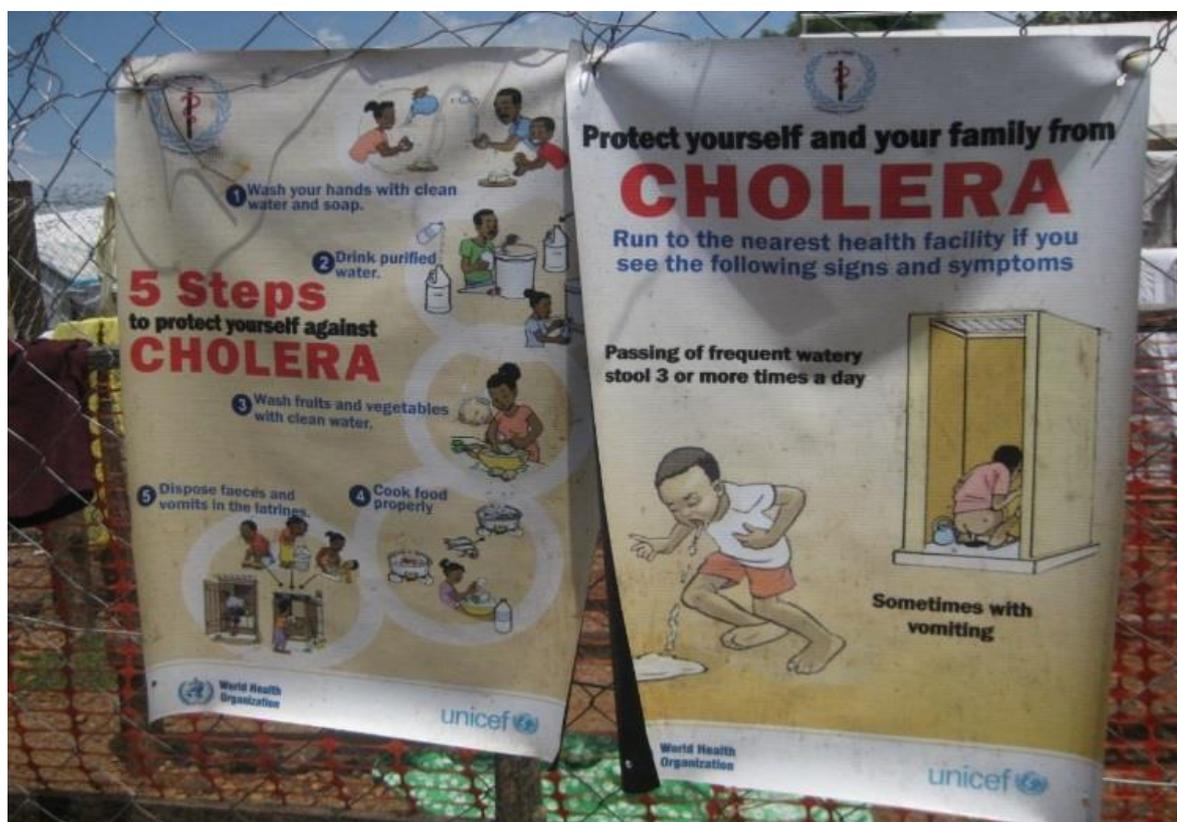
Cholera as a familiar fear. The fear of cholera described by respondents appeared to have taken hold long before they arrived in the PoCs. A thirty-seven year old woman spoke of the disease within a wider historical context. Nyakuoth said “Cholera is not [a] new thing. It is something we have [had] for very long, since our grandfathers. We called it Cam in Nuer that is diarrhoea in English. This cholera was there since” ---female, 37 (39). This description took on greater significance in light of the number of respondents who described personal experiences with the disease. The majority of respondents (40 of 49) had either experienced cholera themselves or witnessed a family, friend or neighbour experience cholera. Five of the 49 respondents said that they, themselves, had survived cholera. Of those 41 cholera experiences, 8 had witnessed someone die as result of cholera. With the exception of three people, the majority of these experiences happened before people arrived in the PoCs.

The historical context Nyakuoth lends to thinking about Nuer experiences of cholera was also reflected in Hutchinson’s work. Hutchinson described Nuers’ understanding of cholera as something which was also heavily influenced by western missionaries through processes of interaction leading to Christian conversion. Conversion to Christianity occurred, in part, by learning biblical doctrines over a period of time. One of the benefits of conversion were the literacy classes it afforded those who would not otherwise have access to English-based education. In addition to indoctrination, these classes incorporated western notions of hygiene and “germ-based aetiologies of disease.” Teachings on the role of mosquitos in malaria transmission and the role of contaminated water in cholera transmission were fundamental to the adoption of “amoral” explanatory models for illness. Hutchinson described these explanatory models as intent on negating the role of *Kuoth (Divinity God)* and prophets of Nuer religions in interpretations of illness while positioning western medicines and practices in positions of privilege. In reality however, Nuers were able and continue to accommodate both belief systems in their cosmology as evident in the current teachings of the prophet Gatdeang. (125)

Knowledge of cholera prevention and treatment. There was little evidence of acknowledgement of Nuers’ personal experiences with cholera or dual interpretations of illness in my observations of

health and hygiene promotion in the PoCs. The products and activities associated with promotion appeared to remain largely based on the germ theory explanatory models brought by western missionaries. Responsibilities for these activities were diffused across all NGOs providing health and WASH services in the PoCs. Awareness and prevention of cholera was among the first topics covered by health promotion activities in the PoC as it included the basic hygiene messages. The messages were delivered through visits to residents' homes and with materials such as posters. Cholera prevention posters such as the one pictured below were still posted throughout Topping and UN House at key gathering places such as the communal tap stand and latrines by the time of these interviews were conducted in September 2014. These posters remained on display after the OCV campaigns and after MSF had closed cholera treatment centres within the PoCs because the threat of an outbreak had subsided. Figure 16 provides an example of a cholera communication poster, which was displayed at a communal water point in UN House PoC. Reproductions of this poster were observed throughout the PoCs and in Juba town. Such posters continued to link basic hygiene practices to cholera prevention even in the absence of an immediate threat of an outbreak.

Figure 16: Poster of Cholera flowchart in UN House PoC



By the time of interviews, both PoCs had exceeded recommended standards of provision for water, sanitation and hygiene facilities. All respondents reported using the chlorinated water from communal tap stands and communal latrines as their sole basis of hygiene activity. Hand washing facilities with water and soap present were observed in 80% of respondents' homes. Furthermore, in contrast to medicines and medical equipment, no respondent expressed concerns in relation to the amount and quality of water or latrines in the PoCs.

Respondents described their understanding of cholera in several ways. Cholera was generally described as a seasonal phenomenon from which everyone (men, women and children) was equally at risk. Consumption of contaminated food and water were identified as the primary means of transmitting cholera. As with their general perceptions of illness described in section 4.4, respondents saw the PoC as a place that put them at greater risk of cholera.

Almost all respondents were able to describe cholera symptoms and preventative behaviors. Respondents invariably described symptoms of cholera consistently with the phrase "diarrhea with vomiting." When asked how cholera was distinguished from other diarrheal diseases with similar symptoms, descriptions emphasized quick dehydration and stomach pains which differ from other diarrheas. Duk made the distinction in the product of defecation. "The difference is that, in cholera you out [defecate] the sickness itself ---that is a lot of water only. But other diseases, you defecate with some solute waste" ---male, 56 (10).

Respondents attested to their ability to prevent cholera through their own behaviors. The prevention behaviors described all related to personal hygiene and environmental cleanliness. Behaviors named included: drinking clean water, washing hands, washing utensils, food hygiene (keeping food covered) and "keeping environment clean." The need to use a latrine was less frequently mentioned. Gbeck described his hygiene regimens comprehensively: "I make sure that the house is clean, waste of the children are clean and thrown to pit latrine, water that [is] used for washing utensils and all leftover food should be thrown away from house. When you come from latrine you wash your hands. That is how I can protect myself from cholera" ---male, 37 (14).

Most descriptions of prevention behaviors were accompanied by the rationale of preventing flies from accumulating around personal living spaces. The role of flies both as an indicator of poor hygiene and transmitters of cholera was a consistent feature of explanations and appeared to be a significant motivation for hygiene behaviors. Nevertheless, these explanations also acknowledged the limitations of personal prevention behaviors. The limitations of personal prevention were described in terms of the risks posed by others lack of hygiene. “Others” referred to children who were not well supervised or unhygienic people within the community. The following quotes illustrate the ways in which the limitations of personal prevention were described:

I can prevent myself I am sure for that but children can still increase my chances of getting it. I make sure I wash my utensils and keep my environment clean but children if I am away will find their way to contaminate the utensils especially the cups for drinking ---female, 25 (7).

Yes, I may say I can prevent myself from getting it. But sometimes you cannot if it cover the entirely community, you can get it from other people. So you cannot rule it out totally if or if not it get you---male, 50 (25).

Yes, I can for myself, but if I went and visited my neighbour and I step on dirty place or where cholera patient has vomit or lose stool, this can bring infection to me at home ---female, 26 (28).

Regardless of who and how a person gets cholera, respondents described cholera as a treatable illness if the sufferer accessed care in time. Most mentioned immediate transport to hospital as the only treatment. This was often coupled with comments that appeared to place value in the care received at the hands of health professionals over self-administered care. Few people included the use of ORS (oral rehydration solution) in this description. Nypesh described something which appeared to be akin to ORS although it is not entirely clear. She said, “Before people decide to take person to hospital, they use to mix salt and onion and give to the one who have cholera if the hospital is far” ---female, 20 (36).

Although they mostly indicated a preference for health professionals a couple of cholera treatment descriptions evoked traditional practices as an alternative to “modern” treatments. A thirty-five year-old man named Leek directly juxtaposed traditional and modern treatment options when he said: “They go to hospital for treatment and the patient [given] a medicine. Or a patient is given a traditional treatment/medicine. So traditional treatment also so helps when that modern treatment not available.” ---male, 35 (33). Leek’s statement implies that “modern” medical interventions which are indicated by biomedical elements of hospitals and patients were preferred over traditional

treatments for cholera. Nevertheless, traditional treatments remain part of the range of treatment options particularly in instances where “modern” medical options are scarce.

Social and political interpretations of cholera. Respondents’ understandings of cholera prevention and treatment did not negate other associations with the disease. Descriptions of cholera also appeared to reflect their existential circumstances, including philosophical and political associations of causality. Some described cholera in more matter of fact terms such as a recurring aspect of the disease landscape and as God’s will. In response to the question of how she feels when she hears the word cholera, Nyachian said “I cannot feel worried because everything comes from God”--- female, 40 (27).

A more common explanation of cholera however was one which situated the disease within the context of the political crisis which brought people into the PoCs. It was common for respondents’ narratives to implicate cholera within the larger discourse of injustice brought about by the ongoing political turmoil. These narratives took two forms. One form framed cholera as a consequence of South Sudan’s return to conflict. Ngong, a 30 year-old mother described her perspective:

Malaria, typhoid and cholera. Before the war, there was no cholera. I never heard about cholera only in those days before CPA [last civil war] there was cholera. But now it returned because of [a] war that makes people overcrowd in one place. Before the war everybody was earning and staying at his or her house but now people are depending on UN for food. Only God will help. ---(23)

Ngong’s statement emphasized the infrastructural failures brought on by the conflict. From her perspectives, diseases have come about as a result of social upheaval experienced in relation to this. The implication of persons responsible for the upheaval are implied but not directly stated. Jut’s strikes a similar tone in considering the long-term prospects of cholera. He says: “If people will continue living in PoCs, as there is no peace, it will be a threat since cholera comes as a result of poor hygiene and sanitation and high population of people in a small area.” ---male, 35 (48). His statement emphasizes a long-term risk of cholera that can only be alleviated by ending the conflict.

Ngong and Jut’s dispassionate means of associating politics and cholera stand juxtaposed to a second, more intense association. This form, which represented the more common way of framing, directly implicates political leaders whose actions drove Nuers to the PoCs, an environmental which

puts them at greater risk for cholera. Most comments directly implicate the president, Salva Kiir. Nylath's statement typified the intensely political aspect of such statements:

“When I hear the word cholera, I am always worried and I always blame the Salva Kiir who chased me to [this] UNMISS compound. I always think in all these nine months I spent in this PoC even if I may get cholera [it] is because of President Kiir who decided to kill his own citizens” ---female, 26 (26).

Pol's statement strikes a similar level of intensity: “Also we cannot be killed by cholera [as] we are killed by Salva Kiir; we have to pray to God to make cholera go way from people” ---female, 38 (19). Cholera was added to the associations of harm and death made with Kiir's name as described in section 4.1. This association clearly added a political dimension to the disease on the part of respondents.

5.2 Reasons for vaccination with OCV

Respondents' narratives indicated that they were already aware and had some level of fear of cholera through a combination of prior experience and the ongoing hygiene promotion activities within the PoCs. Many also believed that the PoC environment put them at risk of cholera and that there were limitations to what they could do, on the individual level, to protect themselves in this environment. Thus, their perceptions of cholera's severity and their risk for the disease appeared to be elevated. This scenario, which has been associated with higher levels of vaccine acceptance in other contexts, also appears to have been consistent with the high levels of OCV acceptance reported in Topping and UN House PoCs. WHO estimated between 85-96% of residents in both PoCs were reached with OCV (51, 133). This range indicated that there were three distinct categories of response to OCV within the PoCs: those who took the full dosage 2 (fully vaccinated), those who only took one dose (partially vaccinated) and those refused the vaccine. Table 8 shows the breakdown of respondents by vaccination status. Further descriptions of respondents were presented in section 4.1.

Table 8: Respondents by Vaccination Status

<i>Vaccination status by location</i>	<i>Tompson PoC</i>		<i>UN House PoC</i>	<i>Total</i>
Fully vaccinated	(8 males; 5 females)	(4 males; 2 females)	19	
Partially vaccinated	(3 males; 4 females)	(5 males; 6 females)	18	
Refused vaccination	(4 males; 1 female)	(5 males; 2 females)	12	
Totals	25	24	49	

Reasons for vaccination. The high levels of OCV coverage made it easier to find PoC residents who were fully or partially vaccinated as compared to those who were not. Those who were vaccinated had the dates for each dose recorded on vaccination cards like the one in Figure 15. The majority of respondents in this study received both doses of OCV, followed by those who were partially vaccinated. Respondents receiving both doses of OCV all cited protection against cholera as their primary reason for vaccination. Gatlack's response typified what was the common response to why people chose to be vaccinated: "To protect me from getting cholera" ----male, 40, 2 doses (6). This response certainly represented the most logical answer in the context of the health promotion and OCV information PoC residents had received.

Questions around their vaccination decisions included the question of who decided whether or not they were vaccinated. Their responses consistently indicated the choice was theirs and theirs alone with the three words: "It [was] me." The consistency of these clearly stated descriptions among all respondents indicated some level of value in attaching a sense of personal autonomy to the decision.

This assertion of autonomy was also tempered, whether consciously or unconsciously, with identification of other persons who may have influenced the decision. Health workers were the primary sources of such influence. For instance, Mywal, who took both doses of OCV, identified the importance of information in the decision-making process by saying, "after I got the information from the health workers, I decided to be vaccinated"----male, 32, 2 doses (13). Mywal's quotes typify what were unequivocal statements about vaccination decisions as individual decisions coupled with implications of the influence of health workers.

Figure 17: Cholera vaccination card provided in both PoCs

CHOLERA VACCINATION CARD

Name: _____

Age: 37 yrs

Location: U/I Hauke

Date of first dose: 12-2-2014

Date of second dose: _____

These implications were voiced more explicitly in quotes by other respondents who were more aware of the role of social influences in their decision-making processes around OCV. For instance, a few respondents such as Gbeck, allude to the importance of health professionals in influencing his decision even while asserting his independence in making the decision. Gbeck said:

“I was the one who decided because when we were informed, you cannot refuse what [is] brought by doctors or health workers. It cannot poison you. So because you believe that it has power to protect you, you take it. It is you who decided or not to take it”---male, 37, 2 doses (14).

Gbeck’s quote directly attests to the level of trust placed in health workers in decisions to accept OCV. Similar to Mywal, Gbeck acknowledges the role of information but he further indicates the importance of the information *and* the vaccine coming from a trusted source. A trusted source in this instance was indicated as someone who would not “poison you.” The fear of poisoning emerges in latter parts of this analysis. This fear was explained by research assistants as an ongoing one which

represented means by which government could harm Nuers in the PoCs. Respondents such as Mywal and Gbeck, who took both doses of OCV, exemplified the actions of most PoC residents.

Previous experience with cholera also played a role in decisions to be vaccinated. As previously mentioned, most respondents had either experienced what they believed to be cholera or witnessed friends or family experience cholera. All such experiences occurred before arriving in the PoCs. Respondents had witnessed both recovery and death at the hands of cholera---all of which contributed to perceptions of the severity of the disease. Nywok’s experience of seeing family members die from cholera appears to have greatly influenced her own decision to be vaccinated.

“I recalled how my brother and relatives died of cholera so I had those memories which help me to rush for vaccination. It is like I am rushing for rescue. I love my life because you cannot see the death coming and decide to wait. If there is means to protect you from cholera, you should not wait to be informed.” ---female,25, 2 doses (7)

Nywok’s story of being motivated to be vaccinated after being in proximity to someone who had cholera appears to mirror the rough calculations of cholera vaccination decisions by experience with cholera as illustrated in Table 9. The table shows that there was a higher percentage of fully or partially vaccinated respondents who had experienced cholera and/or witnessed some they knew experience cholera.

Table 9: Vaccination Status by Cholera Experience

		<i>Total</i>	<i>Self had cholera</i>	<i>Family/Friends/neighbor had cholera</i>	<i>Person died</i>
<i>Vaccination status by cholera experience</i>	Fully vaccinated	19	2	15 (79%)	3
	Partially vaccinated	18	3	17 (94%)	2
	Refused vaccination	12	0	8 (67%)	3
	Totals	49	5	40 (82%)	8

The political discourse which was a strong feature in narratives of getting to the PoC and in reframing the SPLM government as source of harm also featured, although to a lesser extent, in reasons to accept OCV. Elizabeth’s reason for being vaccinated emphasized this in framing the vaccine as another means by which she intend to avoid death. She said she was vaccinated “...because of life.

If I am not yet killed by my enemy, I have to take this vaccination for my health”---female, 37, 1 dose (39).

Further probing also found that social pressure from observing high acceptance rates among the community and from immediate family and friends also played important role in respondents’ decisions to accept OCV. Sarah explained how seeing others in the PoC go to be vaccinated played a role in her own decision to go: “All people have gone for it. I cannot remain alone and this is the healthy way to protect from being caught by cholera”---female, 28, 1 dose (2). Listening to the advice of friends and family was important for Kwajor who went for OCVs in the second round of the vaccination campaign. Kwajor said he went only after “my brothers that took the first dose [and] advised me to go for second dose, not to miss all the doses”---male, 30, 1 dose (43). His story shows social influences were particularly important in decisions that required overcoming hesitancy towards OCV acceptance.

5.3 Reasons for partial vaccination with OCV

In order to fully benefit from the maximum protection afforded by OCVs, residents of Tomping and UN House needed to adhere to its two-dose regimen. This meant making their way from their tents to queue for hours at designated sites to be vaccinated only to repeat the same exact process two weeks later. It appears however that many people either failed to repeat the process or were only vaccinated in the second round of campaigns. Eighteen respondents fell into this category. Of these 18, most (16) of them received the first dose and missed the second dose. Twelve of the 16 were able to give clear reasons for being partially vaccinated.

Reasons for partial vaccination: dosage. Respondents gave a range of reasons for partial vaccination with OCV. Most of these reasons related to uncertainty about the dosage requirement for OCVs. This uncertainty manifested itself in different ways. One was lack of awareness of the need for a second dose. This was the case for Samson who says he was simply unaware of the second round of the vaccination campaign: “When second dose came, I was not aware that it came.”--- male, 50, 1 dose (25). It later emerged that Samson was also unaware of the need for a second dose. This provided more context for interpreting Sampson’s lack of awareness of the need for a second dose. Because the two rounds of OCV campaigns were conducted in the same way, it would have been

possible for someone to interpret the subsequent rounds of the campaign as an attempt to get more people vaccinated as opposed to an attempt provide the second portion of a two-dose vaccine.

Samson was the only partially vaccinated respondent who said they were unaware of the second round of the campaign. A common way in which uncertainty about OCV dosage manifested itself was in the perception that one dose of OCV was sufficient protection against cholera. This perception was shared by 5 respondents and indirectly implicated by at least 4 others. The perception appeared to be driven by two factors. The first was a sense of confusion over the number of doses needed for protection. The extent of communication on dosage on the part of health workers was not immediately clear. However, respondents' narratives suggested that such communication may not have been well understood by all, leading to gaps in understanding of how OCV works. These gaps came to be filled with alternative rationales for dosage through uncertain chatter amongst family and friends. Malock, for instance, felt that the first dose was enough and the importance of the second dose was negligible. He said:

Yes, I refused to take two doses because there is no difference from getting two or one.... I been confused by people by saying you can take only one and [one] should be enough to protect you from getting cholera. ---male, 29, 1 dose (45). Similarly, Nyagine said: "I got myself protected and need not to take another dose, I thought one dose [has] the same strength like two doses. --- female, 30, 1 dose (32).

Malock and Nyagine's statements were typical of those who thought one dose was enough. One respondent diverged from this view however. For her, the confusion on OCV dosage veered in the other direction, to worries of insufficient dosing. Her concern was not about the adequacy of one dose as it was about the inadequacy of two doses. Nylath thought 3 doses were necessary because there were three rounds of the campaign: "It [is] supposed to be three doses but some did not manage because they were busy. I thought everybody have to take the full dose. Now I am worried because it is not good for me to take one dose."----female, 26, 1 dose (26). It is likely that Nylath was referring to the mop-up round as the third round. There was another person who indicated that the dosage needed to increase to 3 or 4. They felt that OCV dosage should be given according to the size of the person.

Mostly, however, it was the perception of the adequacy of one dose, as Malock and Nyagine describe, that drove decisions of partial vaccination. Those who took the one dose described the strength of this protection as “complete.” Nyagine elaborated on her perception of the strength of protection afforded by this one dose: “The vaccine that was brought here protected many people who took it. Even myself who took the vaccine once, I feel completely protected now. I think the vaccine will protect me and the rest for long time may be one to two years.”---female, 30, 1 dose (32). Nyagine’s statement clearly indicates that she puts herself in the same category as those who received two doses of OCV. From her perspective, any dosage of OCV confers complete protection from cholera. This perception of the sufficiency of one dose appeared to relate to an overall understanding of immunity as a binary concept: one either took the vaccine or they did not and were consequently protected or not. There were few indications of the idea of immunity as a cumulative concept: as something that could be increased with additional doses.

Belief in the adequacy of one dose may have been further reflected in other stated reasons for partial vaccination such as that of being busy at the time of the second round of vaccination. Being busy with another activity was a reason given by 3 partially vaccinated people. Jut stated he was busy erecting his tent. Nylath said she was busy washing the clothing for her children. Another woman, Nyla, said she was busy taking care of her sick children:

Yes, I did not take the second dose because the time people were taking second dose my child was sick and I took her to hospital for treatment. The moment that I came back with her, I found the other younger child was sick also. Therefore, I was busy and I did not manage to go for second round of vaccination. ---female, 29, 1 dose (18).

When asked later about her chances of getting cholera after her one dose of OCV, Nyla said “I don’t think I can get cholera now.” Jut similarly expressed less worry about his possibility of contracting cholera after getting his one dose. And Nylath, although worried about her protection from one dose, stated that her lack of prioritization of the second dose at the time was driven by a belief that one dose was enough: “I was busy washing clothing for children then I did not take it serious as the first dose because I already know I had one dose protection from cholera vaccine. When I completed the washing, I got the vaccine finished and the health workers departed” ---female, 26 (26).

Nyla, Jut and Nylath's statements are interesting in terms of considering that being busy or not having time, which have been reasons for not getting OCVs in other contexts might need more probing. While the reason can be taken at face value to mean people are busy, it can also serve as a pretext for lack of prioritization of OCV because of a belief in the adequacy of one dose.

Reasons for partial vaccination: other illnesses and medication. The second most common reasons for partial vaccination related to fears of illness and fear of combining the vaccine with other medication. Fear of illnesses was somewhat difficult to disentangle in terms of whether it was driven by the experience of OCV or other illnesses. This is because most respondents, regardless of number of doses, complained of the taste and smell of OCV. They found these physical properties of OCV to be very unpleasant. Many described their sensory experience as something that remained with them for a short time, mostly a few hours, after vaccination. In the most extreme instances this sensory experience resulted in nausea and vomiting which led a person to believe that the vaccine was causing illness. Sarah recalled: “[after the first dose] I felt nausea and I was worried may be it can contaminate me.” ----female, 28, 1 dose (2).

Sarah's fear of contamination, upon further probing, was found to translate into a fear of cholera. When she eventually concluded that her physical unease was not, in fact cholera, she then interpreted her reaction as meaning she was “allergic” to OCV. She said she could not take the vaccine if it was offered again because of this allergy.

Sarah's interpretation of illness from OCV was distinct from that of Paula who was, indeed, diagnosed as being ill with something. For someone who had fallen ill and was undergoing treatment at the time of the second vaccination campaign, Paula was concerned about combining the OCVs with other medication she was taking at the time. She said: “I was sick [with something] different from cholera and I don't want to combine drugs because I was given some medication for different treatment [for a] disease [other than] cholera.”---female, 26, 1 dose (28). Paula's fear of contraindications of OCVs with other medications was significant enough to result in her decision against a second dose even though she reported taking the first dose without problem.

Concerns about OCV's interaction with other substances also extended to alcohol. Alcohol consumption was cited by John as a reason for partial vaccination. John reported taking the first

dose of OCV. He consumed alcohol with friends soon after. This led to feelings of illness which he later attributed to alcohol. He said:

Yes after vaccination for first dose when I took different thing (alcohol), I feel dizzy and friends told me it is that vaccine you took. I suspended drinking for five days. After I get myself well, I resumed and joined my friends. So I fear to go for second dose. During second dose I increased the amount of alcohol and I was drunk and sleeping to avoid people reminding me to go for vaccination. ---male, 38, 1 dose (29).

John's story begs further contextualization because he also described himself as a cholera survivor, having had cholera two years before during an outbreak in Juba. This experience certainly motivated his original decision to be vaccinated but was not enough to get him both doses. John's story is also interesting as it linked OCV and alcohol consumption to illness. It also identified social connections made through alcohol which were not associated with vaccine taking. His report of suspending drinking implies some sense of isolation which ended only when he could resume drinking and join his friends. In this respect, the decision to take a second dose also became a decision between the social benefits of alcohol consumption and the isolation that comes with illness. Alcohol consumption took priority in this instance. But John was also the only partially vaccinated person to acknowledge he may not receive the same level of protection as those who took two doses. He says towards the end of his interview: "I did not complete a full dose. I am not equal to people who completed two doses." Some level of regret came with this acknowledgement as he said he would take the second dose if given the opportunity again.

Finally, of the 18 partially vaccinated respondents, two received only the second dose of OCV. Both people could be described as hesitant as they did not engage in the first round of the OCV campaign and only took part in the second round after family and friends' efforts to convince. One of them was Nachar, who described herself as a cholera survivor and thought of herself as someone more susceptible to illness than others. Her story of rejecting the first dose and accepting the second dose involved a process of battling and overcoming distrust of the government in favor of trust in the UN and friends. She said:

"Of course in the beginning I was about to refuse because of distress in [my] mind. I thought the government sent us a poison to kills us in UNMISS but later I realized the vaccine is from UN and the NGOs then I decided to take....I saw a lot of people going for it then even me I made a decision to go....I admitted some advice from people. No one can stay without being advised" ---female, 40, 1 dose (27).

Kwajor was not as clear about the source of his hesitancy as Nachar. What *was* clear in his case is that family members were key to helping him overcome his hesitancy. His brothers took the first dose and advised him to go for the second dose so “not to miss all the doses” ---male, 30, 1 dose (43). When asked why, he said he came to believe that OCV might be helpful because many people told him about it.

5.4 Reasons for not being vaccinated with OCV: nuances of refusal

Twelve respondents were not vaccinated in either rounds of the OCV campaigns.¹⁴ All 12 were around during the time of the OCV campaigns. The assertion of personal autonomy reflected in explanations of decisions to be vaccinated were also present in decisions to refuse vaccination. Their explanations broadly fell into two categories: ones that appeared to be deliberate, active decisions to refuse the vaccine and ones that were less vocal, passive decisions to refuse OCV. Deliberate decisions involved outright rejection of OCV and refusal to be vaccinated. Passive decisions also resulted in not being vaccinated although the person expressed intention or desire to do so. Most respondents (9) who were not vaccinated fell into the category of active refusal. Like others, this particular group of refusers were well aware of cholera and knew about the vaccination campaigns but did not want to take OCV for various reasons.

The most commonly cited reasons for refusal related to a lack of trust in the authenticity or effectiveness of OCV. In Margaret’s case, this translated as a lack of trust in all medicines and not seeing how OCVs would be any different. She attributed this to her experience with what she deemed as an ineffective treatment regimen for her recurring case of Kala-azar, a form of leishmaniasis marked by anaemia, fever, and enlargement of the liver and spleen. Margaret said:

“What I saw from people who went for vaccination [is] they like it so much. But myself, I refuse the vaccination because....because all medicines are all the same, vaccination for cholera and any other medicine” ---female, 29, 0 dose (24).

Margaret was also slightly atypical, however, in that she arrived later in the PoC, arriving in February--just as the vaccination campaigns were beginning in UN House, as compared to others who arrived

¹⁴ This category of person was the most difficult to find for interviews. Some research assistants attributed this to their fear of having OCV forced upon them.

in December. She attributed her later arrival to having been “abducted by [a] Dinka community in the beginning of the fighting [that] erupted in South Sudan.” She said many people were killed in front of her during the process of her ordeal. She arrived at the UN House PoC only after escaping from her abductors in the process of being transported elsewhere. Her story was one of the more extreme examples of survival. Considering the amount of trauma she had experienced, one wonders whether she needed time to build the trust in her new environment necessary to accept the OCV.

Margaret’s story emphasizes distrust in the effectiveness of the vaccine. This was further echoed by James, Mwanza and Luc. The three men also described cholera vaccination as essentially ineffective but their justification for this related to the persistence of cholera as a problem even after vaccinations. They mentioned seeing instances in which people contracted cholera after getting vaccinated. This led to their questioning of the effectiveness of OCVs. James said: “Yes I have seen that the vaccine helps nothing because even those who took it got cholera. Then why I have to take it? I just to protect myself by following the instruction of prevention.”----male, 23, 0 doses (40).

Their rationale appears to be influenced by the story of the first confirmed cholera case in Juba, who was a young man who had received one dose of OCV (see section 2.7). Their timing for constructing this rationale would not have necessarily coincided with this case, however, as it occurred approximately 3 weeks after the final round of mop-up campaigns in both PoCs. They would have already had to have decided not to be vaccinated before learning of this case. It is not clear therefore, whether they are referring to this case, or other cases in the PoCs or whether they were interpreting the aforementioned adverse reactions to the vaccine as people getting cholera. What is clear is that this narrative has resonated enough for them to refuse OCV.

Distrust in OCVs also related to questions of the vaccine’s authenticity. This category of distrust questioned whether the vaccines were indeed what they were said to be. Lack of authenticity was indicated with use of the word “photocopies.” Gatong described this well when he explained his reason for not being vaccinated:

“Yes because the drug they give are photocopies [fake]. If they are good medicines which prevent or cure disease, I could go. But some of medicine are fake so I like to die without getting that medicine even if I escaped death from Salva Kiir. Let me die here from cholera and HIV/AIDS....Why should I look for vaccination that contaminated people?”---male, 40, 0 dose (34).

Gatong also introduces the word “contamination” in his questioning of OCV’s authenticity. This was similar to Duol’s description of the OCV as a “medicine [that] is contaminated” ---male, 39, 0 doses (35). Contamination in their examples can be translated as poisoning. In Gatong’s statement, the word contamination was introduced only when he added the reference to government. It represented the more extreme end of lack of authenticity as it implied a sinister motivation on the part of government officials to use OCVs as a way of killing Nuers in the PoCs. Interestingly, the respondents who took this line of thinking never implicated UN/NGOs as possible collaborators in whatever conspiracy the government might have had to kill them through vaccines. This again juxtaposes the great degree of trust that respondents had in UN/NGOs with the great degree of mistrust in the government.

In most of these categories of distrust, drinking alcohol was given as the reason for not being vaccinated. Male respondents such as Gatong, Mwanza, Gditch and Luc initially said drinking alcohol was their reason for not needing to be vaccinated, implying that they preferred alcohol over vaccination as a cholera prevention strategy. Drinking alcohol was given by Gditch as a reason for leaving the queue to be vaccinated. He believed he could go for a drink until the queue reduced. He returned only to find the vaccination campaign was over.

It took a degree of discussions to come to the conclusion that this was likely not the case---that their stated reason of alcohol was likely masking their deeper issues of distrust in the vaccine and likely the government as well. In Gatong’s case, alcohol was described as a more effective intervention and a key part of a larger perceived resilience. He initially said the following before elaborating on his suspicions of “photocopied” and “contaminated” vaccines:

“No, I’m drinking alcohol. I cannot get cholera....I myself, I’m very good man. I cannot be infected by cholera, because I’m drinking alcohol very much, too much exactly, and this is my resistance to cholera and HIV/AIDS. Secondly, I’m soldier from Anyanya Two. This was South Sudan forces fighting with Arab by that time 1956 and 1957. They cannot give me vaccine because this disease will not kill me.”—male, 40, 0 doses (34)

Vaccine refusal reasons relating to alcohol and distrust are not incompatible nor mutually exclusive. Quite the contrary, the men’s explanations exemplify how closely they co-exist and the difficulty of disentangling them as they maybe just as interwoven in the minds of respondents. Similar to John’s

stated reason of partial vaccination after interpreting the combination of alcohol and vaccination as resulting in sickness, alcohol consumption among these men may mask efforts to address more tacit needs such as feelings of security and social connection in the context of the PoCs.

Another reason described for active refusal of OCV was a preference for traditional medicine. A man named Leek was very adamant about the vaccine as being at odds with preference for traditional medicine. He described vaccines as a modern intervention to which there is unreliable access:

“I use traditional medicine because sometimes you can go to where there is no medicine. When I was in the village, I use Neem and other traditional trees that are every bitter and, or so soured. Also at the time of vaccination I was not sick, then why should I take such vaccine? I cannot just receive vaccination because I anticipated sickness. God works on his own way. I acquainted myself [with] avoiding these modern medicines. That is why I did not take that vaccination. “ --- male, 35, 0 doses (33).

Leek’s statement also indicates traditional Nuer understandings of illness which Hutchinson described as being replaced by germ theory and the introduction of medicines with Christianity. His description is also in keeping with the spiritual reasons for illness described earlier (refer to section 4.3). He considered himself to be less susceptible to illness in general, but goes to the hospital if he becomes ill and has money. He described the hygiene basis of cholera transmission but also acknowledged that all illnesses are ultimately “brought by God.” Leek was the only respondent who indicated he would be unlikely to take the cholera vaccination if another campaign came around.

The final reason for active refusal was being influenced by the sensory assault of the vaccine. Jane recalls witnessing and hearing about adverse taste, smells and physical reactions after vaccination and that this was sufficient to lead to vaccine refusal even after standing in line to have her children vaccinated.

“Ok, why I refused there were people who were vaccinated, my mother, sisters, brothers even my children were vaccinated but discouraged is what they said. They said the vaccine is not good because of taste, smell and it cause people to vomit then I refused to take.” --- female, 20, 0 dose (41).

Reasons for not being vaccinated: those who did not refuse. Passive reasons for non-vaccination were less common. Of the 12 people receiving no doses of OCV, 3 fell under this sort of categorization. Two people said they were not vaccinated because they expected a door to door vaccination

campaign. One of them, Tabol, explained: “Friends told me health workers will come to vaccinate people from door to door in community.” --- male, 36, 0 doses (30). Tabol said he was outside of the PoC for the first round of the campaign and found himself sick in his tent for the second round. As it was not uncommon for health workers to go house to house to find and treat cholera patients in the PoCs, his expectation of a home visit appeared somewhat reasonable. Furthermore, a house to house campaign was the approach used for the third round of mop-ups. In these instances, health workers did not set up posts but rather walked through the PoCs announcing final opportunities to be vaccinated. This description was in keeping with Nyapech’s description of her expectation:

“No I [did] not decide not to be vaccinated [it was] just because, during vaccination, I was in my house. I thought people will come to my house to check whom were not vaccinated. No one can refuse it because it is for protection.... if I hear today there is a place for vaccination immediately I can be a first person to be vaccinated I cannot repeat the first mistake...”--- female, 20, 0 doses (36).

Nyapech’s description was also in keeping with Research Assistants’ characterization of door-to-door campaigns as the approach to children’s immunizations campaigns within the PoCs. To assure all children were being reached, vaccinators went to residents’ homes to find children for vaccination. This minimized obstacles or inconveniences which might have discouraged adults such as queuing for hours in the hot sun. As a young mother of a pre-school aged child, Nyapech likely had experience with this approach to children’s vaccination. This experience might, in turn, have driven the expectation of the same approach for OCV.

Another more passive explanation for why both doses were missed was provided by Thomas who said he simply was not in the PoCs for any of the rounds of OCV. He knew about the campaigns from others in his family who participated but he did not participate. While he did not elaborate on what he was doing outside of the PoCs, it is likely that he might have been successful in finding day labour or some other income generating activity. Thomas said he would take the vaccine if were offered again. He further requested that the vaccine be made available in the health centres for people such as himself who were not able to take it. Table 10 lists the range of reasons associated with partial and non-acceptance of OCV by vaccination status.

Table 10: Reasons for partial and non-acceptance of OCV

Primary Reasons	No. of people who cited as primary reason	No. of people who cited as secondary reason	Given as reason for missing first dose	Given as reason for missing second dose	Given as reason for missing both doses
<i>Distrust of OCVs authenticity</i>	4		x		
<i>Did not know if OCV can be combined with other medications</i>	1	1		x	
<i>Did not know of need for second dose</i>	1	1		x	
<i>Did not know campaign was not door to door</i>	2	1			x
<i>Feeling protected with one dose</i>	4			x	
<i>Feelings of nausea from previous dose</i>	2			x	
<i>Preferred to go drink alcohol</i>	2	4		x	x
<i>Distrust of OCVs effectiveness</i>	5				x
<i>Preference for traditional medicines</i>	1				x
<i>Hearing about smell, taste and nausea from those who took it</i>	1				x
<i>Was busy doing other things within PoC at the time of second campaign</i>	3			x	
<i>Was not in PoC at the time of campaigns</i>	1				x
<i>Reason was not clearly deciphered</i>	3				
Total	30	7			

Remaining questions about OCV. When asked if they had any other questions about OCV, half of respondents said they did. Some used the opportunity to request more cholera vaccination campaigns while others posed questions on a range of topics about specific facts about the vaccine itself. Someone like Paula really wanted to know more about where the vaccine was coming from and where else it had been used. She said: “Yes I want to know the background of the vaccine, how does it do before it was brought to South Sudan? ---female, 26, 1 dose (28). Others such as John wanted more information on the level protection given by the vaccine and guidance on how they should look after themselves after having been vaccinated. He asked: “How long will the cholera vaccine protect people? We were not told about the dos and don’ts after vaccination; I think it is important for us to know all those. ---male, 38, 1 dose (29).

Respondents questions about OCV are in keeping with what has been previously described as of Nuers value for medications. Their fluency in the brand names of the pharmaceuticals they requested from MSF and IMC is a good indication that many may be interested in more than a basic knowledge of OCVs.

5.5 Feelings and Behaviours after OCV vaccination

Feelings after vaccination. Just about all respondents felt less worried about their susceptibility to cholera after receiving vaccination. This feeling was true of those who only took one dose of OCV. Surprisingly, the feeling was also true even of those who refused OCV all together. This reduction of anxiety transferred to the community level. Nachar reiterated her belief in the community level protection afforded by OCVs. “Yes it has protected because after receiving vaccine [there are] no more cases reported of cholera.” – female, 40, 1 dose (27).

There was generally a high level of confidence that the vaccination campaign successfully prevented a potentially severe cholera outbreak within the PoCs. This reduction in anxiety was coupled with an explanation by some of an ongoing cholera outbreak outside of the PoCs, in Juba town. Nyagine described it as follows:

Ok, vaccination was given here in PoC when there were rumours about cholera outbreak in Juba. Within February and March cholera was very serious outside PoCs in Juba. Here in PoC those who come from other places and few who refused vaccination suffered from cholera.

Then I observed those who were vaccinated were not affected included myself despite I took one dose, so I felt even one dose can protect me as well as the two doses then I said let me not go." ---female, 30, 1 dose (32).

Nyagine's description of a cholera outbreak in Juba as "rumors" appears to be indicative of a perception in the PoCs. The epidemiological reports of the time however, gave no indication of an actual cholera outbreak in Juba town. As mentioned, the first confirmed cholera case occurred on 29th April in UN House PoC. Furthermore, the height of Juba's cholera outbreak occurred in May and June. This was long after the vaccination campaigns in both PoCs occurred, in late February-early April (see Figure 10).

Indications of an ongoing cholera outbreak in Juba town was therefore likely to be a rumor. The origins of this rumor and the extent to which it was believed by PoC residents at the time of the vaccination campaigns are not clear. However, such a rumor may have been useful, both in terms of getting people to be vaccinated and in contributing to the perception of the PoC space as a place of exceptional care. Many hoped to be vaccinated again and recommend the same to others.

Behaviors after vaccination. When presented with questions about behavior after vaccination, all respondents attested to the importance of maintaining hygiene practices after being vaccinated with OCV. No hygiene practices were described as less important after vaccination. The frequency of hygiene behaviors also should be maintained. Gbeck summed it up adequately by saying:

Yes all those ways are there still important. You wash your hands with soap and continue because people needs always to acquainted themselves with culture of cleanness. So the issue that we have taken vaccine and could not let us to abandon the practice of cleaning our environment. You cannot stop washing your hands or legs with soap because cholera has stopped. We do not know when cholera will come back. --- male, 37, 2 doses (14).

Recommendations for others. Respondents were asked what advice they would give to a friend who was thinking about vaccination. Their responses to this question were unequivocally in favour of OCV, regardless of their vaccination status. John, who only received one dose of OCV, said: I have to tell him [it] is good to help God protect you by receiving vaccination. Receive the vaccine and God will protect you. Vaccine is received by the whole community don't refuse. You cannot allow your friend to go [the] wrong way. ---male, 38, 1 dose (29).

John's advice also evoked an idea worth highlighting---the idea of the vaccination as a means by which God works to protect people. This idea emerged several times and reappeared as John was asked to speculate why those who had the opportunity might have chosen not to be vaccinated. He said: "They thought it is not good ---that [God] will protect them. God cannot directly give you the vaccine but through other people."---male, 38, 1 dose (29).

The connection made by respondents between "God" and vaccine was interesting in a couple of respects. First it evoked a sense of expectation for Nuer IDPs to take action with regards to safeguarding their health. Such responsibility had been missing from their descriptions of life in the POCs. Second it reframed vaccination from an individual choice to an act of spiritual practice. Samson expressed what appeared to be an overall feeling of content as a result of his decision: "I think God has protected me because I have received this one dose vaccine." ---male, 50, 1 dose (25).

Summary. Cholera, *caamjiec kepitiboor*, was synonymous with a quick death among respondents. This was adequate for its position on the more extreme end of diseases to be feared. These fears of quick death were driven in part by the demands on time and resources required for accessing appropriate treatments. The disease left little room for delays in a country whose fragile health system demands much in the way of time. Most respondents learned this fear of cholera first-hand by witnessing others and through their own survival from cholera. But cholera is also part of the history of Nuers' interactions with the western world in general and with Christianity in particular. This historical reference shows that Nuers brought long engrained notions and understanding of cholera with them into the PoCs.

The entirety of perceptions of cholera expressed by respondents in the context PoCs appear to represent multiple levels of thought. On the one hand there were modes promoted by NGO hygiene and health promotion approaches within the PoCs, which emphasize increasing the perceived risk of cholera and as a means of bringing about the promoted. On the other hand, the historical and personal experiences respondents brought to the PoCs both amplify and defy health promotion. There is the fear of a disease that exploits what is a weak health system unable to cope with the health emergencies of its population. And there were the political connotations with cholera which aligned with feelings of betrayal and distrust at the hands of their government. These cholera risk perceptions were further coupled with an expectation for the provision of high quality health services in the context of the PoCs. These health service expectations were influenced by a valuation

of medicines, a tangible commodity of in the exchange of health services, with historical significance as a means by which Nuers came to accept the outside world.

Trust in health workers and NGOs, previous experience with cholera, social pressures and a desire to protect oneself from the perceived harms of the government all influenced decisions to accept OCV. Partial vaccination was mostly driven by differing perceptions of dosing requirements as one person was not aware of the need for two doses and others thought one dose was sufficient. The latter represented the majority of those who refused vaccination. Existing illnesses and taking other medication were lesser reasons given for partial vaccination. Vaccination decisions among male respondents were also influenced by alcohol use. Alcohol was cited as a reason for both partial vaccination and for not receiving the vaccine. Most respondents who were not vaccinated did so because of a deliberate decision to refuse OCVs. These decisions related to some form of mistrust (ie either in the potency of the vaccine or that the government had poisoned the vaccine).

PART III: ANALYSIS OF HUMANITARIAN WORKERS PERSPECTIVES

“For British officials and Hindu villagers alike, though often in strikingly different ways, cholera stood for or seemed to presage a wider political or cosmological “dis-order.” ---- David Arnold(27)

6. CHAPTER 6: Results - Health professionals’ perspectives on cholera and the role of OCV

In early 2014, just as the decision to deploy OCVs in South Sudan was being considered by the ICG, another case involving cholera and the United Nations was taking place half way around the world in Brooklyn, New York: a second round of class action lawsuits were filed against the UN in United States civil court by 1,500 Haitian survivors of cholera and their families.(150) The Haitians blamed peacekeepers from Nepal for introducing cholera to their country and a poorly managed sanitation contractor for creating conditions for the outbreak that erupted after the earthquake. Both the peacekeepers and the sanitation contractor were under the management of the UN’s mission in Haiti. The lawsuits attempted to elicit an admission of liability from the UN in the face of growing evidence of their culpability. As was the case in Goma, Haiti evoked the longstanding complicated association between cholera and foreign interventions. This time however, the responsibility and impact of these consequences were being deliberated beyond the realm of the humanitarian community. Haitian cholera survivors wanted American civil courts, not the UN, to have to final say in assigning blame and compensation.

The hearings for these second round of lawsuits were occurring as WHO and NGOs considered whether or not to undertake OCV campaigns on PoC sites such as Tomping and UN House. At the time, a growing number of South Sudanese men, women and children were amassing in these spaces, putting themselves under the protection of UN peacekeepers and care of the international humanitarian community. The spaces were not only under the management of the UN’s mission in South Sudan but also physically located next to UN personnel’s offices, accommodation---and sanitation facilities. A cholera outbreak outside of UN protected areas could be attributed to the country’s lack of infrastructure and poor governance as in places like Zimbabwe. A cholera outbreak within UN protected areas, however, beyond the reach of South Sudan’s government, could not have been attributed to government. The situation had parallels to Goma—people fleeing brutal conflict

into spaces governed by the global humanitarian system- and posed similar risks in term of mismanagement of response. Moreover, the recent events in Haiti added a measure of renewed doubt on the UN's ability to manage such crises. With this, the PoCs became the sites of not only epidemiological risk but also of political risk. Successful management of the humanitarian crisis in South Sudan, without a cholera outbreak, was necessary if the UN was going to prevent further damage to its global reputation. They needed to demonstrate not only compassion but competence. The need for such a demonstration was even more acute in juxtaposition to ongoing lawsuits by Haitian cholera survivors. The incorporation of OCV into prevention efforts was a good opportunity to demonstrate a robust response. Furthermore, the evidence and guidelines for its use supported such a scenario.

Even as the UN (UNMISS, WHO and UNICEF) were at greatest reputational risk from a cholera outbreak on their bases, they could not unilaterally decide to conduct OCV campaigns. First, they needed to get the buy-in of the Ministry of Health to implement the campaigns. Second, they needed the buy-in of humanitarian professionals in the health sector from NGOs such as MSF, Medair, IOM and IMC and their operational infrastructures to implement the campaigns. Country-level humanitarian health professionals organized the OCV campaigns, provided information about the vaccine, trained vaccinators, managed responses of recipients and provided the water and sanitation facilities within the PoCs. Their role in implementing the OCV campaigns were significant but their experiences and perceptions have been largely overlooked in documented experiences with OVC in South Sudan and other countries. Nine such people were interviewed from the health sectors and one person from a non-health sector of South Sudan. Health sectors included those involved in both medical as well as water, sanitation and hygiene interventions. All health sector interviewees were involved in prevention of and responses to the 2014 cholera outbreak in Tomping, UN House and around Juba.¹⁵ Four respondents were directly involved in the OCV campaigns in Tomping and UN House. Respondents had worked an average of 2.5 years in South Sudan. Table 11 provides further details of the people interviewed. The following chapter describes the professional context in which they were operating at the time in relation to their thoughts about the socio-political aspects of cholera, the OCV campaigns in Tomping and Juba 3 and their internal challenges as humanitarian workers.

¹⁵ Health professionals are referred to as "interviewees" to limit confusion with the label "respondents" which were the Nuer IDPs.

Table 11: Characteristics of country-level professionals

Gender	Female	7
	Male	3
Nationality	South Sudanese	1
	Other African Country	3
	European	4
	American	2
Sector	Health	6
	WASH	3
	Non-Health	1
Type of Organization	UN	4
	International NGO	6

6.1 The beginnings of mistrust for a humanitarian aid worker

The violent political crises of 13th December not only affected South Sudan's civilian populations but also the humanitarian aid personnel who were working in the country at the time and those who came afterwards. A humanitarian professional by the name of James was one of those who experienced the crisis from its onset in Juba. James was from northern Uganda. With a very tall frame and dark skin, his features could be interpreted as resembling those of Nuers for those looking to make such an association. James managed protection programs so when people began to flee into the PoCs, he instinctively gravitated towards the area and began assessments to inform his organization's response. James soon found however, that the environment in Juba felt different. He began to feel more vulnerable working in Juba than he had ever felt in his career as an aid worker because of his resemblance to Nuers. His sense of vulnerability increased over time along with his sense that his movements around Juba were coming under scrutiny by government soldiers. James said all expats were subjected to increased scrutiny in those days but the scrutiny he received was to a degree not encountered by his white counterparts. He recalled being pulled aside and questioned whilst dining in restaurants and while driving to the PoCs. The most disturbing experience came the day government officials arrived at his NGO's compound unannounced and asked for the identification documents of everyone present. This visit coincided with reports from

other NGOs of similar visits that resulted in the arrest and detention of their Nuer staff. From that day, James' country director decided he was no longer safe to go about his work as usual. His movements became restricted to his NGO compound and adjacent buildings. James described the tension and fear that permeated Juba in those days as the rules of engagement were constantly being changed by the government: "[Everyday there was] a new rule which we did not know about". According to James, the government made pronouncements each day that communicated intentions of gradually restricting the movement and ultimately the expulsion of foreigners. James was ultimately one of the last people in his organization to be evacuated from Juba. He framed his reflection of this experience relative to what he saw as similar circumstances from the protracted civil wars in his own country. James said, "when people have seen what the government can and will do to a certain group of people, it takes a long time [to forget]."

James' story highlighted a couple of key aspects of being a humanitarian aid worker in South Sudan and how they may have changed during the early days of the political crisis. The assumption of freedom of movement, the imperative to act when faced with crises, the situational differences in risk faced by expats based on demographic differences such as gender or ethnicity; all of these factors are influenced by the level of acceptance of the humanitarian community communicated both directly and indirectly by the host government. In this vein, the most significant aspect of James' story was its commentary on the relationship between humanitarian workers and South Sudanese government, particularly expat humanitarian workers. It is a relationship which had evolved significantly from the days of Operation Lifeline Sudan when the SPLM needed the legitimizing effects of engagement with international aid agencies as means of gaining recognition as a state leader. The relationship further evolved during the CPA period when the newly installed SPLM government needed international humanitarian workers to build governing capacity and demonstrate progress on development indicators in the lead-up to the referendum. There was evidence however that this relationship was increasingly strained in the post-referendum period leading up to the December 13th political crisis (see chapter 2). James's story implies that these tensions grew during the early days of the crisis. It depicts a climate of intolerance towards himself in particular and foreign workers in general, perpetuated to some extent by entities representing the South Sudanese government. This climate not only impeded his ability to do his job but ultimately made him fear for his personal safety.

6.2 Cholera as an indicator of South Sudan's governance

Of course James' account of his fears could have also been interpreted as one individual's perception. Instances in which expat humanitarian workers come into personal conflicts with the nationals of their host countries are not uncommon—some of which escalate into full-blown conflict. But his account is corroborated by decisions to evacuate him and other expats during this time. Decisions to evacuate humanitarian personnel are usually options of last resort. It is also a collaborative decision involving not only individual NGOs but diplomatic missions and their military counterparts. Such decisions are not taken lightly, not only because of their significant cost and logistical organization but also of their symbolic significance. To stop all programs, to leave infrastructures and belongings and, most importantly, the nationals with whom one has been working side by side without guarantees for their safety and wellbeing goes against the very notions of humanitarianism which motivated one's presence in the first place. Evacuation of expats indicates that there is little remaining confidence in the host government's motivation or ability to protect lives.

Many expatriates were evacuated from South Sudan in the early weeks of the crisis. When they returned in late January 2014 onwards, they returned to a city of heightened security and reduced freedom of movement. Life was confined behind compound walls, curfews at 6pm and all movements in between limited to NGO vehicles. These significant shifts in quality of life in Juba mirrored what also appeared to be shifts in the perception of the South Sudanese government. Most interviewees were working in South Sudan in the year and half leading up to the political crises. They described a steady decline in the capacity of government over this period of time. One interviewee who worked closely with government officials described the following:

I think the capacity [has] largely diminished over time. Because even before this current crisis, probably a year to a year and a half prior to it, the government had oil problems, where the oil got shut off going to the north. Self-imposed and it created basically an austerity condition and all the ministries were quickly put on austerity budgets. And the international community kept projecting that they're going to run out of money and we didn't understand how this government could still function. But it really affected their ability to implement, even just to maintain staff and offices and basic resources in their field and their state level offices.---7

Their lack of confidence in government came through in their descriptions of the burden of cholera in South Sudan and the reasons for it. All respondents believed that cholera was indeed a significant health problem for the country. Their reasons for this generally came under two categories of attribution: the government and the individual behaviours of South Sudanese peoples.

Failures in government leadership were framed in three ways. The first implicated the government's general failure in terms of the country's overall development as indicated by the lack of infrastructural development. The government was perceived as having missed opportunities to use revenues generated in the period following the referendum to build desperately needed infrastructures and public works including those related to water and sanitation. One interviewee portrayed the sheer lack of such hardware with regards water infrastructures: "...we don't have piped water, there is no piped water in South Sudan. All water is collected from the riverside... A water-processing plant does not exist here in South Sudan. So all water is collected from the river."---8 The interviewee's description of such infrastructure as "non-existent" appears devoid of past or future hope for such infrastructures---taps into a degree of inertia in the lack of infrastructural progress by implying not only that the government missed a past opportunity but also leaves to question when the opportunity to move towards progress may again present itself. This criticism comes with the tacit acknowledgement that, regardless of humanitarian interventions, only government-led infrastructural improvements in water and sanitation provision will lead to the elimination of cholera.

Another way in which government leadership failures were attributed to cholera was through the inadequacy of health systems for cholera surveillance and response. One interviewee who worked most closely with this issue described the surveillance mechanisms needed to quickly identify cases as wholly compromised:

The surveillance is not adequate, I wouldn't say so and I've personally looked at the way it is done and there are a lot of gaps. And one of them is the capacity of people who report these cases and [their] ability to identify them based on the case definition. The other issue is, even if they would be able to identify those cases, whether what they report is exactly what it's supposed to be, because the reporting channels are weak. You know the infrastructure here, you have to move either by walking.....in most part of the country they move by walking or by boat.---3

The interviewee ultimately attributed this weakness to "lack of human resource capacity of the ministry of health."---3 This interviewee's critique of the surveillance echo the infrastructural shortcomings previously described whilst adding another element: the lack of confidence in the abilities of South Sudanese health professional counterparts. The question emerges of whether their diagnoses of cholera are valid in the absence of independent means of verification.

This description of health system deficiencies in terms of the questionable capacity of its workforce was not limited to staff of remote health centres, who may have added challenges associated with training and education. Governments health staff were seen as unable to launch appropriate responses once an outbreak occurs. One interviewee described the weaknesses in terms of lack of knowledge and the tools needed for action: “This is one side and on the other side we also have a very weak health system, so when cholera started nobody really knew how to treat it and of course the supplies were not here.”---6

Deficiencies in surveillance and response made the third aspect of leadership failure described as inevitable: the government’s inability to manage responses once an outbreak arose. Government leadership in coordination of responses to outbreaks was described as weaker in South Sudan by those respondents with experience of cholera response in other countries. One interviewee described it this way: “I have read from other countries and my experience in XXX, in such instances you see the government taking a leading role. Demonstrating in terms of coordination, in terms of human resource mobilization, in terms of giving a sense of direction for even those who are supporting, the NGOs, the UN agencies but in this case it was the thing very lacking. It’s a big issue.”- --3

The perception of the government’s contribution to risk factors for cholera and their failures in cholera surveillance and response appeared to contribute to a sense of dismay about the prospects of improving health in South Sudan. The totality of these observations pointed to a government that was not only unable but also, to some extent, unwilling to combat cholera. One indicator of this dismay was the expression of the contextual circumstances in terms of the lowest common denominator. It was common for interviewees to describe the circumstances in terms of bad and worse. One interviewee relayed this in terms of the reaction of visitors to South Sudan: “In Juba, when the outbreak specifically was high in Juba, we had people from CDC coming in, we had people from New York HQ, coming in who were cholera experts...their comments were often, ‘I am shocked that cholera isn’t spread more.’ Or, ‘I’m shocked that you didn’t have a cholera outbreak before this.’ Because the bulk of people in Juba town for example are getting water that is trucked out of the Nile.”(7)

This dismay eventually appeared to translate, in some instances, into associating progress with non-government organizations. None of the interviewees credited government with helping to address

the problems associated with cholera. When action *did* take place, its initiation was attributed more to UN and NGOs than to government: “Only with the cholera outbreak, did at that point, UNICEF instituted collection points [where bulk chlorination] treatments at the [water] trucking sites. Prior to that, this whole community, the nation’s capital was largely using untreated Nile water.”---7

The implication that the government was not able to provide services to its people even in the nation’s capital was significant. Juba was the seat of government. Ministers had homes in Juba town. Their inability to provide such services for Juba implied that the rest of South Sudan would not have much hope in this regard either. Although several criticisms were made which hinted at such an implication, this was the only clear attribution of shame on the part of respondents towards the government of South Sudan.

6.2.1 Cholera resulting from poor behaviours of South Sudanese

Failures in government leadership to develop South Sudan as a whole and its health system in particular was only one narrative strand of the cholera attribution story among humanitarian aid workers. These failures, when translated into the population-level, resulted in restrictions in access to infrastructures that made hygienic lifestyles feasible. There was another strand of attribution, however, which was coupled with these macro-level problems and this was the more micro-level behavioural practices of South Sudanese people at the community and individual level. This narrative framed cholera outbreaks as the result of the risky behaviours associated with poor hygiene, including open defecation, lack of handwashing and consumption of untreated water. These behaviours were the focus of hygiene promotion efforts of humanitarian organizations within the PoCs and throughout South Sudan.

Hygiene behaviours were commonly interpreted by interviewees as reflection of the level of education of individuals. This line of reasoning appeared to carry implicit and explicit associations between poor hygiene and ignorance. Good hygiene was the behavioural choice of educated people. Poor hygiene was an indicator of ignorance or some other form of resistance. The parallels between good hygiene and education are explained by the following interviewee: “I would say in Juba people have more access to clean drinking water, supposedly. So in that sense....and people are more educated so they should know more about proper hygiene. So in that sense I was a bit surprised

that it started in Juba town, this cholera outbreak because people seem more aware and smart—not smarter but more educated.”---1

The interviewee’s quote also exemplifies the dissonance that begins to emerge when this education and good hygiene rationale for behaviour does not play out as expected. In this instance, as with others throughout history, poor hygiene comes to take on the language of moral failings. This view presents South Sudanese as deliberately choosing to not practice good hygiene. They continue to persist with poor practices regardless of the educational efforts of humanitarian community. Their persistence therefore introduces tensions in humanitarian aid workers’ attribution of cholera to restrictions in infrastructural access due to poor governance and the result of moral shortcomings from deliberate decisions to put themselves at risk. One respondent described their own tension quite succinctly as follows:

“I think generally, a lack of access to clean drinking water. Yes and a lack of some hygiene, things like latrines and whatever. If I think about the country and the other places, that is not necessarily the city when you come to a place in the middle of nowhere there is no latrines anywhere and often the bore is broken and people drink straight from the river, and often the people don’t have a choice but if even if they do have a choice and know how to build a latrine, they often don’t do it. So it’s a bit of both. I think sometimes they don’t really understand how important it is and at the same time they don’t really have the resources either like other places.”---1

In instances where community and individual choices maintained poor hygiene, “cultural practices” were often described by a few interviewees as reasons for their persistence. The term cultural practices seemed to take on a negative connotation in such instances, as something synonymous with poor hygiene behaviours. Furthermore, the term, ‘cultural practices’ was used by respondents in a very general sense with little regard for distinctions in describing particular behaviours with particular groups of people. For one interviewee, “cultural practices” was used as the rationale for the disconnect observed between observing poor hygiene practices in a part of South Sudan deemed to be relatively developed:

And it’s not only in the PoCs, the PoCs are relatively well off. If you go around I can speak of Torit because I have been there. Torit is kind of a...city and is relatively well developed. When you walk in the streets and then you will see that open defecation is just going on everywhere. There are some cultural practices associated to that like....well I will not talk about it because it’s kind of disgusting, that is promoting cholera transmission within the household and also at the community level.---6

In one instance where the distinction *was* made with regard to particular practices, culture became associated with the most extreme examples of poor hygiene behaviours—those behaviours eliciting the greatest reactions of disgust. One interviewee narrated a lengthy list of “culturally” implicated poor hygiene practices in conjunction with such a disgust-provoking example:

“And if you notice the eating part, they have this communal way of eating together. They take their tea together, they eat from the same big bowl and that kind of stuff. Of course the behaviour wise the risk is there, it’s there. And another thing is that, they like eating a lot of bread which is stored over time, they eat [plants] which the source is always questionable, given how it is prepared is always a big issue. You don’t see a lot of homes having their own toilet facilities, a lot of indiscriminate defecation. There was a scenario where somebody was describing how come when you visit the public toilets you see feces along the walls, you know up here [laughs]. And one of the insight that I got from there was that even tissue paper for cleaning during that it’s not adequate, most of them don’t go there with that so when they use a smaller one, they just wipe it on their hand and because they are tall they just wipe it.”---3

Absent from these cultural attributions of poor hygiene was a counter narrative. There was no acknowledgement of positive cultural practices of South Sudanese people nor was there any recognition of their resilience in the midst of the all the hygiene-related risk factors. Quite the contrary, these poor practices coupled with leadership failures rather strengthened the justification for NGO presence. One interviewee speculated, rather abysmally, about the state South Sudanese communities would be left in their absence: “...I mean if all the NGOs were to leave tomorrow people would still go back to the Nile and drink dirty Nile water regardless of whether we told them not to. There wouldn’t be anybody here to run the WASH infrastructure if we weren’t here.”---4 This statement is rather unequivocal in centralizing the humanitarian community as the primary means by which any progress of a functional civil society in South Sudan may come about. It places humanitarian organizations and NGOs as not only central to saving South Sudanese people from their government but, to some degree, from themselves.

6.3 OCV campaign as a contested decision in a contested space

The aforementioned described the precarious scenario facing the international humanitarian aid community in South Sudan by early February 2014. They worked in a delicate operating environment ---one still reeling from the very recent memory and consequences of state sponsored violence that

engulfed the seat of government. This experience had certainly not helped what was already a somewhat compromised perception of the government of South Sudan, a government whose lack of leadership created an environment that predisposed its population to risk for cholera. Those risk factors were further fanned by the poor hygiene practices of the communities due to other seemingly intractable problems such as lack of education and deeply engrained “cultural” practices. These were the same people who took refuge in UN managed PoC areas where a cholera outbreak would threaten further reputational damage to a UN system under scrutiny in American courts for a similar outbreak in the midst of humanitarian responses in Haiti. Even without being fully aware of the full range of factors, most interviewees agreed that the threat or presence of cholera in South Sudan inspired action. The fear and political implications of cholera appear to have been useful in inspiring action among humanitarian workers in Juba. “...what was interesting with the cholera, is that it’s, in many cases, it’s such a political issue, and it opened a lot of doors for us in terms of ...we were asking for land for latrines and suddenly cholera comes in a UN base and we get land.”---2

Motivation for action was only the beginning of the story, however, as it did not guarantee consensus on *what* action to take and by *who*. The process of coming to these decisions appeared more nuanced and contentious from the perspective of respondents---particularly as they related to questions of the target population for OCVs. One source of contention was that of categorizing the PoC populations as people in places of increased risk as compared to the rest of South Sudan. Given the aforementioned infrastructural deficiencies, one could argue that the entire population of South Sudan were eligible for OCVs. This would not have been justified, however, for what were considered a limited supply of vaccines. The PoCs exhibited the spatial characteristics which uniquely favoured vaccination campaigns i.e. a distinct population, relatively contained and with access to other WASH interventions. Aside from these physically advantageous characteristics, it was apparent from interviewees that the argument of the PoC population being at increased risk was subject to debate: “So in terms of vaccination, the bigger question, the question, we also faced [this] in Bor, was why [are] you vaccinating only the people in the camp? Why are you only trying to protect the people in the camp? Why don’t you give it to all the population?”---3

For some, this argument lay in the degree to which one insisted on distinguishing those in the PoC from those outside. As previously mentioned, the PoC were physically separated from other areas with fencing and protected by UN peacekeepers. The Peacekeepers did not contain people within the PoCs however. People moved freely in and out. For some health professionals this freedom of

movement also carried the same risks of cholera as those outside of the PoCs: “We have populations in the camp, outside the camp and the assumption is that because of the risk in the camp, because of the condition, if you vaccinate then probably you may not have [cholera] but what really happens is these guys also still move. There is a lot of movement between those outside the camp and within.”³ The fluidity of these boundaries presented skepticism for some on the potential effectiveness of an OCV campaign in the PoCs. For them, the contestation was from more epidemiological perspective with a view of determining the most effective intervention.

Other contestations to limiting OCV campaigns to PoC populations reportedly came from some government officials working with UN and NGOs. Despite the fact that PoC spaces were not under the management of GROSS, UN and NGOs still needed the approval of the governments’ Ministry of Health to conduct OCV campaigns in those spaces. The irony of the situation rested with the discord in the Ministry’s ability to make decisions about the health of people in places they and their government counterparts were not able to go. An interviewee who was involved in direct negotiations with government officials indicated that some in the Ministry were initially resistant to the conduct of campaigns in PoC populations for its explicit prioritization of health of those in PoCs over those outside of the PoCs. “I think it was a major concern because at the height of the conflict, it was so much lack of trust between those in the PoC and the government side. The government really was realizing that UN agencies were giving more attention to these guys and leaving them behind. So it was a big [issue]....”³. This example points to what may have been, in the case of the Juba PoCs in particular, the politically laden act of providing health and other services in the PoCs. In the context of a political crisis, which had led to conflict along ethnic lines, the Dinka-dominated governments’ approval of services for a predominantly Nuer PoC population appeared to draw some level of contention. Given that Ministry of Health officials come from a range of ethnicities however, including Equatorians¹⁶ who are less interested in prioritizing services for Dinkas, it was difficult to assess the real extent of such resistance.

The interviewee in closest proximity to these negotiations indicated that some convincing was necessary to gain approval for the OCV campaigns among the more resistant officials in the ministry. When asked how WHO eventually managed such convincing, he described a strategy of effectively minimizing OCV and organizations’ abilities to conduct a campaign: “Of course WHO indicated, this

¹⁶ The neutrality of Equatorians was indicated in the beginning of chapter 4 in the description of their role as security providers at the gates of the PoCs.

vaccine gives some level of protection and is only recommended for emergency settings when the risk is very high. That can be even if the risk factors outside the camps would require this, we don't have the capacity for the storage vaccine, procurement storage and all that."---3 This statement is significant in two respects. The first was in its absence of quantification of the effectiveness of the vaccine. Instead of providing what has been the stated percentage used in global advocacy efforts for the readiness of the vaccine for worldwide use, the level of protection is effectively described as "some". This created a degree of ambiguity in the inherent value of the product which, at best, reduced the demand for it. Furthermore, the indication that the vaccine is reserved in the highest risk settings further implies that its limited effectiveness is a use is one of last resort, situations where its marginal efficacy might have some impact. The second point of significance was in downplaying WHO's ability to conduct an effective campaign from a logistical perspective. The implication appears to contradict what has been WHO's partnership with other NGOs in South Sudan to implement other vaccination programs. Both of these implications, limited efficacy and logistical challenges, appear combined to effectively undermine perception of OCV effectiveness to resistant officials. While other factors likely played a role in the ministry's final decision to approve the OCV campaigns, it is important to recognize that, despite all evidence and advocacy at the global level, the political context of South Sudan may have meant that improvements in the effectiveness and delivery of OCV were of little consequence in the decision to use them.

6.4 OCV campaign as a lens to view relations within humanitarian community

After gaining the approval of the Ministry of Health and the completion of risk assessments, a process of dividing labour for cholera response and the OCV campaigns took place. This process began from the most basic stages because there was no plan in place to guide organizational collaboration on cholera response, let alone a vaccination campaign. One respondent gave examples of the myriad of questions which had to be addressed before the first actions could take place: "So from what I remember there is this question of who will be running which ORP or CTC units and then who will be running the vaccine campaign? Will there be another one? And if so, who will run it? Obviously my section, you know they took the lead like that was no problem but the fact that that even had to be a question it kind of shown that there was not really a plan."---4

The interviewee's reflection that "there was not really a plan" tapped into a sense of disorder that echoed throughout descriptions of humanitarian operations in the early weeks and months in the

PoCs. Little seemed to be immune from the stress stemming from this sense of disorder, including the collaborative decision-making necessary for mounting responses after the cholera risk assessments in Topping and UN House PoCs. Interviewees indicated that, regardless of their awareness of cholera risk, there were factors that hindered their ability to respond. One of these factors were resource limitations with respect to their local operations. Resources referred less to technical capacity and more to the operational constraints of human resources and logistical supports. These constraints appeared ultimately to come down to inadequate funding of the local programs. One interviewee described the resource constraint-related scenarios that she and her colleagues faced:

I think that a lot of the organizations are strained for resources. I know that we as an organization are and that's one of the reasons why we couldn't respond immediately when we knew there was an outbreak even though we had the technical capacity, we didn't have the funds or the resources. And I think same goes for WHO, who is very stretched both in their capacity and their functionality to assist. Because they don't have the human resources to really deal with this immediate onset because we're pulled in so many different ways. When we spoke with Medair they basically said the same thing that during that first swash meeting it was like what partners can do what. No partners could stay because they said their resources were stretched and their human resources the extra ones they had were all spread across the country. And I think that that has an impact in anything that we are doing now regardless of whether it is cholera or it could be a measles outbreak, our resources are stretched.---4

Resource constraints were apparently overcome by interviewees' organizations as funding and technical expertise were reallocated within organizations to prioritize responses in South Sudan. With resources also came divisions of labour in the response. Organizations such as MSF and Medair played prominent roles, one as the leader of cholera treatment and the other as the leader of the OCV vaccination campaign. Cholera treatment in the PoCs came under the domain of MSF who were providing health services in both PoCs at the time. MSF are known amongst NGOs for their expertise in cholera treatment with simple and formulaic approaches to establishing cholera treatment centres, an intervention which requires considerable capacity for deploying and operating medical infrastructures. Medair became the implementers of the OCV campaigns in both Topping and UN House PoCs (see chapter 2.6). This was Medair's first experience with implementing an OCV campaign. Upon assuming this role, they worked closely with WHO from the time they received the vaccines to the completion of the coverage survey report. Although they worked primarily with WHO, interviewees from MedAir described the cholera response as a collaborative effort between NGOs:

Organisations [had] different targets in the PoCs, like for us Medair, our target was to do cholera vaccines. Then you have some organisations who are doing food security, then you have organisations who are doing waste so [we] look at them as playing a role. When they are promoting health and hygiene through water and sanitation that is another way of playing a role in the prevention of the outbreak. So we had Oxfam, SOLIDARITÉS, these were organisations who were doing wash activities in the [PoCs]....Through Medair, we took the role of the campaign ourselves, like mobilization and doing that hand in hand and WHO, the people who came to see how the work is going. UNICEF was also coming here but basically the [lead] was taken by Medair. ---5

A sense of pride in the accomplishment of implementing the OCV campaign resonated in the Medair account. They were able to learn enough about OCV to mobilize and train a team of vaccinators and manage the logistical challenges of implementing the campaign in both PoCs. Moreover, they were able to accomplish this amid security-related restrictions in movement stemming from the fragile political climate throughout Juba. Medair tempered pride in this accomplishment with an acknowledgement of the contribution of other organizations. They portrayed the OCV campaign as part of a team effort in general cholera response.

However, other interviewees did not share Medair's perceptions of the campaign and cholera response as a collaborative effort. For others, the implementation of this emergency vaccination campaign appeared to exploit certain sectorial divides and weaknesses in the logistical coordination of various humanitarian organizations. One source of tension amplified by both the cholera response and OCV campaigns was the perceived lack of coordination between WASH and Health focused professionals. The two categories of professionals coordinated the work of various NGOs in their sector by way of the cluster coordination system (see section 2.6; footnote 11). An interviewee from the health sector described what appeared to be a lack communication however, between the leaders of the WASH Cluster and the leaders of the Health Cluster in terms of communicating about the OCVs and the implementation of the campaign. In response to the question of shortcomings of the response during this time, she described her frustration:

If I'm remembering it correctly, again, the lack of coordination between the health actors and the WASH actors and then the lack of maybe...we knew there could be in reality, there could be a cholera outbreak but the fact that that was never discussed beforehand and that people were vaccinated without sensitization around it and then it was dropped. The idea of this happening was dropped until there was a case. Because I didn't – until I had thought about it and....I spoke to the WASH cluster about it, I wasn't even aware that they had been vaccinating new arrivals like when they were registering them back in January...---4

She continues by describing a lack of communication of the OCV campaign within her sector. "...we were never involved and I can say like 100 percent we never engaged in cholera vaccine, we were just there for support but there was a campaign that happened in January. There was a mop up or a secondary one for people who didn't get vaccinated, in April and we were not involved in either of those two. As the lead health actor in those camps we did not get involved."---4

None of the WASH respondents were involved in the OCV campaigns in either PoC. This was not necessarily communicated as a source of frustration however as they did not necessarily feel there was a need for their participation. "...directly not that I can see. Not that I am against encouraging our partners to take up the role but I don't see directly the role that we would play. But I can certainly see where we play a role overall in the response to cholera or even response to cholera risk, in terms of ensuring very strong hygiene promotion." ---7

Another source of criticism named in relation to cholera response pointed at the perceived differences between colleagues orientated towards development and humanitarian responses. At its core, the distinctions between humanitarian and development approaches lie in differences in timescale and levels of engagement for interventions. In this vein, humanitarian interventions are perceived as acute undertakings aimed at saving lives with less priority given to longer-term consequences and overall development. The complexity of South Sudan's context made these distinctions unclear as a country in development mode gradually slid back into humanitarian emergency. This was further complicated by the differential distributions of crisis states throughout the country. At times this tension was an internal struggle within organizations that support both sorts of programming. One interviewee narrated this tension in the following:

What I see here, they are like two very different setups or scenarios. One is the PoCs and then the rest. And then most partners, and I guess this is related to funding, are working in the PoCs, the IDP camps. And then when cholera started in Eastern Equatoria, this is an open city, no PoCs and no camps, just the normal development partners and people who have been working in South Sudan before the crisis and didn't run away when the war came in. So what I think is this is also reflecting two different types of response from partners. Like in the PoCs, we get all the emergency NGOs and they know how to deal with cholera like MSF, Medair, fine. But then we go to this kind of open cities, more complicated and then you have the various [emergency NGOs] coming in for short term interventions and they sometimes clash with the development partners. And then to harmonize these two different types of mindsets and styles of working, I saw it was quite difficult...---6

This tension was perhaps more indicative of the additional ways in which humanitarian health professionals self-identified. The sectorial distinctions were the most apparent but beyond those were other categories such as emergency and development worker. The distinction of how an emergency worker may respond differently to a cholera outbreak as compared to a development worker was not made clear. The labels however, appeared to have served other means in this instance, namely as vehicles for venting frustration about perceived inadequacies of the work of other organizations or categories of people within the humanitarian aid community.

6.5 Understandings and attributions to OCV

Discussions of South Sudan's cholera problem and the events surrounding the OCV campaigns in Juba's PoCs provided insight into the ways humanitarian health professionals worked and how they felt about the context in which they worked. Given their attributions, it was important to distinguish the general challenges posed by their work from vaccine-specific issues. The first step towards this involved understanding what they knew about OCV and what the vaccine meant to their work. Responses to questions about various characteristics of the OCVs provided in Tomping and UN House PoC revealed that health professionals had limited clinical understanding of the vaccine. Their responses to questions about the dosage and effectiveness of the vaccine were posed in terms of questions seeking confirmation through the reaction of the interviewer. All interviewees knew OCV is a two-dose vaccine. They estimated OCV's efficacy in a range from 60 – 85% but the duration of protection was unclear for most. Only two respondents were able to mention the potential side-effects of the vaccine. Only those directly involved in the campaign mentioned that the vaccine was not for children under the age of one or pregnant women.

The various levels of knowledge about the vaccine may reflect the different ways in which interviewees came to learn about OCV. It was clear, as previously indicated from the knowledge of the OCV campaigns, that no one person or organization emerged as the authority on the issue. Only one respondent attributed their knowledge directly to the efforts of WHO's communication about the vaccine in advance of the campaigns. Most, including some who were part of the OCV campaigns, described learning about the vaccine as a two-fold process of initially hearing about it in a coordination meeting and continuing their own on-line research if they were interested in knowing more. Additional research was warranted primarily when the respondent had the responsibility of providing training to vaccinators and community mobilizers. Other responses regarding sources of

knowledge about the vaccine included learning during a university course and having experience in another country where the vaccine was deployed.

Whatever level of knowledge health professionals had about OCV appeared to be in demand not only from the target population but also from other humanitarian professionals. This was particularly true of communications with humanitarian colleagues who were engaged in sectors outside of health or WASH. One interviewee described the level of confusion that arose around OCV at a multi-sectorial coordination meeting:

...once I was aware of [the OCV campaigns], I did ask a few questions at camp coordination meetings, where for example MAGNA who were doing it were saying that they had done a second round and they were going to do a third round to catch people to make sure people had two doses, there [was] a lot of confusion in general, lots of different opinions, even within that small group of people. As for the level of protection, I don't think it protects people for very long. It's like, months, maybe a year. It's not long-term, and it depends on whether you had the two doses at the right time etc. etc. I know that it was the very first thing that people were talking about in response to cholera and this was something then that the IDPs already had it before, UNMISS staff were then offered it and people were just taking it, again no understanding of what cholera is/was, how it is transmitted, how you can prevent it. Even after explaining how it's transmitted, questions were asked like 'can we still buy things from the market?', 'do we have to do anything with our water? Even after explaining how it's transmitted and I know that a lot of the NGOs without medical information, very quickly were asking, 'should we vaccinate all of our staff?' Again without the knowledge of the vaccine, without knowledge of cholera, how it's transmitted, how it can be prevented...---2

The interviewee's sentiment also highlights two important points. The first is that knowledge on cholera and OCV was rapidly evolving during this time, not only amongst health professionals and the target population but within the wider humanitarian community in the country at that time. In this context, Health and WASH professionals played an important role in educating their humanitarian colleagues on cholera and OCV. This particular coordination meeting, which was not based on sector but rather on location of operations, exemplified the sorts of forums where knowledge and opinions were being transferred. The meeting convened all organizations who were implementing services in the PoCs. In this context health issues would get a fraction of the discussion time it would receive in a sector-specific coordination meeting. The constraints of the setting tend to reduce the communications of each sector to its most salient points not affording the depth of communication. Such coordination meetings provided settings for the transfer of knowledge or further confusion about the OCV. The other point raised by the interviewee was that the fear of cholera appeared to extend to the humanitarian workers providing services in the PoCs beyond the

sectors of Health and WASH. Regardless of their access to information and greater control over the level of hygiene in their living environments, workers perceived a certain degree of risk of contracting cholera. This fear was present even before the first confirmed case of cholera in Juba. This led to a certain level of demand for the same OCVs that were being supplied to the PoC residents. Some of these humanitarian professionals were offered access to OCVs and they accepted. There were others who wanted the vaccine but were unable to access it.

The need for clear and concise communication about OCV in this setting appeared to be at odds with the aforementioned limited understandings of health professionals. While all professionals interviewed communicated their understanding of cholera and the conditions putting people at risk of it in South Sudan, none attested to an exhaustive understanding of OCV. Interviewees were candid about their limited understating of OCV and their desire to know more. The sorts of things they wanted to know included the potential effects of the vaccine on pregnant women, the duration of protection, the level of coverage needed to protect a population, how it interacts with other vaccines, the vaccine impact on hygiene behaviours and the cost effectiveness of OCV as compared to a WASH intervention. There were also more specific questions about administering the vaccine such as whether the taste of the vaccine can be improved and whether those who “vomited” out the vaccine immediately after taking it should be immediately given the vaccine again---and whether they should count as being “vaccinated.” They also wanted to be kept abreast of emerging research on OCV as it continues to be delivered in various settings.

Perceptions of OCV’s impact. Interviewees’ perceptions of their limited knowledge of OCV take on another layer of significance when juxtaposed to the ambivalence in their answers to questions about the overall success of the vaccine in preventing a cholera outbreak in the PoCs. At the time of interviews, interviewees knew the OCV campaigns had taken place and those more directly involved such as Medair and WHO were privy to preliminary reports of vaccine coverage estimates from surveys in both PoCs. However, in the absence of additional information on the possible role of OCV coverage in preventing cholera outbreaks in Tomping and UN House, interviewees were left to construct their own narratives of impact. Responses to the question of whether the vaccine played a role in the outbreak were steeped in ambivalence. This ambivalence was driven by a mix of factors that recognized the benefits of the OCV vaccination campaigns whilst minding the complicated leap of attributing success to a partially protective vaccine in an erratic environment.

One benefit of OCV emerged from the descriptions of anxiety and the need for “action” distinct from routine WASH interventions in response to cholera. The interviewees who worked directly with PoC residents from the early days of the displacement acknowledged high levels of fear of a cholera outbreak not only from the PoC residents but from the humanitarian actors. One interviewee described the anxiety around a cholera outbreak among humanitarian actors as a significant source of her coordination challenges:

I’m not sure if it was the people in that meeting there but the biggest issue I found was controlling the fear of other actors.... So, yeah, there seemed to be a bit of a panic initially and then it kind of calmed down quite a lot, but that was probably the toughest thing to manage from my side.---2

Furthermore, the psychology of this fear coupled with the mandate of humanitarian actors demanded action. The threat of cholera came with the implicit and explicit recognition that something needed to be done. One interviewee said: “it ranks among the top diseases when everybody thinks of interventions, you know ‘let’s put interventions together’ when there is a risk factor like, you know, displacement and when sanitation conditions are not good.”---8

This idea of “putting interventions together” also appeared to suggest a perception among some health professionals that something different needed to be done for cholera---that the disease was not just a matter of scaling up ongoing WASH interventions but also incorporating a new program all together. One interviewee said:

So what we were getting a lot of, was people saying ‘well what are you doing about the cholera?’ Before cholera arrived, I said ‘nothing, we are preventing diarrhea.’ That’s one thing that I found very interesting and also slightly worrying that people see cholera as a very separate entity. They do not see it as a water-borne disease which WASH is always working to prevent....It’s very much a ‘this is what I’m doing’ and then cholera is a whole other ball game, in what is needed in terms of a response and understanding.---2

The interviewee identified the significance of the perception of something “different” from the routine programming to the optics of intervention around a highly feared disease. The perception that something different was being done to protect PoC residents from mortal dangers such as cholera was important to other humanitarian professionals. This perspective likely contributed to creating a fertile ground for the addition of a “newer” intervention such as OCV in addition to the ongoing water, sanitation and hygiene interventions. OCV campaigns were positioned to confer benefits of visibility as a clear, discrete intervention that could be credited to the humanitarian community at a time when the imperative to act was greatest. While water and sanitation interventions also benefit

from physical, tangible results in the form of latrines and taps, they lacked the optical novelty of a vaccination campaign in this context.

Another positive aspect of OCV campaigns described by interviewees appears to relate to the social significance of the vaccine in helping to build positive relationships between the humanitarian health professionals and the PoC residents. Interviewees involved in the OCV campaigns reported the vaccines were well received by most. One interviewee speculated that the credibility of health professionals may suffer if the perception of this medicine changed to be seen as something which is ineffective: “I think what I have noticed, it’s really not about health professionals using it, it is about whether the beneficiaries would accept it. As for the health professionals, I think if the evidence is clear and it is recommended and wherever they are working the government is committed to implement, they will provide the technical expertise. Except where there is a backlash, for example, if you have a population vaccinated over time, they have been given the booster dose, they have relatively good hygiene and so on and still have the incidence of cholera. Then it becomes - because the credibility of the health official comes into question.”---3

The interviewees’ note of the absence of “backlash” highlighted the contextual challenges that can arise in such contexts. Thousands of people queued in Tomping and UN House, with little incident, to receive a dose of OCV in two rounds. Aside from the confusion reported in initial decisions of what organizations would carry out the campaign, none of the interviewees described witnessing or hearing negative things about the conduct of the campaigns. Interviewees from Medair reported their own challenges as minimal and associated with disagreements between partners on the minimum temperature of the cold chain. There was a general perception that the campaigns were a successful humanitarian operation.

This general narrative of success around OCVs became more nuanced when interviewees were asked about their perceptions of the vaccine’s effectiveness in the given context. Health Professionals generally believed OCV contributed to averting a potentially disastrous cholera outbreak in the PoCs. The extent of this contribution was debatable however even amongst those most closely involved with the campaign itself. One interviewee attributed his uncertainty to the lack of comparable data on the course of the subsequent outbreak in various communities:

It's a very difficult question for me because....of course if you look at the cholera bulletin and the source of cases where they were reported, it has declined in Juba, virtually gone done. I don't have any information in terms of comparing the populations outside the IDP camps to see the magnitude of cases of AWDs, the extent of access to water, whether those things have also contributed. But I'm sure in the camps if you look at the conditions, with the absence of the cholera vaccine you don't know what would have happened. I'm sure it would have been a disaster.---3

He carefully introduced his response with the caveat of not having data to make an informed decision. There was some sense of discomfort around this. Ultimately, however, he concluded that there would have "been a disaster" in the PoCs in the absence of OCV. Thus in the absence of data, he appeared to recognize that this conclusion relied on speculation--- a feeling that things would have been worse.

The interviewee also highlighted what was the most common reason for uncertainty of the impact of OCV. Most interviewees viewed OCV as one of many interventions that were contributing a reduction in disease risk. Of these interventions, everyone considered WASH interventions to be the most important. Most of the ambivalence around the impact of OCVs were driven by not having a means of deciphering the relative contributions of any one intervention in this context. One interviewee narrates this tension from the perspective of a WASH professional:

"I mean, generally you know it's all about, like you said, to what extent do I think or do I feel...because without any quantitative data to base it on. But it's interesting to look at the PoCs and how for the most part, we've had very, very limited cases in the PoCs. And very thankful for that, obviously. So certainly attribute some of that success to the OCV. But it's interesting too because there are other factors that distinguish the PoCs from the general communities where there's been cholera outbreak. You know, mainly that, in the PoCs our response for WASH as well was very controlled and very relative to the outside of PoCs, I would say, very regimented....So there is monthly soap distributions, there is daily hygiene promotional activities and hygiene promoters are closely regulated and directed. Generally we are always driving for Sphere standards in terms of sanitation and water coverage. Even if we're not always there, we're always moving back towards the Sphere standards. So, there [are] a lot of other factors that actually showed some ways kind of improved conditions of the PoCs, besides from the congestion which creates the problem that."---7

Another reason for ambivalence by interviewees appeared to stem from their observations of the course of the 2014 cholera outbreak in other parts of South Sudan where campaigns were not conducted. One person described an erratic, unpredictable disease pattern that doesn't always behave as evidence would suggest. A case of cholera might be confirmed but not lead to an expected outbreak. Some of these places were considered to have conditions worse than those of the PoCs

in Juba. One interviewee who was part of cholera response in the PoCs and other parts of South Sudan said: “And I think in the PoCs because people was vaccinated that’s why they didn’t get cholera. But then we had Bor city and there were like two or three cases and that’s it, no more cholera cases. But I am still expecting to have cholera outbreak in Bor.”---6

Perhaps the most interesting source of reservation about OCV however, rested with the vaccine itself. This is because the limitations of the vaccine as described by “partial protection” were woven throughout interviewee narratives. This idea took on particular meaning for the health professionals in Juba because the inescapable fact that the first confirmed cholera case in Juba’s cholera outbreak was a PoC resident who had received one dose of OCV. One interviewee described it with a significant sense of resignation: “And if you have read, even the first case that was noticed in [UN House], this gentleman went out to eat...and then then he came back. He had even taken the OCV, I think the first round.”---3 In many respects this first case illustrated the most elusive aspects of the cholera prevention interventions in the PoCs. It represented the limitations of a partially protective vaccine for those wanted an example. Regardless of the gentleman’s level of adherence to the full course of OCV, his case reminded many of the possibility of contracting cholera after being vaccinated. The case also represented the difficulty of changing behaviors associated with food hygiene practices and the entrenched “cultural practices.” The failure of hygiene promotion efforts in this instance comes under three distinct possibilities: the behavior that caused him to become ill was not included in promotion messages, promotion messages did not reach him or that the messages reached him but were not effective in convincing him to do otherwise. The case also appeared to evoke the concern about the fluidity of boundaries between those inside and outside of the PoC with regards public health interventions. The lack of distinction between the PoC and wider population within Juba fueled government resistance to limiting the OCV campaigns to the PoC populations.

It is possible that ambivalence around the impact of the vaccine coupled with the lasting image of the first cholera case inspired consideration and clarity on other means of cholera prevention. All interviewees emphasized individual level prevention behaviours represented the best means of preventing cholera in the PoCs and South Sudan in general. When given the option of prioritizing the interventions they would designate for cholera in the light of resource limitation, the vaccine did not feature on anyone’s priorities.

6.6 Moving forward: Perceptions on future of cholera and OCV in South Sudan

Cholera had an appreciable influence on the perceptions of interviewees. The disease appeared to further diminish low levels of confidence in the country's government. Poor governance in association with failures to provide basic WASH infrastructures and functional health systems were viewed as the source of risk factors. Furthermore, the government was described as unable to respond to cholera and slow to agree to plans for the OCV campaigns in the Juba PoCs. It was not surprising therefore that there was little in the way of optimism in responses concerning the future of the disease in South Sudan. No one imagined a country in which cholera did not feature on the disease landscape. The prospect of eliminating the disease sounded like a dream for those naïve to the realities of the context. The reasons for this circled back to the reasons for cholera risk and deeply rooted in the development challenges for the country.

"Elimination is you bring down to zero and you still continue the control measures. So the GDP of South Sudan [laughs] looks huge but with austerity, you have a whole nation that has.....I don't think they have up to a 100 kilometers of tarred road, access to most of the states is by air. Okay you are talking about poor education infrastructure, a whole lot of issues it's quite clear, so eliminating cholera is doable but it will take a long time.....It's doable but it will take a long time, 20, 30, 50 years, depending on what the political terrain would offer....Yes. On paper it can be done but what would go into it, is something that when you look at it, it is something that cannot be achieved."---3

The response illustrates a general sentiment underlying the way all interviewees discussed South Sudan. It was a delicate balance of managing the low prospect of sorting the country's governance issues without abandoning all hope for the people of South Sudan. Interviewees emphasized the need for access to water and sanitation infrastructure and maintenance of hygiene behaviours, not OCV, as the priorities for reducing the problem of cholera in South Sudan and the PoCs. Their responses emphasized the need for changes among the government and the people of South Sudan. Nevertheless, the changes they needed to make were so monumental that they appeared to be impossible abstractions.

"The South Sudan situation is very peculiar and of course if you read the history and where they are coming from, there are a whole lot of behavioral issues, a whole lot of resource gaps, commitment levels from leadership is a big challenge. The use of interventions like the cholera vaccine is most helpful in settings like South Sudan because you don't have enough capacity to even intervene in terms behavioral aspect [and] because the leadership is not there and so on."---3

The OCV campaigns were framed as a 'helpful' tool in this context. Most interviewees were of the opinion that the use of the vaccine should continue as part of cholera response in South Sudan. There was little indication of which populations might be prioritized or instances where it would not be needed. Interviewees believed the vaccine's use would be disincentivized in instances where it came in direct competition with WASH intervention for resources. Other interviewees also mentioned the results of research finding that OCV compromised motivation to practice good hygiene behaviours as a disincentive for its use. There were also opinions on who was best placed to deliver this vaccination intervention.

"I think it's very, very good. So that is what I can say about it. I think the management aspect, the coaching capacities, the others, quite a big question. As of now, all facilities are procured by the other agencies, the government do not and the government doesn't have high capacities level, I mean human resource even at the national level. We are looking at the vaccination department that should have a minimum of 15 technical people, yet have only three, now.... So you know, rolling over these big interventions requires that capacity to do it and do it right."---3

OCV campaigns were envisaged as interventions that would continue to require significant international resources and expertise to undertake. These statements also appeared to suggest that the international organizations were better suited to conduct OCV campaigns than those in government. The human resources capacity of government was cited as the main reason for this.

"So....in settings like South Sudan there is so much resource needed to get things done very well and that is what I can say. The resource [requirements] will always be huge. You need international expertise to come not to just give advice but to have to do their job."

The interviewee's comment appeared significant in terms of its implication that the international community not only advises but does the actual work of government. The comment was also striking in terms of the certainty it places in the abilities of the 'international expertise.' This comment, when taken alongside projections of the prospect for cholera elimination, suggests an indefinite need for both OCV and the humanitarian community in South Sudan. Both are temporary measures that gain permanence when framed by a government the interviewees assess to remain compromised.

Summary. The operationalization of global level decisions to deploy OCVs in Tomping and UN House relied on country-level humanitarian health professionals to implement vaccination campaigns after the December 2013 political crisis. The way professionals described the problem of cholera and the response provides insight into their relationships among themselves, the government and the people

of South Sudan during this particularly contentious time. The presence of cholera and shortcomings in response were associated with government failures. This narrative was in keeping with a low level of confidence that was further damaged by the violent conflict and displacement of Nuer in Juba into the PoCs. The people of South Sudan also contributed to cholera risk through the persistence of culturally entrenched practices associated with poor hygiene. Interviewees' frustrations with such practices were balanced by rationalization of their poor levels of education and disempowering circumstances.

The cholera response and OCV campaigns also highlighted tensions in the way humanitarian organizations and sectors relate to each other. It highlights the communication challenges that can undermine coordination in crises. It also shows the imperfect means of communicating about new technologies deployed to field level. Health professionals interviewed described their lack of knowledge of OCV and expressed a keen desire to know more. This was especially striking in terms of what appeared to be a demand for their expertise in helping other non-public health orientated colleagues learn about the OCV and alleviate their own fears about cholera. Their limited knowledge also contributed to a level of ambivalence that permeated interviewees' perceptions of OCVs impact and the challenges of drawing conclusions with little or imperfect evidence. Interviewees had difficulty weighing various benefits and risks which stem from the recent OCV campaign in the absence of concrete evaluative data. The perception of OCV's impact also appears to be complicated by the absence of consistent understanding and language for its role with other WASH interventions. While the OCV campaigns were not described as being at odds with WASH interventions, there was also no language that actively bridges the two interventions.

Despite health professionals' limited knowledge of OCV and their ambivalence about its ultimate impact, there was general agreement on continuing to use OCVs in South Sudan, especially if it is not in direct competition for resources with other WASH interventions. This is likely due to the role of the campaigns in building relations between humanitarian professionals and the PoC residents. This benefit was couched in terms of lack of hostility rather than active recognition on the part of one interviewee. When taken with the comments of vaccine recipients in chapter 5 however, it is clear that the vaccination campaign created a positive perception of humanitarian workers---a perception that made their work with PoC residents easier. Furthermore, these relations could be strengthened without need for the government in the acute stages of displacement. This appears to be significant in light of recommendations by interviewees that OCV campaigns remain in the domain of the

international community. In this sense, OCVs are privileged interventions for the domain of UN/NGOs. This view of the OCV is consistent with a preference for interventions on the part of the humanitarian professional that marginalize government actors. The use of OCVs in the PoCs represented the marginalization of government actors on two levels, the deployment of an intervention that does not require their input in a space that they are not able to access. In this respect, the OCV campaigns in Tomping and UN House also acquired political significance in international instead of state-sponsored public health intervention.

Part IV: DISCUSSION & CONCLUSION

7. CHAPTER 7: Discussion – Re-framing cholera perceptions and vaccine decision making in the context of humanitarian crises in South Sudan

David Arnold surmised, in his account of the range of interpretations and responses to cholera during the British colonial period in India, that the disease has no intrinsic meaning. While a “potent pathogen”, its meanings, cultural and political, are derived from the way it “infiltrates the lives of the people, from the diverse public reactions it provoked and from the manner in which it gave expression to the underlying fears and antipathies of the colonized and colonizers alike”(27). This study has found that Arnold’s interpretation of cholera in colonial India, as an expository lens for understanding a state and its citizens in a given time and place, can be extended to present day South Sudan. The 2014 oral cholera vaccination campaigns in Tomping and UN House and the subsequent cholera outbreak in Juba occurred under unique socio-political circumstances characterized by a nascent state’s decline into a violent crisis. The perceptions of cholera and the OCV campaigns, which have been analysed in the previous chapters of this thesis, have also served as an expository lens for understanding the relationships between Nuer PoC residents, their government and the international humanitarian aid workers who provided services in this context.

7.1 Salient themes

This study is the first to combine the perspectives of IDPs and humanitarian aid workers in understanding cholera and OCV acceptance in the context of a humanitarian crisis. Protection of Civilian areas in South Sudan represent a particular type of humanitarian setting in which highly managed international assistance is highly visible and actively excludes other forms of governance. Therefore, the dynamics in these spaces cannot necessarily be assumed to be the same as in other arrangements of humanitarian protection. Nevertheless, the findings have shown how a complex mix of socio-cultural and political factors combine to shape the perceptions and meanings of interventions in humanitarian contexts. The following discusses several important themes that have emerged from these findings and will be important to consider for future vaccination campaigns in PoCs and similar settings.

7.1.1 Changing relations between the SPLA/M, Nuer citizens and humanitarian organizations as symbolized by the PoCs

This thesis has demonstrated the importance of understanding the historical context of relations between the various actors in a humanitarian context. The relationships between civilian Nuers, the SPLA/M leadership and international humanitarian organizations began long before people ran to the PoCs. Cholera and the OCV interventions in the PoC however provided insight into how these relational dynamics between the SPLA/M state and humanitarian organizations has changed from the end of the second civil war through the CPA period and the years following the referendum.

In chapter 2, I described how the SPLA/M transformed from a rebel movement into a governing body with the help of the international community during the second civil war. Legitimacy was granted—directly and indirectly—to the then SPLA by humanitarian organizations through the process of “negotiated access” of delivering aid to war-affected communities during the Operation Lifeline Sudan program. International humanitarian organizations continued to be of use to the SPLA/M after the OLS and the second civil war and further into the CPA period when the SPLM took over the governance of Southern Sudan. During this time however humanitarian organizations were needed to help build South Sudan’s social and physical infrastructure. Such demonstrations were essential to building international confidence in the SPLA/M’s ability to govern and build a civil society in the lead up to its referendum. The implicit value of increasing confidence was ultimately linked with continued investment. Development programs such as the health systems strengthening projects were embedded in SPLA/M’s governing infrastructures. This symbiotic relationship is not uncommon among post-conflict nation-building programs oriented towards building government institutions. In this model, the gains made by state actors and international institutions are difficult to distinguish by design. This design makes attribution of success and progress to be, at minimum, equally shared by the state and international development organizations. The history partly explains the SPLA/M’s interest in alignments with humanitarian organizations during this period.

Given this historical context, I argue that the status of this interest post December 2013 political crisis and particularly in the context of service provision in PoCs is now questionable because PoCs are inherently contested spaces. The reasons for this emerged with the background data I presented in chapter two and the narratives of Nuer respondents in chapter 4. The first reason lies in the literal and symbolic affront to state sovereignty communicated by the existence of the PoCs. In the physical

sense, PoCs are spaces where the SPLA/M government is not permitted to go as the residents are fleeing from state persecution. In this regard, PoC boundaries are clear, literal and symbolic definitions of where the state's influence ends. While one can argue that the state influence remains over PoCs in so much as they allow these PoCs to exist, I argue that the SPLA/M state has little option to resist their existence. The presence of armed UN peace keepers along the boundaries of PoCs means that government soldiers would have to be willing to risk the consequences of engagement in armed combat with the United Nations in order to penetrate this boundary. The exceptional nature of this arrangement in terms of humanitarian operations is significant because internally displaced persons camps are not typically characterized by militaristic assertions of boundaries on the part of the UN. This has been more characteristic of refugee camps, in which residents, by definition, have left their own state and entered another thereby making the role of UN military integral to maintaining order for people without claims of citizenship to the host government.

Another reason that PoCs are contested spaces is their implications for a broken contract of citizenship between PoC residents and the government of South Sudan. The Nuer respondents' narratives of their journey to the PoCs in chapter 4 communicated violent suffering at the hands of state soldiers as a turning point in their perceptions of the government and the key component of their decision to flee. Boundaries were essential to the facilitation of the Nuer perceptions of the PoC as a safe place. Their responses illustrate the unequivocal perception of the PoC boundaries as one where the power and influence of the SPLA/M ends and that of UN and international NGOs begin. The significance of accusations of violence at the hands of the state in the context of humanitarian crises has been discussed by the anthropologist Didier Fassin in his discussions of Weber's writings on the state's foundational relation with violence (151). He described the typical social contract between a state and its citizenry as one in which the state protects people from violence through the enforcement of laws. Citizens, in exchange for this protection, cede power to the state as the institution with a "monopoly on the legitimate use of violence." Fassin says this contract holds as long as people get sufficient security from the state and are not overly subjected to abuse by it. When this contract is not respected however, either because security is denied or the state undertakes its own gross abuse, then "individuals may feel entitled to resist the state or revolt." Fassin's argument applies to the residents of Tomping and UN House. The existence of the PoCs indicate that this contract of citizenship has been broken between Nuer PoC residents and the government actors in Juba. Nuer IDPs' resistance to state violence is the essence of the existence of the PoCs. Furthermore, the link between violence and citizenship presented by Fassin takes on another layer of significance in the context of the young state of South Sudan in so much as one can

question whether the state ever internalized this notion of protecting its citizens from violence. If citizenship is fundamentally linked to the idea of protection from violence, then the PoCs serve to redefine the citizenship status of its residents.

For these reasons, Tomping and UN House, as well as other PoCs within South Sudan, by their very existence, will continue to pose contentious relational dynamics between the SPLA/M government and humanitarian organizations. The SPLA/M government inability to enter the PoCs is likely further frustrated by their knowledge of the presence of former soldiers and arms in the space. An UNMISS sweep of the UN House PoC resulted in the confiscations of hundreds of firearms, machetes and pistols (152). In addition to sheltering people who are accusing the government of the worst atrocities possible in a place they are unable to access, the PoCs space also affords opportunity for the residents to hide weapons. All of these factors support the argument for PoC as contested spaces between the government and humanitarian organizations. There is perhaps no greater indicator of the potential endpoints of such frustration than the recent attack on the PoC in Malakal in February 2016. The attack happened left 18 people dead, two clinics destroyed and a significant part of the Nuer section of the PoC burned and looted (153). The UN condemned these attacks and recently the UN appointed Eugene Owusu to lead a special investigation into the incident.

The attacks in the PoC and UN's responses further demonstrate evolution of the relationship between SPLA/M since the second civil war and OLS. By existing as spaces exclusively governed by the UN and international NGOs and providing residence for some former combatants, their existence provides little in way of helping the brand of the SPLA/M and the SPLA/M cannot be credited with providing health services and other interventions within the PoCs.

7.1.2 The privileging of non-state dependent interventions as symbolized by OCV campaigns

Another important contribution of this thesis is its uncovering of the perceptions of humanitarian aid workers delivering interventions in a context in which the social contract between the state and international communities has been greatly diminished. In addition to violations of the social contract between the state and its citizenry, the December 2013 political crisis also appeared to violate aspects of a social contract between the state and the international community. The

humanitarian health professionals interviewed were not neutral in their perception of the South Sudanese state. Those interviewed expressed clear opinions on the government and people of South Sudan. Their perceptions of the government relayed little confidence in its ability and, to some extent, willingness to do what is necessary for cholera prevention and control. This perception appears to be linked to a wider narrative of disappointment in the country's steady decline from its hopeful start following the referendum. In their opinion, GROSS's failure to look after the social welfare of its citizens has created a vacuum that humanitarian professionals in various sectors have come to fill. Health professionals perceived their role as essential and the time period for which they will be needed as indefinite. Nevertheless, these sentiments also have to be interpreted with attention to the context in which the health professionals operate. For instance, the government of South Sudan expressed negative sentiments towards aid workers through restrictions on foreign organizations. These sentiments come alongside the increased targeting of humanitarian aid organizations in criminal activities in Juba resulting in a more difficult environment for aid workers to work. Humanitarian professionals interviewed were working in a context of heightened security as threats to their physical safety were ever present. These physical threats are further compounded by existential threats to their very presence in the country with ill-considered government decrees characterized by marginally veiled threats of expulsion. These factors suggest a government that is not only failing its people but also make it difficult for those in the humanitarian workforce to assist its citizenry.

I argue that all of these factors represent a diminished social contract between the state and international community and further impact on the way the humanitarian community chooses to go about its business in South Sudan. Specifically, it has the potential to shape preferences for interventions that minimize the need for cooperation of the state. This becomes especially relevant in the case of cholera, a disease that nearly everyone agreed could only ultimately be solved through infrastructural interventions. State actors are essential to WASH infrastructural development. This is because most activities of this sort require the negotiation of land and a system of governance to make them operational and sustain their maintenance. For instance, the installation of water pipes, the excavations of holes for sanitation facilities, the organizing of municipal waste collection systems all require some level of input from local ministries. They require permanent alterations to the physical landscape of a nation. Humanitarian organizations therefore cannot unilaterally decide to implement such interventions without the cooperation and leadership of the state.

A vaccination intervention however, does not require the same level of state cooperation. Although the permission of the Ministry of Health was sought and, eventually, granted to undertake the campaigns in Tomping and UN House, all aspect of implementation were managed by the humanitarian organizations involved in the campaigns. Once deployed from the stockpile, the OCVs were transported, stored and eventually distributed through the infrastructural and human resource systems of UN and other aid organizations. Unlike a WASH infrastructure, the artefacts of a vaccination intervention have no bearing on the physical landscape of the state. They remain only in and on the bodies of the recipients. Given the complex contextual circumstances of contested citizenry surrounding the existence of the Juba PoCs, the choice of interventions, while having the explicit goal of improving the health and wellbeing of residents, also take on tacit political meanings. The utility of an approach that isn't reliant on state infrastructures has particular value in this and other humanitarian crises contexts, particularly in the immediate aftermath of the political crisis and given the relational dynamics between the government of South Sudan and humanitarian organizations.

7.1.3 Multidimensional meaning and interpretations of cholera for PoC residents and health professionals

This thesis has also demonstrated how a disease takes on multiple meanings not only for the target populations but also for those charged with responding to the outbreak. Conceptualization of fear and risk of cholera appeared to have several meanings for PoC residents. First, the fear of the disease was closely aligned with the speed with which it was believed to bring about death. The association between a speedy death and cholera was clear but other implications were less so. For instance, a disease that requires a quick response would surely make people fearful when considered in the context of inadequate health systems in South Sudan as described in Chapter 2. Most respondents would likely have some level of familiarity with the problem of few functional health centres in a country where it is not uncommon to travel for days to find care. An illness with a quick onset affords little time to mobilize the resources to locate and travel to medical care. Chief among these "resources" are social supports. Although primary healthcare in South Sudan is mandated by law to be a free service at the point of use, these fears suggest the other costs associated with accessing care and support for the duration of treatment. Funds for such costs are conceivably generated from familial and social networks through processes which require time for negotiation,

trading and selling material resources. These factors make it reasonable to conclude that the speed of cholera cuts into the amount of time families have to mobilize these resources for care.

In addition to these more apparent reasons, fears of cholera as expressed by respondents may also be embedded in Nuer spiritual traditions. Illnesses were described in chapter 4 as possible to be transmitted through breaking taboos and other moral transgressions perpetuated by others (see section 4.4). This was clearly indicated for cases of childhood diarrhoea. These dual perceptions of cholera were consistent with Hutchinson's ethnographic descriptions of Nuer understandings of health and illnesses. This perception is also reflective of her more recent work on the dual conceptualizations of the use of legitimate violence and the role of Nuer prophets as "invisible" arbiters in the current crisis (see section 2.5). Just as international peacekeepers and negotiators remain largely unaware of the impact of Nuer spiritualism on the current politics of war in South Sudan, international NGOs also do not appear to recognize the role of Nuer spiritualism in concepts of disease transmission. For instance, Nuer IDPs expressed concerns about crowding should be interpreted both in terms of physical space and in terms of the increased susceptibility to consequences of broken taboos by fellow Nuers. Germ theory dominated the observed approaches to health promotion. The health promotion messages on cholera showed little evidence of recognition of the moral dimensions of cholera risk and response. The messages reflected germ-theory based teaching and responses to cholera which are indicative of the Nuers' historical patterns of relations to western entities.

This study also showed that cholera took on meaning and evoked fear for some of the humanitarian aid workers working in Topping and UN House at the time. As described in the introductory chapter of this thesis, cholera response has been associated with the success and failures of past humanitarian responses. Although these historical accounts were not explicitly evoked during interviews with health professionals, there was acknowledgement that the word, cholera, in and of itself triggers a need for action---and even opens doors to resources that may have been previously closed. I argue also that this need for action was likely influenced, to some extent, by the location of PoCs on United Nations bases and the damaging optics of ongoing litigation against the UN by Haitian cholera survivors who attributed the start of that outbreak to a Nepalese peacekeeping unit. Moreover, cholera also took on meaning at the level of individual aid workers. Health professionals described a fear of cholera on the part of their fellow aid workers. Coordination meetings for organizations working in the PoCs came to include discussions indicative of health education for non-

health oriented aid workers who did not appear certain in their understanding of cholera transmission. Their fear and differential levels of knowledge although warranting further study and verification indicate an important practical aspect of outbreak response in humanitarian contexts: consideration of the awareness of perceptions of workers. Fear of illnesses was not irrational given the context in which aid workers operated. Given how much is known about cholera however and their privileges in terms of access to water and sanitation infrastructures, it appears that this is one sort of fear that could be mitigated in future outbreaks through better leadership in communication among aid workers.

7.1.4 Embodiments of trust as demonstrated by acceptance of OCV

The significance of trust was woven throughout the results of this study. Trust first emerged in the form of something that was lost by Nuer respondents with respect to their government. Chapter 4 recounted the feelings of betrayal as they reckoned with the realization that they had become targets of violence by government soldiers. Their search for refuge on the grounds of United Nations compounds demonstrated trust in the UN and international NGOs as organizations that would be able to offer help and safety. But details of their uncertainties in the early weeks in the PoCs show that the initial trust placed in the UN was not guaranteed. IDPs' concerns about the conditions in the PoC and the risks posed to their health indicated that their trust was provisional upon UN and NGOs meeting expectations for services. Their description of improvements in the conditions and services indicated that their expectations were, to some extent, being met.

I argue that the OCV campaigns were an important aspect in building and solidifying this trust. The presentation of OCVs, as a western medication, touch on a cultural history of Nuer interactions with westerners. The success of this approach is evident in a level of pharmaceutical fluency which enables them to articulate names and preferences for certain drugs over others. In essence, the provision of OCVs is consistent with a pattern of the use of medications to build relationships with Nuer people.

The campaigns demonstrated that, even in the most oppressive of situations, individuals in humanitarian crises are not without personal autonomy. The diminished control and decision-making power over one's life appeared in respondents' descriptions of the losses they had suffered in relation to fleeing to the PoCs. Their descriptions of their economic isolation and imprisonment

as a result of containment in the PoCs further indicates greatly diminished freedom. This idea of diminished autonomy can be juxtaposed to descriptions in Chapter 5 of the importance of portraying the decisions to accept or not accept OCVs as an individual decision. “It [was] me” was the consistent response to the question of who decided whether or not an individual was vaccinated.

In this context, the acceptance of OCVs on the part of individual Nuers maybe interpreted as autonomous communications of confidence in UN and international humanitarian organizations. This interpretation positions trust as the most significant influence on vaccine decision making in this context. The significance of trust, which is not encompassed in a typical exposure outcome framework of epidemiology, also explains in part why vaccine recipients neither perceived their risk of cholera diminishing nor the need for cholera preventative practices to be reduced after vaccination.

7.1.5 Distrust and the nuances of OCV refusal

Finally, this thesis has demonstrated the importance of understanding dynamics of vaccination refusal in humanitarian contexts. The nuances of OCV refusal in this context were significant as they reflected a range of socio-political factors. The first form of refusal was characterized by those who only accepted one dose of OCV. The majority of these respondents said they were aware of the second dose but felt they were fine with one dose. It is reasonable to interpret this as they were aware of the recommendation of a second dose but refused to take it. This reasoning indicates that respondents can have high regards for health workers while also disagreeing with their recommendations. This reasoning is likely not unique to the OCVs campaigns in in South Sudan, especially in consideration of the literature on adherence to medical treatment regimens. But this sentiment takes on added significance when one considers that the first confirmed case of cholera in the country was a PoC resident who was confirmed to have received one dose of OCV.

Another form of refusal was characterized by the deliberate decision to not take either dose of OCV. The majority of respondents in this category cited reasons which were linked to lack of trust. In so much as trust can be interpreted as the most significant contributor to OCV acceptance in the context, the opposite, distrust also played a significant role a role in hesitancy and refusals. Distrust

was described in terms of lack of trust in the vaccine's potency and lack of the trust in the source of the vaccination, namely that government might have poisoned them.

Although this study was not designed to identify gender differences in perceptions, distrust and alcohol clearly emerged as an issue among male respondents. Men cited alcohol as a reason for both partial vaccination and refusal of the vaccine altogether. Further analysis found that their reasons were also associated with fears of illness from possible contraindications between the vaccine and alcohol and distrust in the effectiveness of the vaccine. Other references to alcohol indicated that it played a role in forging social connections among men in the PoCs. One respondent described very clearly how he prioritized the choice of drinking with friends over going for his vaccination. These reports of alcohol use among men are consistent with previous research on alcohol disorder among people who have been forcibly displaced by war and persecution (154, 155). A survey of IDPs in northern Uganda identified a higher prevalence of alcohol disorder among men, particularly those who were older and experienced more traumatic events. While it is likely that similar factors maybe associated with alcohol use in Tomping and UN House, other studies would be required to confirm this.

As previously mentioned, PoCs in Juba also included Nuer men who had defected from the SPLA/M at the onset of the political crisis. Their presence also indicates a subset of the PoC population who are uniquely engaged in the narrative of the ongoing crisis. In the context of this research, it was a former soldier who likened war to a business and suggested that the good medicines were being diverted from PoCs to Juba teaching hospital (see section 4.3). What is less clear is how such combatants are perceived among the rest of the PoC population and what level of influence they have over shaping perceptions. This question appears to be crucial to trying to understand how and why rumours might begin in this community.

7.2 Theoretical perspectives

The previous section has described several empirically grounded findings from this thesis which were less bound to theoretical perspectives. However, as described in the first chapter, this thesis has also endeavoured to make contributions to the multi-disciplinary understanding of vaccine acceptance. In doing so, I applied theoretical perspectives from social epidemiology, psychology and

anthropology to frame research questions and better understand and interpret the entirety of socio-political implications of the OCV campaigns among Nuer IDPs in Tomping and UN House PoC and their implications for the humanitarian context in South Sudan. The following discusses the theoretically grounded findings from this study.

7.2.1 Limitations of Social Epidemiological theory

Social epidemiology was described in the first chapter as one of three disciplinary perspectives which have and continue to guide studies of vaccine acceptance (see 1.5.1). Social epidemiology addresses the socio-structural factors influencing health and is the most common lens for research around vaccine acceptance. This perspective has contributed to much of what we already know about reasons for vaccine acceptance in general and OCV acceptance in particular. Common explanations for vaccine refusal identified through this approach including vaccine recipients prioritizing other activities, being ill at time of campaign and fear of possible side effects, resonated with what this study has found among respondents in South Sudan. Furthermore, vaccine hesitancy was also present among respondents. Trust in healthcare providers emerged as an important reason for vaccination. For these reasons, a social epidemiological perspective has been extremely useful in confirming the similarities around vaccine decision-making between PoC residents in Juba and target populations elsewhere.

There are limitations however, to the application of theories underpinning social epidemiological perspectives to interpretation of findings from this study. On the one hand, one cannot argue with the basic theoretical assertion that diseases are socially produced. The social production of cholera, as both as the development failure of the government of South Sudan and as a result of war, was evident in the narratives of PoC residents and health professionals. The limitations of social epidemiological interpretation in this context begins to emerge when this basic assertion is carried further to argue that cholera is produced from social inequalities. For this to be a valid line of argument, one would have to find that cholera disproportionately affected the PoC population and identify a practice that led to this inequity. This was difficult to find however given the low rates of cholera in the PoCs as compared to outside, in Juba town. Internal displacement upon first thought, provides one of the few obvious premises for productions of inequality through the alienation of displaces persons from homes, families and livelihoods. In this example of displacement into PoCs however this threat was mitigated by the ability of residents to move in and out of the surrounding

town and the presence of humanitarian groups who provide security and social welfare services. From the perspective of hygiene and sanitation, it is likely that PoCs residents had better access to safe water and latrines than those not in the PoCs. Access to the OCV was another example of the public health advantages to residence. Being a PoC resident conferred some benefits which were unavailable to those outside of the PoCs and likely put them at an advantage for protection from a disease like cholera. This may not always be the case however. For instance, if services in the PoCs were reduced or measures were introduced which implicitly or explicitly discriminated against Nuers, this could give way to circumstances for a decline in health. Furthermore, there maybe other illnesses related to mental health for instance, which may affect PoC residents at higher rates. For this particular example of cholera in the PoCs however, social epidemiological theories were not useful means of interpretation.

7.2.2 Theories of protection motivation and risk compensation

This study also applied psychological theories of risk perception at the individual level. These theories required that respondent's perceptions be categorised according to the different cognitive dimensions of risk perception: severity of illness, likelihood of illness and susceptibility to illness. Their responses generally fell on the higher end of the three dimensions. This meant that they believed in the severity of cholera, they believed cholera was likely to come to the PoCs and they believed in their personal susceptibility in contracting cholera if outbreak did, indeed, come to the PoCs. These higher perceptions of risk in relation to illness, which have been associated with higher chances for vaccine acceptance in other contexts, gave reason to believe the Tomping and UN House would be fertile grounds for a successful OCV campaign. This appears to be consistent with what was broadly reported as high levels of OCV acceptance by residents in Tomping and UN House PoCs, 85-96%.(51, 133)

These dimensions of risk perception also align with the constructs of protection motivation theory (PMT) which suggests that the severity and likelihood of a threat increases motivation to act (see 1.5.2). The theory further posits that actions taken will depend on their perceived efficacy, costs and the person's self-efficacy. Respondents' narratives mostly supported the ideas put forth in protection motivation theory. Cholera was generally perceived as a disease of great severity to which people saw themselves as very vulnerable. For those who were vaccinated, OCV was perceived as an effective response. Being vaccinated with OCV appeared to be a simple process requiring queuing

and swallowing the vaccine. The vaccines were also provided free of charge eliminating associated monetary costs. The level of confidence required for these actions was minimal. This framework appears to work well for understanding those who chose to accept OCVs.

Protection motivation also proved useful in attempts to understand the behaviours of those who took partial doses of the vaccine or refused the vaccine altogether. Most respondents who were partially vaccinated took the first dose and not the second. Their rationale for doing this was stemmed from what they said was their feeling of protection from one dose. This means that their perceived likelihood of contracting cholera decreased after their first vaccination and this, in turn, reduced their motivation to go for a second dose.

There was a limit to using protection motivation theory to interpret vaccination behaviours of those who refused the vaccine altogether. This is partly because there was no evidence of differences in perceptions of risk of cholera between those who were vaccinated and those who were not. In other words, those who chose not to be vaccinated viewed cholera with the same severity as those who were vaccinated. In terms of personal susceptibility, there were slight differences in the descriptions of personal vulnerability expressed by a few refusers of OCV. These were mainly the men who attributed their resilience to illnesses to drinking alcohol. In terms of coping appraisals, there was also little evidence to suggest that those choosing not to be vaccinated lacked confidence in their ability to undertake the actions associated with vaccination such as queuing and swallowing the vaccine. Those who chose not to be vaccinated therefore appeared to exhibit the very characteristics that protection motivation theory would predict makes them likely to choose vaccination. As this thesis only qualitatively examined PMT, more precise measures would be needed to determine whether this is a true limitation of the theory in this context.

The other psychological theory applied to this study was that of risk compensation (see 1.5.2). This theory asserted that hygiene behaviours may decrease among PoC residents following the OCV campaign due to feelings of protection conferred by the vaccine. Evidence of risk compensation was not present in the descriptions of behaviours post vaccination. There was an intrinsic value ascribed to hygiene that appeared to uphold the perceived benefits of OCV with respect to these practices. These descriptions should be taken in appreciation to the context of the PoCs however. Respondents are savvy in health messaging and are likely aware of what UN and NGOs want to hear in this regard. Furthermore, in the context such as the PoC where latrines and water systems are constructed by

organizations, one can argue that hygiene practices maybe easier to practices as infrastructural barriers are significantly reduced.

7.2.3 OCVs in the context of theories of embodiment and therapeutic citizenry

The third set of theories applied in this thesis were rooted anthropological constructs of body politics in conflict settings and therapeutic citizenship in the humanitarian/development programs (see Section 1.5.3). The narratives of Nuer respondents ---from their entry into the PoCs to their experiences of the OCV campaigns in Tomping and UN House--- readily lended themselves to bio-political metaphors. Chapter 4 described respondents' experiences as subjects and witnesses to abuse at the hands of government soldiers. Their stories included the worst forms of violence perpetrated in conflict settings.

These experiences of violence suggest that their bodies became politicized as part of an ethnically infused power struggle between the president and vice president (see section 2.4). The departure of vice-President Machar and his entourage left a vacuum in terms of Nuer-dominated political leadership to counter a Dinka-dominated government and military. In the absence of this leadership, Nuer soldiers in Juba either defected to become civilians or fled to other parts of South Sudan to continue fighting. This appeared to be sufficient cause for government soldiers in Juba to indiscriminately target all Nuers. I interpret these events as the means by which Nuer bodies became politicized. Respondents' narrative indicated that their bodies became the means by which government soldiers sought retribution for the perceived infractions of the absconded Nuer leaders. Nuer respondents' narratives exhibited their struggle to come to terms with this betrayal at the hands of their state.

Nevertheless, as Nordstrom described with the ethnographies of Mozambican refugees, embodiment among war-affected people simultaneously works in two directions, by being the locus of state transgressions and by becoming the locus of political will. Just as Nuer narratives expressed transgressions, they also reflected the preference for their new governance under UN and NGOs in the PoCs. They did this in three important ways. First they crossed into the boundaries of the PoCs and choose to remain there. Second, they accepted the services and "therapeutics" of their new

space. Third, they linked their fate to the decisions of United Nations and NGOs with regards to when it would be safe to leave the PoCs.

The second action can be further interpreted with Vin-Kim's theories on therapeutic citizenship in the context of humanitarian interventions. The significance of Vin-Kim's perspective is in the space it creates for examining the motivations and interests of the humanitarian community in the context of this study. His description of the "AIDS industry" as a global force of institutions and people has parallels with cholera and OCV. As described in the introductory chapter of this thesis, this improved generation of OCVs came about as result of advocacy and research leading to technological improvement in cholera vaccines by an assortment of people from humanitarian, academic, pharmaceutical and donor organizations. This combination of actors can also be interpreted as an OCV industry that has produced a new technology. The existence of this new "improved" technology coupled with the moral overtones of advocacy creates an imperative to get OCVs out to as many people as possible.

However, this globally generated product takes on different meanings as it makes its way down to the ground in various nations. One of OCV's developers indicated additional motivations for distributing the vaccine when he expressed the idea of its utility as a tool for international relations. In a *New England Journal of Medicine* commentary entitled, "A National Cholera Vaccine Stockpile-A New Humanitarian and Diplomatic Resource", Clemens and others advocated for the creation of an OCV stockpile in the United States that could be deployed to outbreak affected countries as a tool for "diplomacy" (48). This commentary preceded the establishment of the WHO stockpile. The sentiment however echoes what I described earlier as the OCV's role in building trust and confidence in the international humanitarian organizations in the POCs. I argued that the transfer of OCVs to Nuer IDPs was a means by which a symbolic patronage by UN and NGOs played out through tangible, individual level exchanges between Nuer IDPs and the international aid workers.

This transfer and the sentiments of Clemens et al are infused with the idea of therapeutic citizenship. However, this thesis demonstrates a more localized permutation of therapeutic citizenship. The citizenship desires expressed by OCV recipients are localized because the transnational actors have created the equivalent of a nation-less space through the PoC spaces. Unlike the HIV positive Africans in Vin-Kim's work who were able to gain transnational status through the pursuit of antiretroviral therapies, Nuers in the PoCs cannot travel to France in pursuit of OCVs. But the

potential effects of this citizenship are similar with regards to their risk of marginalization of national actors and institutions.

Therapeutic citizenship as expressed through the acceptance of services carries additional significance in the context of South Sudan in consideration of a state which has come into being with the support of international humanitarian organisations and which is struggling to gain footing. It also leaves open to question what the fate of these PoCs will be. If the PoCs are to be temporary solutions, then there will have to be national organizations and institutions, aside from the government, who are able to build bridges of trust for residents to feel safe enough to live outside of them. The diplomatic benefits of OCV for the global OCV industry and humanitarian aid workers may therefore warrant scrutiny.

The insight provided by interpreting cholera and OCV campaigns in the PoCs from perspectives of body politics and therapeutic citizenship has allowed considerations of the tacit meanings of this intervention for the larger issues of governance in South Sudan, meanings which are not readily captured by social epidemiological and psychological perspectives.

7.3 A multidisciplinary framework: implications for practice

This thesis has applied theoretical perspectives from social epidemiology, psychology and anthropology to better understand and interpret the entirety of the socio-political implications of the OCV campaigns among Nuer IDPs in Tomping and UN House PoC and its implications for the humanitarian context in South Sudan. In the introductory chapter of this thesis, I explained how Streefland and others have advocated for such multi-disciplinary perspectives in the study of vaccine acceptance (section 1.5.4). With the exception of a few however, vaccine acceptance studies have been largely limited to one discipline and have rarely applied theoretical perspectives to interpretation of findings. This indicates the gap between what is the acknowledged need for multidisciplinary perspectives and the practical challenge of undertaking such studies. Table 12 provides a summary of the key contributions each discipline has contributed to this thesis. On a very practical level, the key findings from each discipline constitute the sorts of questions a multidisciplinary team of social scientists might undertake if deployed to

Table 12: Contributions of each discipline

Discipline	Key contributions of the discipline to this study
<i>Social Epidemiology</i>	<ul style="list-style-type: none"> • Confirmed previous findings for reasons for acceptance of OCV and other vaccines in other settings • Identified trust as the most important dimension of vaccine decisions making in this context
<i>Psychology</i>	<ul style="list-style-type: none"> • Enhanced understanding of individual level risk perceptions • Provided protection motivation theory explanatory framework for understanding acceptance • Offered risk compensation related theories used in other vaccinations
<i>Anthropology</i>	<ul style="list-style-type: none"> • Enhanced understanding of multi-level interactions • Emphasized the importance of cultural and historical context for interpretation of findings • Provided theories for interpretation of relationships between Nuer IDPs, government and humanitarian aid workers • Provided greater understanding of the ways in which trust worked and the tacit factors which are also likely to influence trust

Table 12, by illustrating what was gained from each discipline, also attempts to demonstrate what may have been lost with only one approach to considerations of vaccine acceptance. Two key examples stand out in this regard. First, if I had only considered the range of reasons for individual acceptance and non-acceptance, I would have likely missed the rich ethnographic histories of Nuers and the vehicle they provide for more in-depth understanding and interpretation of perceptions of illness. This level of contextualization was required, not only for understanding Nuer IDPs' demand for health services, but also the reasons particular kinds of services related to pharmaceuticals may have played a unique role in service provision and improved the likelihood of vaccine acceptance within the PoC. Another example relates to the emergence of trust in this politically challenging context. Trust manifested itself in more than one way: trust in the effectiveness of the vaccine, trust in the health workers providing the vaccine and distrust of government. The ways were interrelated and yet distinct. If I had only used individual-level protection motivation theory as an interpretive lens, I may have missed the importance of trust as a factor in perceptions of cholera risk and in vaccine decision-making. I would also have been limited in interpreting the added significance of

trust as the most important factor underlying relational dynamics within the political context of the PoCs. This shows that there may be different dimensions to one phenomenon and those different dimensions may well be in motion within a single intervention. For this reason, this thesis has demonstrated the importance of vaccine acceptance studies going beyond descriptive data to understand and appreciate the socio-political context of the target population and those implementing the campaigns.

The disciplines and their associated theoretical perspectives covered in this thesis did not claim to be an exhaustive exposition of the state of knowledge in each. Furthermore, my application of these theoretical perspectives does not constitute my expertise in all three disciplines. Rather, the components of each discipline's theoretical perspective was chosen with regards to consideration for their potential to provide new lenses for analysis of findings in this context whilst providing some level of comparison with previous vaccination acceptance studies.

Implications for ongoing interventions in South Sudan. The crisis in South Sudan is ongoing and the number of people in PoCs has continued to increase. Most worrying, parts of South Sudan, which have been considered "stable" such as western Equatoria, are also seeing conflict-fueled displacement. These factors indicate that the conflict which spurred this situation is not ending anytime soon. One of the few signs of hope for peace occurred on late April 2016 when after several delays, Riek Machar returned to be sworn in as vice president. His return satisfied an important condition of the peace deal of August 2015. Ongoing political disputes mean Machar's arrival has done little to alleviate concerns about the fragility of South Sudan's peace process, however. The only certainty appears to be uncertainty.

International organizations will continue to play a significant role in South Sudan and global health policies will continue to shape the health and well-being of the people of South Sudan. This thesis has provided information which can contribute to better informed considerations of interventions during crises of political leadership. The following are practical recommendations from the lessons in this thesis:

- Include qualitative research with vaccination coverage surveys whenever possible
- Include monitoring of trust in health workers as part of routine monitoring of programs of health interventions

- Prioritize provision of standardized educational information to all health workers with the introduction of a new vaccine
- Prioritize provision of standardized education materials to non-health aid workers in situations of outbreaks and introductions of new vaccines
- Provide recommendation on the roles of WASH and Health actors during OCV campaigns
- Prioritize research on the relative contributions of WASH interventions and OCVs to cholera response
- When possible, OCV campaigns in PoCs should be conducted through South Sudanese organizations after identifying which ones are best suited garner trust in the given context.
- Consider a tailored approach for vaccination promotion among men
- Consider the public health implications of alcohol use
- Provide clear communication on the purpose and importance of receiving both doses of OCV
- Provide clear communication on contraindications for OCV

7.4 Strengths and limitations

This was the first study to examine the perceptions and socio-political implications of OCV introduction in the context of a humanitarian crisis in South Sudan. By adopting a qualitative approach, this study was able to delve into the social epidemiology of vaccine decision making, and in doing so both, reflected previously stated reasons for OCV hesitancy and refusal such as being unavailable at the time of the campaigns and uncover new factors such as the role of trust in organizations and potential for alcohol use to undermine vaccination interventions among conflict affected populations. The study was also unique in its consideration of the target population's perspectives on vaccination alongside those of health professionals and other aid workers who were part of service delivery in Tomping and UN House PoCs. The qualitative approach also allowed for a multi-disciplinary perspective by which the perceptions of target population and aid workers could be interpreted within historical and ethnographic context of South Sudan. These analyses allowed consideration of the wider implications of the OCV campaigns, particularly as it pertains to the dynamics of relationships between the target population, the government of South Sudan and the international community.

Despite, the unique contribution and strengths of this study, there were limitations which must be considered in tandem with results. The first limitation is that, although the role of the state is a

significant theme in this research, perspectives from the South Sudanese government are mostly absent from results. This absence of government voices reflects a constraint that was placed on my research by WHO. Fieldwork for this thesis was sponsored by WHO through their South Sudan office. This office is located on South Sudan's Ministry of Health compound where WHO staff work closely with ministry officials. Upon arrival in Juba, senior management in WHO's South Sudan office advised against my communication with government officials in general and specifically for the purposes of this study. Internal politics were cited as the reasons for this restriction. Discussion with humanitarian health professionals later indicated there were tensions around service provision in the PoCs. My arguments for the importance of ministry perspectives and reconsideration of this stance were not successful in reversing WHO's stance. Although the collaboration was generally positive in terms of provision of funding and gaining access to South Sudan for this research, it also presented limitations particularly in relation to WHO's perceived need to avoid any potential risk to relations between themselves and the government of South Sudan. Such limitations represent the political complications that may arise when carrying out research in partnership with non-academic organizations, and particularly bilateral organizations with mandates which are closely aligned with government institutions.

Another limitation of this study is that its scope did not allow for in-depth understanding of the socio-cultural lives of Nuers in the PoCs. The limitations around budget, timing and setting of this study did not allow for such ethnographically-focused research on the target population. As a result, I relied heavily on previous ethnographies to understand and interpret results. This approach is based on an assumption that the Nuers reflected in those ethnographies share some degree of similarity with the Nuers in Tomping and UN House PoCs. Anecdotal evidence and discussion with Research Assistants provided some level of support for this assumption. Nevertheless, it is important to acknowledge the heterogeneity among Nuers and temper inclinations towards a monolithic representation of their experiences. There are potentially numerous differences between the Nuers described in Evans-Pritchard and Hutchinson's ethnographies and the Nuers in the PoCs. Given that neither ethnography cover events from the CPA period, the migration patterns of Nuers in and out of South Sudan. Furthermore, there are likely experiential differences as influenced by factors such as gender, migration histories and previous experiences with the SPLA/M that have driven some aspects of the perceptions described. Although this study was not able to delve into these factors, I acknowledge this heterogeneity and the limitations it poses for interpretation and generalization of the results of this study.

Finally, another limitation of this study relates to the high refusal rate for participation. As previously mentioned in the methodological limitations (section 3.6), 63% of people approached refused to participate in this study. As I did not systematically gather information on the reasons for their refusal, it is difficult to know for certain what influences or perspectives are not represented in the results. One possible influence could be that those who decided to participate were substantially different from those who did not. For instance, they could have been more confident individuals, they could have felt more secure and safe in the PoC environment and they could have been those who were generally satisfied with the services being provided. All of these characteristics may have contributed to their motivation to share their opinions. These characteristics may also have contributed to a more critical view of the SPLA/M government. In contrast, it is also possible that those who decided not to participate may have been less satisfied with the services and held a less favourable view of the international community. This possibility seems pertinent particularly considering what, even those who spoke positively of the NGOs, described as a gradual improvement in their performance after what was initially a difficult start. Thus, the inability of this study to locate the potential influences of a high refusal rate within the results of this study is a limitation which should be considered alongside results.

8. CHAPTER 8 - Conclusion

The political crisis in South Sudan had not yet begun when I started this PhD in 2012. In just 3 years, South Sudan has come to occupy a sad list comprising countries such as Afghanistan, Central African Republic, Iraq, Libya, Mali, Syria and Yemen with states of protracted violence. The consequences of the chaos, trauma and displacement experienced by citizens of these states continue to ripple into neighbouring countries, across seas and even test the foundational assumptions of the European Union. But there are even more citizens who don't make it beyond the borders of these countries who remain in suspended states, such as the Nuer IDP respondents in Tomping and UN House. UNHCR estimated 38 million people were internally displaced by the end of 2014 and the number of IDPs in PoCs in South Sudan continues to increase. It is difficult to imagine when and how these crises will be resolved and even more difficult to know when and how their states will assume responsibility for the safety and welfare of *all* of its citizens. Until then international humanitarian organizations will continue to attempt to serve such functions under complex socio-political circumstances with varying degrees of awareness.

To add to existing complications, disease prevalence and patterns are also evolving. During the course of this PhD, I have seen the emergence of Ebola virus disease in West Africa and Zika virus in the Americas. The impact of these diseases continue to unfold and new vaccines are being tried and tested and are associated with their own socio-political factors. In the case of Ebola virus disease, the insufficient understanding of the socio-political context has been clearly identified as a shortcoming of response. Furthermore, new vaccine development has been the priority of responses to both diseases. South Sudan will not be the only crisis-affected country in the world in which new vaccines will eventually be introduced in response to outbreaks. These three elements, displacement, disease and new vaccination are likely to continue to be an inseparable trio in global public health.

This thesis has shown however that these three elements will also generate multiple meanings both for target populations and the health professionals involved in response. In the case of South Sudan these meanings have generally benefitted the international community as compared to the government and has made OCV a generally acceptable intervention among the target population. However, this study has also shown that high levels of acceptance should not be taken for granted. There were also socio-political tensions brewing under each vaccination decision---full acceptance,

hesitancy, partial acceptance and refusal--- which speak to the tenuous nature of alignments with the international community. These tensions are fuelled by the inherent complexity of the context--a UN governed camp can be seen as a refuge for innocent civilians by the humanitarian community and as well as a place where former combatants can hide and become strengthened for the next attack by government. These inherent tensions, which had bearing on every aspect of the OCV intervention, were uncovered through social research applying multiple perspectives to the interpretation of what is uncovered. As we continue the very difficult but important task of research on humanitarian interventions, multi-disciplinary social research is going to be needed to ensure not only that target populations are accepting those interventions but that humanitarian aid workers are aware of the implicit meanings and consequences of their actions. This awareness is not a luxury but fundamental to survival in places where humanitarian law and ideas of neutrality are increasingly devoid of the meaning and protections they once offered to civilians and humanitarian aid workers alike.

9. APPENDICES

Appendix A: Ethics Approval – Ministry of Health South Sudan

The Republic of South Sudan



Ministry of Health

26th June, 2014

Ms. Dorothy Peprah
 Department of Infectious Disease Epidemiology
 Faculty of Epidemiology & Population Health
 London School of Hygiene & Tropical Medicine

Through: Head of Office
 WHO, South Sudan
 Republic of South Sudan

RESEARCH APPROVAL LETTER

UNDERSTANDING PERCEPTIONS AND BEHAVIOURS ASSOCIATED WITH ORAL CHOLERA VACCINATION WITHIN THE CONTEXT OF WATER, SANITATION AND HYGIENE PROGRAMMES

I am writing in response to the request for authorization to the study on “ *Understanding perceptions and behaviours associated with oral cholera vaccination within the context of water, sanitation and hygiene programmes*” to understand more about life in South Sudan, especially as it pertains to water, sanitation needs and practices, the findings will allow policy makers to decide how to intervene in the future to prevent recurrent of the cholera outbreak.

After close review on the proposal, I am glad to inform you that the ethical committee at the Ministry of Health, Republic of south Sudan has approved the study. The Ministry acknowledges the importance of the study in control of cholera outbreaks. Please keep the Ministry of Health, Republic of South Sudan informed on the finding of the study.

I look forward to the report and recommendations that will be generated from the study. Note that the study should not be published without the consent of the Ministry of Health, Republic of South Sudan.

Yours sincerely

Dr. Richard Loro Lino Lako
 Director General
 Policy, Planning, Budgeting & Research
 Ministry of Health
 Republic of South Sudan



Appendix B: Agenda Followed for Training Research Team

Training Plan

Research Assistants and Supervisors - 1st to 5th September 2014

Training times: Juba 3 - 9 am to 12 pm (IMC Hangar 2), Tong Ping - 2pm to 5pm (TBD)

Date	Objectives	Activities	Homework
1 st September	To become clear on objectives of study and basics of qualitative research	<ol style="list-style-type: none"> 1. Review Study Objectives 2. Review basics of qualitative research 3. Review differences between qualitative and quantitative 4. Understand methodology of in-depth interviews 5. Review informed consent 	<ul style="list-style-type: none"> • Review interview questionnaire and begin translation to Nuer • Choose topic of your own and create a short interview guide
2 nd September	To understand and master the interview questionnaire	<ol style="list-style-type: none"> 1. Translate and back translate questionnaire from English to Nuer 2. Practice interviews 3. Review interview do's and don't 4. Practice use of digital Recorders 	<ul style="list-style-type: none"> • Interview someone for 20 minutes using digital recorder before next session
3 rd September	To understand and master transcription	<ol style="list-style-type: none"> 1. Review importance of transcription 2. Review purpose and format for transcription 3. Transcribe first 10 minutes of interview 4. Feedback on strengths and challenges of transcribing 	<ul style="list-style-type: none"> • Practice transcribing
4 th September	To have practical experience with interviewing in community	<ol style="list-style-type: none"> 1. Pilot Questionnaire with 2 people w/recording 2. Feedback on strengths and challenges of Interview 3. Feedback on changes needed for the questionnaire and interview process 	<ul style="list-style-type: none"> • Transcribe the second interview
5 th September	To understand how data collection	<ol style="list-style-type: none"> 1. Review and discuss transcription 2. Review plan and process for data collection 3. Agree on processes for communication and data collection 4. Schedule and obtain informed consent for first 3 interviews 	<ul style="list-style-type: none"> • Review week of training; Practice interviewing and transcribing

Appendix C: Interview Guides

Appendix C1: Interview Guide for WASH/Health Professionals

INFORMATION SHEET FOR SEMI-STRUCTURED INTERVIEW PARTICIPANTS

Title of Project: Understanding perceptions and behaviours associated with oral cholera vaccination within the context of water, sanitation and hygiene programs

Investigator: Dorothy Peprah, MPH

Institution(s): London School of Hygiene and Tropical Medicine, Ministry of Health South Sudan and World Health Organization

Background

Hello. My name is XXX and I am collecting data for a health study with XXX (organization). The purpose of this study is to understand more about health in South Sudan, especially as it pertains to cholera prevention, water, sanitation needs and practices. The information collected will allow policy makers to decide how to intervene in the future. I would like you to take part in the study, but only if only you are willing to take part.

Participation in the study would involve the following:

I will invite you to take part in a discussion with an interviewer. During the discussion you will be asked questions about cholera and cholera vaccination in South Sudan. To ensure that no information is missed, the discussion will be recorded using a micro cassette recorder. The entire discussion should take no more than one hour and will be held at a convenient place.

Participation in the study is voluntary. If you choose to take part you do not have to answer any questions that you don't want to answer and you are free to leave the study at any time without having to give a reason.

Confidentiality

All of the information we collect from you will be confidential. The discussion will be summarized in writing and the recordings will be destroyed. We will write reports about things we learn from this discussion and other discussions like it here in this community. The reports will not contain any names or any other information that would make it possible to identify the people who took part in the discussion. You will be given an identification number that will be used to identify the information we collect so that nobody will know that the information came from you.

Is there anything you would like to ask me about the study?

Oral Cholera Vaccination Interview Guide for Public Health Professionals in South Sudan

Background

- a. What is your current professional role and how long have you held it?
- b. What is the extent of your involvement in cholera responses? (*probe: how many? Where?*)
 - i. What role(s) have you served in during responses?
- c. How long have you worked in South Sudan?
- d. Where do you think cholera ranks among current health concerns for people in South Sudan? (*probe: On a scale from 1 to 10 where 10 is the highest concern and 1 the lowest*)
- e. What do you feel is putting people most at risk of cholera in South Sudan? (*probe: hygiene behaviors, lack of infrastructure, inadequate resources for response, inadequate disease surveillance etc*)
- f. How does the current outbreak in South Sudan compare to other places you have seen?
 - i. Is there anything unique about the outbreak or response in this context?
 - ii. What have you found most challenging about this response?
 - iii. Has the conflict situation impacted efforts to respond? If so, how?

Awareness and Opinion of Oral Cholera Vaccination

- a. What is your current understanding of oral cholera vaccination?
 - i. How effective is it? (*probe: for years and level of protection*)
 - ii. Does it have any risks/possible side effects?
 - iii. Where has it been used? (*probe: other countries and camp settings*)
 - iv. Who should/ should not receive it?
- b. How have you learned this information?
- c. Is there anything more you think health professionals should know about the vaccine?
 - i. What might encourage them to use the vaccine more?
 - ii. What might discourage use of the vaccine?

Expectations & Concerns for Cholera Vaccination Campaigns

(****Note: if not part of last campaign, rephrase as theoretical key components*)

- a. Did you play a role in the last cholera vaccination campaign which took place in March and April 2014? If not, why/If so, what?
- b. In your opinion, what were the key components of the vaccination campaign? (****Note: if not part of last campaign, rephrase as theoretical key components*)
 - i. Who were the most important people involved? (*probe: organizations, sectors, etc*)
 - ii. Did water, sanitation and hygiene professionals have a role in the vaccination campaign? If not, why/ If so, what?
 - iii. Were there any concerns about the vaccination campaign? (*probe: time, cost, human resources*) If not, why/If so what?
 - i. If so, what are the means of addressing this concern?
- c. Cholera cases and deaths are now declining in Juba. To what extent might one attribute the current decline in cholera cases in Juba to the vaccination campaign? (*probe: was it the primary reason, part of the reason or no impact at all*)
 - i. What impact has it had in the IDP camps?

Experiences with Target Population

*(***Note: if not part of last campaign, rephrase as anticipated levels of acceptance and behavior)*

- a. Generally, what level of acceptance have target population had for the vaccination? (*probe: range of acceptance ie 100% acceptance, 50% acceptance, etc*) Why?
 - i. Were any groups unique in this regard?
- b. Do you think the vaccination has changed people's risk perception of cholera?
 - i. If not, why/If so, how?
- c. Do you think the vaccination will/has contribute (d) to any changes in behaviors?
 - i. If not, why?
 - ii. If so, how? (*probe: which behaviors, among whom?*)
- d. What information do you believe will be most important to communicate to the target population regarding the vaccination?

Long-term perceptions cholera in South Sudan

- a. Do you think cholera vaccinations should continue to be part of cholera response in South Sudan? Why/why not?
 - i. How do you think they should be used?
 - ii. Do you think this view is common?
- b. Will cholera will ever be eliminated from South Sudan? Why/Why not?
- c. If public health professionals in South Sudan could only prioritize two interventions to reduce cholera in South Sudan, what would they be?

Conclusion

- a. Thank you, we have now come to the end of this interview. Is there anything else you want to add regarding your thoughts on cholera vaccination and WASH?

Appendix C2: Interview Guide for Target Population

INFORMATION SHEET FOR SEMI-STRUCTURED INTERVIEW PARTICIPANTS

Title of Project: Understanding perceptions and behaviours associated with oral cholera vaccination within the context of water, sanitation and hygiene programs

Investigator: Dorothy Peprah, MPH

Institution(s): London School of Hygiene and Tropical Medicine, Ministry of Health South Sudan and World Health Organization

Background

Hello. My name is XXX and I am collecting data for a health study with XXX (organization). The purpose of this study is to understand more about life in this community, especially as it pertains to water, sanitation needs and practices. The information we collect will allow policy makers to decide how to intervene in the future. I would like you to take part in the study, but only if only you are willing to take part.

Participation in the study would involve the following:

I will invite you to take part in a discussion with an interviewer. During the discussion you will be asked questions about life here, activities and health in this community. To ensure that no information is missed, the discussion will be recorded using a micro cassette recorder. The entire discussion will take no more than one hour and will be held at a convenient time and place for you.

Participation in the study is voluntary. If you choose to take part you do not have to answer any questions that you don't want to answer and you are free to leave the study at any time without having to give a reason.

Confidentiality

All of the information we collect from you will be confidential. The discussion will be summarized in writing and the recordings will be destroyed. We will write reports about things we learn from this discussion and other discussions like it here in this community. The reports will not contain any names or any other information that would make it possible to identify the people who took part in the discussion. You will be given an identification number that will be used to identify the information we collect so that nobody will know that the information came from you.

Is there anything you would like to ask me about the study?

Introduction – Final 9th September 2014

Thank you for agreeing to an interview today.

My name is _____ and I am working with the World Health Organization. We are speaking with several people in this community. I am particularly interested in learning about the beliefs and opinions people have about water, sanitation and health, particularly in relation to diseases like cholera and cholera vaccination. As a member of this community your views and experience is extremely important and we appreciate your contribution.

During this interview, we are most interested to hear your views. There are no right or wrong answers, so please feel free to share your own thoughts with us. We want to say again that your participation today is entirely voluntary. You can stop this interview at any time without giving a reason. We will not use your name in any documents that arise from the research. I would like to record this interview so that we don't miss anything that you say and we can capture your views correctly. This recording will be kept confidential and only used for this research project to improve environmental health.

The interview will last approximately 1 hour. Do you have any questions before we begin?

Is it Ok for me to begin the recording our meeting today? (Confirm consent).

Background (8 minutes)

I want to begin by learning more about life in this (Tong Ping Camp/UN House) PoC.

1. Can you tell me the story of how you came to live in this PoC? (*probe: why did you decide to come? when did you arrive? with who? friends/family?*)
2. Has life in this PoC changed much since you first arrived? If so, how/If not, why? (*probe: positive/negative changes*)
3. Generally, how do you feel about life here as compared to what you had before? (*probe: social differences, economic, etc*)

Community Health (6 minutes)

I would like understand more about the health of people in this community.

4. Tell me about the health of people in this PoC
 - a. Do people often become sick? Why/Why not?
 - b. Who gets sick most? (*probe: age groups, people certain places, gender*)
 - c. Which illnesses do they get most often?
 - d. What is the worst illness to get in this community? Why?
 - e. Tell me what people do when they become sick?
5. As compared to others in this PoC, how often do you get sick? (*probe: you get sick less, just the same or more often*)

Perception and Understanding of Cholera (12 minutes)

I would now like to understand more about cholera in this community.

6. How do you feel when you hear the word cholera? Why? (*probe: angry, worried, sad*)
7. Can you tell me what you know about cholera? (*probe: who gets cholera most often, how do they get it,*)
 - a. How do you know someone has it? (*probe: what symptoms make you think of cholera, how is it different from other kinds diarrhoea?*)
 - b. What should be done if someone has it?
 - c. Can you prevent yourself from getting cholera? If yes, how /If not, why?

- d. How did you learn this information? (*probe: health workers, family, friends*)
- 8. Have you ever known anyone who had cholera? (*probe: who was it? myself, a family member, my friend*)
 - a. If yes, what happened to them? (*probe: they were treated, they spent much money for treatment, they died*)
 - b. Are people treated differently by the community once they have had cholera? If yes, why/ If no, why not
- 9. Would you say that cholera is a big health problem here now? Why?
 - e. When do you think the problem is most common? Why? (*probe: all year round—can happen every day? Only some parts of year – which month(s)?*)

Perception of Cholera Vaccine and Experience of Vaccination (15 minutes)

There was a cholera vaccination campaign here recently. You were here during the vaccination campaign.

- 10. Can you tell me what you know about the cholera vaccination?
 - a. How many doses are needed?
 - b. How well does the vaccine protect people from cholera? (*probe: completely protects me, protects me a little, not sure*)
 - c. For how long will the vaccine protect people from cholera? (*probe: for rest of this year, for next 2 years, for the rest of my life, not sure*)
 - d. How did you learn about the vaccination campaign?
 - e. Did you get vaccinated?
 - f. Who decided whether or not you were vaccinated?

IF VACCINATED, (Ask only if person received 1 or both doses of vaccine)

- g. How was your experience of getting vaccinated? (*probe: good, not good*) Why?
- h. Why did you decide to get vaccinated?
- i. How did you feel (emotionally) after you received the vaccination? (*probe: emotional, sad, less worried, etc*)
- j. How did you feel (physically) after you received the vaccination? (*probe: if feeling sick, for how long?*)
- k. Were others in your household also vaccinated? (*probe: who, why*)
- l. If a friend was thinking about being vaccinated, what would you advise them?
- m. Some people had the opportunity to take the vaccine but chose not to. Why do you think that is?
 - i. What might make those people change their minds? (*probe: experience of cholera, influence of others, cost, etc*)

IF NOT VACCINATED, (Ask only if person received 0 doses of vaccine)

- d. Why did you decide not to get vaccinated? (*probe: all reasons*)
- e. Was it an easy decision or difficult? Why or why not?
- f. Did anyone else in your household chose not to get the vaccine? (*probe: who, why*)
- g. If you had another chance to be vaccinated, would you get vaccinated? Why/ why not?

- 11. Do you have any questions about the cholera vaccine that you do not know? If so, what are they?

Risk Perception of Cholera and Behaviours After Vaccination (15 minutes)

IF VACCINATED, (Ask only if person received 1 or both doses of vaccine)

12. Think back to the time earlier this year before you received the cholera vaccine. What was the possibility that you may have gotten cholera? (*probe: no possibility, some possibility, big possibility*) Why?
- a. Now that you have received the vaccine, what is the possibility that may get cholera? (*probe: no possibility, some possibility, big possibility*) Why?
13. Earlier you mentioned some ways you prevent yourself from getting cholera. I want to understand whether or not those are still necessary now that you have been vaccinated.
- a. Is it still important to wash hands with soap now that you have been vaccinated? If yes, why/ If not, why not?
- i. If yes, how often do you have to wash hands with soap? (*probe: all of the time, some of the time, never*)
- b. Is it still important to spray shoes with chlorine now that you have been vaccinated? If yes, why/ If not, why not?
- i. If yes, how often do you have to spray shoes with chlorine? (*probe: all of the time, some of the time, never*)
14. Are there any (other) behaviours which are less important now that you have been vaccinated?

IF NOT VACCINATED, (Ask only if person received 0 doses of vaccine)

15. Think back to the time earlier this year before the cholera vaccination campaign. What was the possibility that you may have gotten cholera? (*probe: no possibility, some possibility, big possibility*) Why?
- n. Now that many people have been vaccinated, what is the possibility that may get cholera? (*probe: no possibility, some possibility, big possibility*) Why?

Long-term View of PoC (6 minutes)

16. Will cholera always be a problem in this PoC? Why?
17. Who is responsible for cholera prevention in this (Tompson Camp/ UN House) PoC?
18. How long might you stay here in this (Tompson/UN House) PoC? Why? (*probe: months, years, indefinitely*)

Summary

We are coming to the end of our discussion and I want to be sure I have fully captured your perspective.

19. Is there anything else you wish to tell me about cholera or cholera vaccine in this community?

Ok. If there is nothing else then I would like to thank you again for participation in this discussion. I am now going to stop the recording

Participant Demographic Information

Respondent ID: _____

PoC Topping UN House

Cholera vaccination card:

Date of first dose:

Date of second dose:

A. Gender:

Male Female

B. What is your age?

_____ years

C. What is your relationship to the head of household?

- Self
- Spouse
- Parent
- Sibling
- Offspring
- Other

D. How long have you lived in this PoC?

_____ Days/ Months/Years

E. Where did you live before moving to this PoC?

- Mostly urban area
- Mostly rural area
- Small town
- No, response

F. How many people live in your house?

_____ people

G. Are there preschool aged children living in this household?

- No
- Yes
- No, response

H. Are you the primary caretaker of a preschool aged child living in house?

- No
- Yes
- No, response

I. What is the highest level of education you attained?

- None
- Some Primary
- Completed Primary
- Some Secondary
- Completed Secondary
- Higher Education

J. What is your occupational status?

- Farming
- Fishing
- Self Employed
- Housewife
- Casual Labor
- Formal Labor
- Student
- Retired
- Other _____

K. What is the main source of drinking water for this household? (ONLY CHOOSE ONE :)

- Tapstand
- Hand pump
- Open well or unprotected spring
- Protected well or spring
- Rain water collection
- Open river or pond
- Water sellers
- Other

L. The last time you went for defecation, where did you go

[READ OUT LIST]:

- Private household latrine
 - Shared or group household latrine
 - Public latrine
 - Open field
 - Flying toilet
 - Other
-

M. Can you show me where you usually wash your hands?

- Yes No

IF YES, THEN OBSERVE:

☉ Is water present?

- Yes No

☉ Is soap present?

- Yes No

Appendix D: Thok Nath Version of Consent Form

LUOC THOK LIQLITH NI KE THOK NATH.

MEME E BOOK L ÄÄRI KE KUIC KÄ MITOT KÄ NEY TIN CANHOK I BAA THIECNI LUOC.

THAANY DE: E liq kene cär ke ciej tin naq ke rɔ ke tuom wal juath in col ke i kolera kene mat dien kene piw, ke puath guath ciejä a mäni lät kɔkien ke kuic puolä puany.

Ramin goor lääri totɔ: E Dorothy Peprah-MPH.

Muktap in lätje en meme e duäl gorkä kä London, ke kuic puolä puany kene wal tin luotke ni wii tin leth joam kien cät ke Africa kä ca rɔ mat keele kene muktäpualä puany kä jinub thudan, a mäni muktap puolä puany wec mucɔn.

Tuk neme kä ke rɔ:

E jeno, eyään koang luak hoth, min latdä e täme e goar ni lääri ke kuic puolä puany tin gor yöö de njac kä muktap matdä puolä puany wec mucɔn.

Min luot gor lääri titi je, e yöö ba luot tääkä min tek ke naath liq cätke tin naq ke rɔ ke cian piini ke tin goor pual gauth ciejä dane, en yöö dene lät.

kene lääri tin goor ney ke, be neytin la cär ekanke muoc luq ke yöö dää mat i e nu mi dää lät ke kuic kä neme a weewä nhiam, ke yöö no, gööra yöö dää yien rɔ mat thin.

Ke yöö no, gööra yöö dää jin e ramkel kä gör kä ti ciät ken to, duq de yöö e ni mi nhok e jin i bi naath luak ke lätde e jin käro.

Taa Thin Kä Gör Lääri Titi Bi Neme Te Thin i Ne

Yän bä ji ja kä naani guath thin en ruac ni titi ke rami thiec thiecn. Guath ruac ba ji thiec ke thiec ke kuic tääka en wene, tin lätke rɔ kene pual puany dhoar, ke yöö ba njac en yöö thile mi ca baany jɔr kä lääri, ruac ni ba ke gor ke liiq jom in la goar ke ke piny kie kaathit (cassette recorder). Ken ruacni totɔ ken dial baani guath mi ci thaak bi naq. kä jen ba lat guath mi thile roal ke kuicdu.

En yöö bia ram kel kä gor lääri eni ruac du kä roa. Mi cie mek en yöö bia ram kel, kä ci je gor en yöö bi thiec ni ti ti luoc, e ni ruac du ca ji loony e lor.

(1)

Tĕĕ

Ken laari dial tin cakɔ naŋ kä ji bi ke la tĕĕ kä kɔ. Ruac keliw ba je gɔr kä ba gɔr e ciek, kä min ca gɔr ke jɔw jɔam ba je däk. Kɔn ba kɔ thuk lääri tin cakɔ ŋac gɔr ke kuic ruacni tin cakɔ ŋac, caŋke ruacni tin cakɔ ŋac rey cienjä dhɔaran en guäth me kä naath.

Thukruacni tin ca gɔarpiny ci ciöt bi te thin. Kä lääri tin kɔkien tin derɔ nyuɔth ney kɔ kien en yöö ci guäth rey ruacni ti dial titi, jin ba ji muɔc ke nɔberɔ kie (kuën) mi ba ŋacni ji ke kuic lääri ku tin ca naŋ kä ji ke yöö nɔ, thile ram mi bie ŋac i lääri tɔtɔ bāke kä ji.

Thiec? jin en täme me ci ruacdan thuok, te ke mi dieri thiec ke kui görä lääri ti ci kɔn ke lati?

Läär Raam Min Cie Nhok En Wargak Läärike

Thanyde en nie latke:

e lieŋ cari kene taa thiekade ke kuic juath mi coali caamjiec kene wädɔɔr mi diit ke pĕth, ke ŋök (Cholera in English), ke kui tumä de ke matde ke piw, ke puath guath kie yuop cienjä puany nath kä guath täke de thin- ke taa teekä min ca rialikä I ba lat.

Ramin Thiec Naath: Coale Döröthi Päpra-MPH(Dorothy Peprah, Mph)

(2)

1. Yän cä n̄äth kã cã kuen kã cã lieŋ en ramin naŋ guath lääri wargakni cãŋeme, ke kuic gorä t̄ ca gor nhial t̄ rey wargak neme. Cã tee guath mi n̄äth ä kã lääri ti, bã thiec, kã luocde gor ε roŋ.	
2. Cã lieŋ ε yöö tã dä thin ε ruac dä ka r̄a, mi gori jien ke thak min göörä thile yã riät mi dee lar thin b̄arä thile ŋut mi bi kãp, kie yuop wal kã.	
3. yän cã ye thöp n̄ac ke kui thiecni tin dee gor i ba ḡar piny.	
4. yän cã ye thöp n̄ac en yöö riäät tin bã raar thok ramin thiecke, a cie kac ke ken tin ba dhil ḡra piny t̄.	
5. yän cã nhök en yöö bã guath nyuak rey n̄acä görä n̄ecä meme	

_____	_____	_____
Cjöt ramin cie nhök ba kãm raa ke wargak	Be thaany ke yiat indit kã ba kãm raa	Cãŋen wale
_____	_____	_____
ciot ramin cie nhök	Thaanyde	Cãŋ en wale
_____	_____	_____
Käär thiecni riäärin titi	Thaanyde	Cãŋ en wale

Ramin naŋ guath thin kene r̄o luŋ ke thaany. Kã yän liiŋ, cã n̄ac ε goa i ken lääri dial tin ca gor ke n̄ec cã ke ŋun i be guath naŋ rey lääri titi.

Ciot ramin neen min ken r̄o mat hin (mi ce gör). **Thaanyde** Cãŋen wale

Wagak kel kã ramin ci guath naŋ görä n̄ec, kene Wagak kel kã ramin thiec naath

3

Appendix E: Partial screen shot of NVivo detailed coding structure

The screenshot shows the NVivo software interface with the following components:

- Menu Bar:** File, Home, Create, External Data, Analyze, Query, Explore, Layout, View.
- Toolbar:** Includes icons for workspace management (Go, Refresh, Open, Properties), editing (Edit, Paste, Copy, Merge), formatting (B, I, U, A), paragraph styling, styles, and editing tools (Select, Text, Region, Find).
- Nodes Panel (Left):** A tree view showing the hierarchy of nodes: Nodes, Participants, Relationships, and Node Matrices.
- Main Workspace (Right):** A table titled 'Nodes' showing the detailed coding structure. The table has columns for Name, Sources, and References.

Name	Sources	References
Understanding of cholera	22	23
treatment	31	33
Transmission	29	30
Symptoms	31	33
Prevention	30	34
People most at risk	23	23
Distinction from other diarrheas	29	30
Reasons for partial vaccination	0	0
Only received first dose	8	15
Only received 2nd dose	1	1
Reasons for not getting vaccinated	10	17
Reasons for getting vaccinated	15	15
Perceptions of illness	32	38
Who gets sick	33	35
What do people do when sick	30	31
Traditional Medicines	3	5
Reasons for illness	1	1
Personal susceptibility	28	31
Most dangerous sickness	34	35
Most common sickness	32	32
Limitations of personal prevention	2	2
Lack of medicines	10	12
Perceptions of cholera vaccine	19	22
Strength of protection	16	18
Questions about the vaccine	8	9
Protection in PoCs versus Juba town	1	1
Number of doses needed	21	22
Duration of protection	24	25
Perceptions of Cholera	18	23
Magnitude of problem	16	18
Frequency	28	33
Emotions	25	28
As compared to other health problems	25	27

10. Appendix F: Publication from thesis



Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan

Dorothy Peprah^{a,*}, Jennifer J. Palmer^{a,b}, G. James Rubin^c, Abdinasir Abubakar^d, Alejandro Costa^d, Stephen Martin^d, William Perea^d, Heidi J. Larson^{a,e}

^a London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT, United Kingdom

^b Centre of African Studies, School of Social & Political Sciences, University of Edinburgh, 15a George Square, Edinburgh EH8 9LD, United Kingdom

^c King's College London, Department of Psychological Medicine, Weston Education Centre, Cutcombe Road, London SE5 9RJ, United Kingdom

^d World Health Organization, Geneva, Switzerland

^e Department of Global Health, University of Washington, Seattle, WA, USA

ARTICLE INFO

Article history:

Received 8 March 2016

Received in revised form 23 May 2016

Accepted 24 May 2016

Available online xxxx

Keywords:

Vaccine perceptions

Cholera

Oral cholera vaccination

Vaccine acceptance

Vaccine hesitancy

Humanitarian crisis

ABSTRACT

Oral cholera vaccination (OCV) campaigns were conducted from February to April 2014 among internally displaced persons (IDPs) in the midst of a humanitarian crisis in Juba, South Sudan. IDPs were predominantly members of the Nuer ethnic group who had taken refuge in United Nations bases following the eruption of violence in December 2013. The OCV campaigns, which were conducted by United Nations and non-governmental organizations (NGOs) at the request of the Ministry of Health, reached an estimated 85–96% of the target population. As no previous studies on OCV acceptance have been conducted in the context of an on-going humanitarian crisis, semi-structured interviews were completed with 49 IDPs in the months after the campaigns to better understand perceptions of cholera and reasons for full, partial or non-acceptance of the OCV. Heightened fears of disease and political danger contributed to camp residents' perception of cholera as a serious illness and increased trust in United Nations and NGOs providing the vaccine to IDPs. Reasons for partial and non-acceptance of the vaccination included lack of time and fear of side effects, similar to reasons found in OCV campaigns in non-crisis settings. In addition, distrust in national institutions in a context of fears of ethnic persecution was an important reason for hesitancy and refusal. Other reasons included fear of taking the vaccine alongside other medication or with alcohol. The findings highlight the importance of considering the target populations' perceptions of institutions in the delivery of OCV interventions in humanitarian contexts. They also suggest a need for better communication about the vaccine, its side effects and interactions with other substances.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Cholera remains a significant public health problem in South Sudan where an ongoing political crisis has led to over half a million refugees and 1.5 million internally displaced persons (IDPs) [1]. In 2010, WHO recommended that oral cholera vaccination (OCV) be used in conjunction with other cholera prevention and control measures [2]. Three years later, 2013, a global OCV stockpile was created to improve access to the vaccine in event of outbreaks and humanitarian emergencies. Two United Nations bases in Juba became protection of civilian areas (PoC), housing over 30,000 IDPs, after the onset of violence in December 2013. An

assessment indicated that PoC residents were at high risk of cholera given the density of population, inadequate water and sanitation facilities and imminent onset of seasonal rains. OCV campaigns were conducted in both PoCs following a request for stockpiled vaccines by the Ministry of Health [3].

Cholera outbreaks are often associated with humanitarian emergencies but the use of OCV in humanitarian crises represents a new public health intervention. Only 7 countries have documented experiences with OCV campaigns and reasons influencing vaccine acceptance, three of which included humanitarian actors [4]. In Guinea and Haiti, non-vaccination was mostly attributed to being absent during the time of the campaign [5,6]. The greatest barrier to OCV uptake in Tanzania was described as an extended absence from home because of competing obligations or priorities in relation to work, education or visiting relatives. This was

* Corresponding author.

E-mail address: dorothy.peprah@lshtm.ac.uk (D. Peprah).

<http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

0264-410X/© 2016 Elsevier Ltd. All rights reserved.

Please cite this article in press as: Peprah D et al. Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. Vaccine (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

ARTICLE IN PRESS

2

D. Peprah et al. / Vaccine xxx (2016) xxx–xxx

followed by lack of information about the campaign, sickness and fear of possible side effects [7]. OCV campaigns in Haiti, Guinea and Thailand indicated a lower level of acceptance among adult men [5,6].

No studies of OCV acceptance have been conducted in the context of an on-going humanitarian crisis characterized by violence as found in South Sudan. This context presents unique circumstances with respect to the relationships between the affected population, and the national and international organizations governing access to care. This paper presents the results of an in-depth study of reasons for full, partial and non-acceptance of the OCV among IDPs in South Sudan.

2. Methodology

2.1. Study setting and population

This study was set in two PoC sites (Tompson and UN House) in Juba, South Sudan. PoCs were established as safe havens for people who sought protection in United Nation bases from the effects of violence. Due to the ethnic nature of the conflict, these PoCs came to be predominantly occupied by Nuer peoples. The security of PoCs is maintained by peacekeeping forces under the United Nation's Mission in South Sudan (UNMISS), while health, food and education services are provided by various non-governmental organizations (NGOs). Although the government of the Republic of South Sudan (RoSS) does not provide services in the PoCs, they serve a gatekeeping role by determining which NGOs can operate in the country.

OCV vaccination campaigns were conducted among IDPs in both PoCs from February to April 2014. Population estimates of Tompong and UN House at the time of the campaigns were 19,000 and 12,000 respectively [3]. The campaigns were pre-emptive as no cases of cholera had occurred in the PoCs at the time of vaccination. The WHO pre-qualified OCV Shanchol was used, which has a two dose regimen given two weeks apart for complete vaccination. In preparation for the campaign, PoC residents were provided with health education messages on cholera, its prevention and treatment and the planned vaccination campaign. OCVs were given to all >1 year old who presented at designated stations within each PoC, excluding pregnant women. Paper cards documenting the date and dose of the vaccination were provided to all recipients. WHO estimates that 85–96% of the target population in each PoC received one or two doses of OCV as based on self-reporting or evidence from vaccination cards [3,8]. Complaints concerning the taste of the vaccine and physical symptoms such as nausea, diarrhoea and stomach pains were reported [3]. Turnout among men was lower than that of women and children in both PoCs [3].

2.2. Study design

This qualitative study took place four months after the OCV campaigns. Semi-structured interviews were conducted with adult residents of both PoCs. Respondents were purposively selected on the basis of their vaccination status: fully vaccinated (received both doses of the vaccine), partially vaccinated (received one dose) and refused vaccination (received no dose). Vaccine doses were validated by presentation of vaccine cards. Respondents were

found by walking through different sections of the PoC and approaching people for interviews. Potential respondents were approached in their homes and told about the study. If they expressed interest in participation, then they were screened for eligibility and taken through the process of informed consent. Respondent selection also prioritized gender balance and those living with young children. PoC residents who were health workers (including health and hygiene promoters and medical assistants) were excluded from participation in the study.

Interviews occurred in and around respondents' homes at times convenient for them and lasted between 30 and 45 min. Interviews were conducted by trained research assistants from the PoC populations in the Nuer language. All interviews were recorded and simultaneously translated and transcribed immediately after interviews. A subset of transcripts and recordings were given to research assistants from the other PoC to check for accuracy of translations. Informed consent was obtained in writing from each participant after the nature and possible consequences of the study had been fully explained.

2.3. Data analysis

Data analysis began during interviews with reviews and clarifications of transcripts with research assistants. Quotes were edited only as needed to improve readability while maintaining the structure and intention of the language. The results of discussion of cultural relevance of various phrases and ideas were documented with notes. Transcripts were then sorted in Nvivo 10. After a second reading of all transcripts, coding began under the main themes covered in the interview guide. Themes included perceptions of cholera, perceptions of the cholera vaccine and reasons for full, partial and non-vaccination. A validation of coding structures took place through two open-coding seminar sessions during which a subset of transcripts was shared with colleagues to generate and discuss themes. This iterative process allowed for additional themes to emerge which were later reorganized as sub-themes after additional reading of transcripts by DP.

3. Results

3.1. Characteristics of respondents

A total of 49 interviews were conducted – 25 from Tompong and 24 from UN House (see Table 1). All respondents were Nuer who were 7–10 months into their residence in the PoCs. The average age of respondents was 33 years (range 20–56 years). Less than half of the respondents had any primary schooling. With the exception of one person, all respondents were from the immediate vicinity of Juba. All respondents reported using the communal tap stands and latrines as their sole basis of hygiene activity. Hand washing facilities with water and soap were observed in most homes.

3.2. Perceptions of cholera

All respondents perceived cholera as a very serious illness. Cholera was consistently named along with malaria, typhoid and HIV/AIDS as the worst illnesses facing residents. Although malaria

Table 1
Vaccination status of study respondents.

		Tompong PoC	UN House PoC	Total
Study respondents	Fully vaccinated	(8 males; 5 females)	(4 males; 2 females)	19
	Partially vaccinated	(3 males; 4 females)	(5 males; 6 females)	18
	Not vaccinated	(4 males; 1 female)	(5 males; 2 females)	12
	Totals	25	24	49

Please cite this article in press as: Peprah D et al. Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. Vaccine (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

ARTICLE IN PRESS

D. Peprah et al. / Vaccine xxx (2016) xxx–xxx

3

was considered the most common illness, cholera was considered the most serious. The word for cholera, *caamjiec kepitiboor*, “diarrhoea which is white”, evoked feelings of anxiety and fear because of the speed of illness onset and demise if not quickly treated.

Perceptions of cholera appeared to be influenced by philosophical and political associations of causality. While some conceptualised cholera in matter of fact terms such as a recurring aspect of the disease landscape and as God’s will, others situated cholera within a larger discourse of injustice related to the ongoing political context. For them, cholera was the result of being in the PoCs. And being in the PoCs was a result of the political crisis:

“If people will continue living in PoCs, as there is no peace, it will be a threat since cholera comes as a result of poor hygiene and sanitation and high population of people in a small area.” (R48), 1 dose

Respondents were aware of their own ability to prevent cholera. The prevention behaviors described related to personal hygiene and environmental cleanliness, and included: drinking clean water, washing hands, washing utensils, food hygiene (keeping food covered) and “keeping [surroundings] clean.” Latrine use was less frequently mentioned. Most descriptions of prevention behaviors were accompanied by the rationale of preventing flies, which were commonly discussed both as an indication of poor hygiene and as transmitters of cholera. The limitations of individual preventative behaviors within the PoC environment caused concern among some respondents. Several people referred to communal latrines, crowding and a lack of control over one’s domestic environment as inescapable barriers to their prevention efforts:

“I can [protect] myself. I am sure for that, but children can still increase my chances of getting it. I make sure I wash my utensils and keep my environment clean but children if I am away will find their way to contaminate the utensils especially the cups for drinking.” (R07), 2 doses

3.3. Perceptions of OCV and reasons for full vaccination

The OCV campaigns were positively perceived by all respondents. They described vaccination in terms of an individual decision to protect against cholera. Most felt less worried after receiving the vaccination although many reported feeling nauseous for up to two days afterwards. There was generally a high level of confidence that the vaccination campaign prevented a cholera outbreak within the PoCs. Many hoped to be vaccinated again and recommended the same to others.

3.4. Reasons for partial vaccination

Most respondents who were partially vaccinated received the first dose but missed the second. Respondents gave a range of reasons for partial vaccination, including being busy, lack of awareness, avoidance of discomfort and fear of combining the vaccine with other medication and alcohol. Being busy at the time of the second dose was a common reason. Activities described as keeping people busy included childcare, day labor or housework.

All partially vaccinated respondents were aware of the need for two doses. Their awareness of other factors such as knowing the timing of the second round and about contraindications around OCV were less certain. Furthermore, awareness of the need for 2 doses did not preclude questioning the dosage recommendation. Some simply felt they were adequately protected with one dose while others felt that dosage needed to increase to 3 or 4, depending on body size:

“Yes, I refuse to take two doses because there is no difference from getting two or one. ... I been confused by people by saying you can take only one and [one] should be enough to protect you from getting cholera.” (R45), 1 dose

Most respondents complained of the taste and smell of the vaccine, regardless of number of doses. In more extreme instances this experience resulted in nausea and vomiting which led a person to believe the vaccine could be spreading cholera:

“[after first dose] I felt nausea and I was worried may be it can contaminate me.” (R02), 1 dose

Alcohol consumption was often linked to partial vaccination and vaccine refusal but only among men. In the case of partial vaccination, alcohol consumption was said to lead to feelings of illness when combined with the vaccine:

“Yes after vaccination [with the] first dose when I took different thing (alcohol), I feel dizzy and friends told me it is that vaccine you took. I suspended drinking for five days. After I get myself well, I resumed and joined my friends. So I fear to go for second dose. During second dose I increased the amount of alcohol and I was drunk and sleeping to avoid people reminding me to go for vaccination.” (R29), 1 dose

One participant interviewed received only the second dose of OCV. Her story of rejecting the first dose and accepting the second dose involved a process of overcoming distrust of the government in favor of trust in the UN and her friends:

“Of course in the beginning I was about to refuse because of distress in [my] mind. I thought the government sent us a poison to kills us in UNMISS but later I realized the vaccine is from UN and the NGOs then I decided to take. ... I saw a lot of people going for it then even me I made a decision to go. ... I admitted some advice from people. No one can stay without being advised.” (R27), 1 dose

3.5. Reasons for not getting vaccinated

Respondents who refused to be vaccinated generally described the severity, causes and prevention of cholera in the same way as those who were vaccinated. Their choice not to be vaccinated was described in terms of active decision making driven by reasons such as preference for drinking alcohol, preference for traditional medicine, distrust in the authenticity of the vaccines, and witnessing adverse reactions among those who had been vaccinated.

Both alcohol and traditional medicines were described as part of a wider plan of resilience which had served people well thus far. One man described alcohol as one of the factors contributing to his personal invincibility as a soldier who had survived South Sudan’s cycles of war dating back to 1956. Another man described the vaccine as being at odds with his preferred approach of using traditional medicine. But this preference was entangled with the issue of unreliable access to modern medicines such as vaccines:

“I use traditional medicine because sometimes you can go to where there is no medicine. When I was in the village, I use neem and other traditional trees that are very bitter and sour. ... God works on his own way. I acquainted myself [with] avoiding these modern medicines. That is why I did not take that vaccination.” (R33), 0 doses

Those refusing OCV also cited issues of distrust as a reason. In this instance, lack of trust in the authenticity of the vaccine came to the fore. Although the connection was not always explicit,

Please cite this article in press as: Peprah D et al. Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. Vaccine (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

ARTICLE IN PRESS

4

D. Peprah et al./Vaccine xxx (2016) xxx–xxx

statements about distrust often accompanied references to national institutions, which were commonly seen by PoC residents as persecutory:

“Yes because the drug they give are photocopies [fake]. If they are good medicines which prevent or cure disease, I could go but some of medicine are fake so I like to die without getting that medicine. . . Let me die here from cholera and HIV/AIDS. . . Why should I look for vaccination that contaminated people?” (R35), 0 dose

For those who were partially vaccinated, the physical characteristics of OCV, smell and taste were reported as the reasons for hesitancy. However, additional social influences such as witnessing or hearing others talk about adverse reactions was sufficient to lead to vaccine refusal for one participant. Furthermore, it was not clear the extent to which some of these side effects might have been perceived as contracting cholera after being vaccinated. This perception led one man to question the value of the vaccine altogether.

“Yes I have seen that the vaccine helps nothing because even those who took it got cholera. Then why I have to take it? I just [have] to protect myself by following the instructions [for] prevention.” (R40), 0 dose

3.6. Future of OCV and cholera control

Half of respondents had further questions about OCV. Their questions touched on specific facts about the vaccine, such as its composition and duration of protection, and the possibility of further vaccination campaigns for future cholera outbreaks. When asked about the possibility of future outbreaks, most said this was possible. They put responsibility for prevention on UN and NGOs working in the PoCs.

4. Discussion

This study identified several reasons influencing full, partial and non-acceptance of OCV in a humanitarian crisis. The high level of acceptance of OCVs in this context can be attributed in part to perceptions of cholera as a severe disease evoking fear and perceptions of PoCs as places of increased risk of cholera. Perceptions of cholera risk extended beyond the domain of health to incorporate contextual circumstances of the political crisis which led to displacement into PoCs. In the context of ethnic conflict, explanations of cholera and cholera vaccine uptake drew upon a broader social and political narrative which constructed international organizations such as the United Nations and NGOs as protective intermediaries between the PoC populations and the government which many camp residents feared. Within this narrative, there was a high level of confidence in the OCV campaign and it was credited with the prevention of cholera outbreaks in both PoCs by residents.

This confidence in and acceptance of OCV was not uniform, however. Some reasons for partial and non-acceptance of OCV such as lack of time and fear of side effects were consistent with reasons found in other settings and with reasons captured in WHO's vaccine coverage survey data from the PoCs [5–7]. These reasons are increasingly important aspects of research on vaccination uptake as public perceptions have led to declines in rates of routine vaccination, and to barriers to the introduction of new vaccinations [9,10].

Trust in international organizations was an important aspect of vaccination decision-making in the Juba PoCs. A recent global review of attitudes toward vaccination found that mistrust in institutions often underpins the most common reasons for vaccine hesitancy [11]. The nature of institutional trust in this context

may be construed slightly differently however, since it worked in two directions – as a reason for hesitancy if the recommendations were perceived as coming from the government and a reason for acceptance if they were coming from the UN and NGOs.

Alcohol consumption also occurred as a reason for partial and non-acceptance of OCV among men in the study. Fear of illness from combining the vaccine with alcohol and the perception of alcohol as a means for personal resilience affected decisions. The problem of alcohol abuse in conflict-affected populations warrants further study since it relates to behaviors that lead to greater risk of cholera and as a potential contributor to lower rates of vaccination among men [5,6,12].

Although most respondents described the decision to be vaccinated as an autonomous choice, social influences also appear to have played a role in overcoming hesitancy in relation to distrust and witnessing side-effects, and it was striking that most respondents reported recommending others to be vaccinated. Further research should explore how to capitalise on social influence in this context.

5. Conclusion

Although reasons for full, partial and non-acceptance of OCV among respondents in PoCs in Juba largely mirrored the reasons for non-acceptance in non-crisis settings, some context-specific socio-political nuances also emerged in this setting affected by ethnic violence. Heightened fears of disease and political danger contributed to camp residents' perception of cholera as a serious illness and increased trust in those providing the vaccine. These were significant reasons for high (estimated 85–96%) acceptance of the OCV campaign in PoCs in Juba. These findings indicate the importance of monitoring and taking into account target population perceptions of service providers in planning the delivery of OCV interventions in humanitarian crises. Future OCV campaigns in crisis settings might also benefit from greater coverage by taking the role of alcohol into account and incorporating strategies to specifically target alcohol users in this target population. As in other settings, OCV campaigns in humanitarian contexts should not neglect the importance of communicating information about the vaccine dosage, expectations of side effects and interaction with other medication and alcohol consumption.

There are two main limitations of this study. The first is the length of time between the vaccination campaign and the conduct of interviews was approximately four months. The potential impact of this time delay with regards to respondents' recall is not known. However, it is plausible that a degree of recall bias existed, with participants who were not vaccinated being more likely to recall negative perceptions or discussions about the vaccine than those who were vaccinated. The second limitation of this study are the limitations in generalizability. As a qualitative study, sampling was purposive and not designed to be statistically representative. Further studies using statistically representative and standardized sampling methods or more qualitative studies in different contexts are recommended for purposes of generalizability.

Conflict of interest statement

This study was conducted with funding from WHO's Oral Cholera Vaccination stockpile project and the London School of Hygiene and Tropical Medicine. AA, AC, SM and WP are part of WHO's Oral Cholera Vaccination stockpile project. The data on partial and non-acceptance of OCV reflects the views of respondents and are not necessarily those of WHO or LSHTM.

GJR was funded by the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Emergency

Please cite this article in press as: Peprah D et al. Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. Vaccine (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

ARTICLE IN PRESS

D. Peprah et al. / *Vaccine xxx (2016) xxx–xxx*

5

Preparedness and Response at King's College London in partnership with Public Health England (PHE). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health, Public Health England, WHO or LSHTM.

Author contributions

DP led the study. JP, GJR, HL contributed to conceptualization of study and tools development. AA, AC, SM and WP contributed to data collection. JP contributed to analysis of results. All authors contributed to the preparation of the manuscript.

Acknowledgements

The authors would like to acknowledge the contribution of the research assistants who conducted, translated and assisted in the interpretation of interviews.

References

- [1] WHO. South Sudan Health Situation Report #47 World Health Organization Available from: Available from: <<http://www.who.int/hac/crises/ssd/sitreps/en/>>2015.
- [2] WHO. Weekly epidemiological record: cholera vaccines: WHO position paper, 2010;85:117–28 [2010].
- [3] WHO. Weekly epidemiological record: oral cholera vaccine campaign among internally displaced persons in South Sudan. 2014;20(89):214–20.
- [4] Hall RH, Sack DA. Introducing cholera vaccination in Asia, Africa and Haiti: a meeting report. *Vaccine* 2015;33(4):487–92.
- [5] Luquero FJ, Grout L, Ciglenecki I, Sakoba K, Traore B, Heile M, et al. First outbreak response using an oral cholera vaccine in Africa: vaccine coverage, acceptability and surveillance of adverse events, Guinea, 2012. *PLoS Negl Trop Dis* 2013;7(10):e2465.
- [6] Tohme RA, Francois J, Wannemuehler K, Iyengar P, Dismar A, Adrien P, et al. Oral cholera vaccine coverage, barriers to vaccination, and adverse events following vaccination, Haiti, 2013(1). *Emerg Infect Dis* 2015;21(6):984–91.
- [7] Schaetti C, Ali SM, Chagnat CL, Khatib AM, Hutubessy R, Weiss MG. Improving community coverage of oral cholera mass vaccination campaigns: lessons learned in Zanzibar. *PLoS ONE* 2012;7(7):23.
- [8] Abubakar A, Azman AS, Rumunu J, Ciglenecki I, Helderman T, West H, et al. The first use of the global oral cholera vaccine emergency stockpile: lessons from South Sudan. *PLoS Med* 2015;12(11):e1001901.
- [9] Larson HJ. Negotiating vaccine acceptance in an era of reluctance. *Hum Vaccin Immunother* 2013;9(8):1779–81.
- [10] Paterson P, Larson HJ. The role of publics in the introduction of new vaccines. *Health Policy Plan* 2012;27(Suppl. 2):ii77–9.
- [11] Yaqub O, Castle-Clarke S, Sevdalis N, Chataway J. Attitudes to vaccination: a critical review. *Soc Sci Med* 2014;112:1–11.
- [12] Roberts B, Ezard N. Why are we not doing more for alcohol use disorder among conflict-affected populations? *Addiction* 2015;110(6):889–90.

Please cite this article in press as: Peprah D et al. Perceptions of oral cholera vaccine and reasons for full, partial and non-acceptance during a humanitarian crisis in South Sudan. *Vaccine* (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.05.038>

11. REFERENCES

1. Vandenbroucke JP, Rooda HME, Beukers H. Who Made John Snow a Hero? *American Journal of Epidemiology*. 1991;133(10):967-73.
2. Prashad V. Native Dirt/Imperial Ordure: The Cholera of 1832 and the morbid resolutions of Modernity*. *Journal of Historical Sociology*. 1994;7(3):243-60.
3. Thompson JD. The Great Stench or the fool's argument. *The Yale Journal of Biology and Medicine*. 1991;64(5):529-41.
4. Chapra SC. Rubbish, Stink, and Death: The Historical Evolution, Present State, and Future Direction of Water-Quality Management and Modeling. *Environmental Engineering Research*. 2011;16(3):113-9.
5. CDC. Cholera: General Information: US Centers for Disease Control Prevention; 2011 [Available from: <http://www.cdc.gov/cholera/general/>].
6. Gaffga NH, Tauxe RV, Mintz ED. Cholera: a new homeland in Africa? *Am J Trop Med Hyg*. 2007;77(4):705-13.
7. Ali M, Lopez AL, You YA, Kim YE, Sah B, Maskery B, et al. The global burden of cholera. *Bull World Health Organ*. 2012;90(3):24.
8. Deen JL, von Seidlein L, Sur D, Agtini M, Lucas ME, Lopez AL, et al. The high burden of cholera in children: comparison of incidence from endemic areas in Asia and Africa. *PLoS Negl Trop Dis*. 2008;2(2):0000173.
9. Mandal S, Mandal MD, Pal NK. Cholera: a great global concern. *Asian Pac J Trop Med*. 2011;4(7):573-80.
10. Cholera outbreak--southern Sudan, 2007. *MMWR Morb Mortal Wkly Rep*. 2009;58(13):337-41.
11. Farmer P, Almazor CP, Bahnsen ET, Barry D, Bazile J, Bloom BR, et al. Meeting Cholera's Challenge to Haiti and the World: A Joint Statement on Cholera Prevention and Care. *PLoS Negl Trop Dis*. 2011;5(5):e1145.
12. WHO. Cholera 2011 Weekly epidemiologic record (WER). 2012. Contract No.: No. 31-32, 2012, 87,.
13. Reyburn R, Kim DR, Emch M, Khatib A, von Seidlein L, Ali M. Climate variability and the outbreaks of cholera in Zanzibar, East Africa: a time series analysis. *Am J Trop Med Hyg*. 2011;84(6):862-9.
14. Chaplin S. Indian cities, sanitation and the state: the politics of the failure to provide. *Environment and Urbanization*. 2011;23:57-70.
15. Walton D, Suri A, Farmer P. Cholera in Haiti: fully integrating prevention and care: *Ann Intern Med*. 2011 May 3;154(9):635-7. doi: 10.1059/0003-4819-154-9-201105030-00328. Epub 2011 Mar 7.
16. Reyburn R, Deen JL, Grais RF, Bhattacharya SK, Sur D, Lopez AL, et al. The case for reactive mass oral cholera vaccinations. *PLoS Negl Trop Dis*. 2011;5(1):0000952.
17. Rajasingham A, Bowen A, O'Reilly C, Sholtes K, Schilling K, Hough C, et al. Cholera prevention training materials for community health workers, Haiti, 2010-2011. *Emerg Infect Dis*. 2011;17(11):2162-5.
18. Farmer P, Almazor CP, Bahnsen ET, Barry D, Bazile J, Bloom BR, et al. Meeting cholera's challenge to Haiti and the world: a joint statement on cholera prevention and care. *PLoS Negl Trop Dis*. 2011;5(5):31.
19. Lopez AL, Gonzales ML, Aldaba JG, Nair GB. Killed oral cholera vaccines: history, development and implementation challenges. *Therapeutic advances in vaccines*. 2014;2(5):123-36.
20. Oral Cholera Vaccine: First Vaccine developed with Gates Foundation Support [press release]. 2009.

21. Clemens JD, Harris JR, Sack DA, Chakraborty J, Ahmed F, Stanton BF, et al. Field trial of oral cholera vaccines in Bangladesh: results of one year of follow-up. *J Infect Dis.* 1988;158(1):60-9.
22. Lucas ME, Deen JL, von Seidlein L, Wang XY, Ampuero J, Puri M, et al. Effectiveness of mass oral cholera vaccination in Beira, Mozambique. *N Engl J Med.* 2005;352(8):757-67.
23. Khatib AM, Ali M, von Seidlein L, Kim DR, Hashim R, Reyburn R, et al. Effectiveness of an oral cholera vaccine in Zanzibar: findings from a mass vaccination campaign and observational cohort study. *Lancet Infect Dis.* 2012;12(11):837-44.
24. WHO. *Weekly Epidemiological Record*, 2012; 87: 289-304. 2012.
25. WHO. *Weekly Epidemiological Record: Cholera vaccines: WHO position paper*, 2010;85:117-128. 2010.
26. Ali M, Sur D, You YA, Kanungo S, Sah B, Manna B, et al. Herd Protection by a Bivalent Killed Whole-Cell Oral Cholera Vaccine in the Slums of Kolkata, India. *Clin Infect Dis.* 2013;6:6.
27. Arnold D. *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India.* Berkeley: University of California Press; 1993.
28. Mahamud AS, Ahmed JA, Nyoka R, Auko E, Kahi V, Ndirangu J, et al. Epidemic cholera in Kakuma Refugee Camp, Kenya, 2009: the importance of sanitation and soap. *J Infect Dev Ctries.* 2012;6(3):234-41.
29. Bompangue DG, P; Piarroux, M; Mutombo, G; Shamavu, R; Sudre, B; Mutombo, A; Mondonge, V; Piarroux, R. Cholera Epidemics, War and Disasters around Goma and Lake Kivu: An Eight-Year Survey. *PLoS Neglected Tropical Diseases.* 2009 May;3(5):1-8.
30. Siddique AK, Salam A, Islam MS, Akram K, Majumdar RN, Zaman K, et al. Why treatment centres failed to prevent cholera deaths among Rwandan refugees in Goma, Zaire. *Lancet.* 1995;345(8946):359-61.
31. Waldman R, Martone G. Public health and complex emergencies: new issues, new conditions. *American journal of public health.* 1999;89(10):1483-5.
32. Salama P, Buzard N, Spiegel P. Improving standards in international humanitarian response: The sphere project and beyond. *JAMA.* 2001;286(5):531-2.
33. Group GE. Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994? Goma Epidemiology Group. *Lancet.* 1995;345(8946):339-44.
34. *The Joint Evaluation of Emergency Assistance to Rwanda: Study III Principal Findings and Recommendations.* London; 1996.
35. Noji EK, Toole MJ. The Historical Development of Public Health Responses to Disasters. *Disasters.* 1997;21(4):366-76.
36. Gostelow L. The Sphere Project: the implications of making humanitarian principles and codes work. *Disasters.* 1999;23(4):316-25.
37. Project TS. *Humanitarian Charter and Minimum Standards in Humanitarian Response.* Geneva Switzerland: The Sphere Project; 2011. 1-402 p.
38. WHO. Cholera in Zimbabwe - update 4 2009.
39. Cumberland S. An old enemy returns. *Bull World Health Organ.* 2009;87(2):85-6.
40. Kapp C. Zimbabwe's humanitarian crisis worsens. *The Lancet.* 373(9662):447.
41. Ncayiyana DJ. The Zimbabwe mayhem - how many people must die for the neighbours to act? *SAMJ: South African Medical Journal.* 2009;99:7-.
42. Pleming S. "Zimbabwe neighbors should seal borders-US official". Reuters. 2008.
43. Deborah J, Victoria S. Cholera in Haiti and Other Caribbean Regions, 19th Century. *Emerging Infectious Disease journal.* 2011;17(11):2130.
44. Naficy A, Rao MR, Paquet C, Antona D, Sorkin A, Clemens JD. Treatment and vaccination strategies to control cholera in sub-Saharan refugee settings: a cost-effectiveness analysis. *Jama.* 1998;279(7):521-5.
45. Paquet C. Vaccination in emergencies. *Vaccine.* 1999;17, Supplement 3:S116-S9.
46. International Vaccine Institute Receives \$40 Million Grant from the Bill & Melinda Gates Foundation [press release]. Bill and Melinda Gates Foundation January 18th, 2000.

47. John Clemens reappointed as IVI head [press release]. International Vaccine Institute July 2004.
48. Waldor MK, Hotez PJ, Clemens JD. A national cholera vaccine stockpile--a new humanitarian and diplomatic resource. *N Engl J Med*. 2010;363(24):2279-82.
49. WHO. WHO Technical Working Group on creation of an oral cholera vaccine stockpile: Meeting Report-Geneva, 26-27 April 2012. Geneva: WHO; 2012.
50. Marion Jenkins VC. Achieving the 'good life': Why some people want latrines in rural Benin. *Social Science & Medicine*. 2005;61:2446-59.
51. Abubakar A, Azman AS, Rumunu J, Ciglenecki I, Helderma T, West H, et al. The First Use of the Global Oral Cholera Vaccine Emergency Stockpile: Lessons from South Sudan. *PLoS Med*. 2015;12(11):e1001901.
52. Agency CI. The World Factbook 2015-16. CIA, editor. Washington, DC 2016.
53. Hall RH, Sack DA. Introducing cholera vaccination in Asia, Africa and Haiti: a meeting report. *Vaccine*. 2015;33(4):487-92.
54. Ciglenecki I SK, Luquero FJ, Heile M, Itama C, Mengel M, Grais RF, Verhoustraeten F, Legros D. Feasibility of Mass Vaccination Campaign with Oral Cholera Vaccines in Response to an Outbreak in Guinea. *PLoS Med*. 2013;10(9).
55. Luquero FJ GL, Ciglenecki I, Sakoba K, Traore B, Heile M, Dialo A A, Itama C, Serafini M, Legros D, Grais RF. First Outbreak Response Using an Oral Cholera Vaccine in Africa: Vaccine Coverage, Acceptability and Surveillance of Adverse Events, Guinea, 2012. *PLoS Negl Trop Dis*. 2013;7(10).
56. Berkman LF KI. Social epidemiology. Berkman LF KI, editor. New York: Oxford university press; 2000.
57. Poland CM, Brunson EK. The need for a multi-disciplinary perspective on vaccine hesitancy and acceptance. *Vaccine*. 2015;33(2):277-9.
58. Larson HJ, Jarrett C, Eckersberger E, Smith DM, Paterson P. Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: a systematic review of published literature, 2007-2012. *Vaccine*. 2014;32(19):2150-9.
59. Larson H, Brocard Paterson P, Erondy N. The globalization of risk and risk perception: why we need a new model of risk communication for vaccines. *Drug safety : an international journal of medical toxicology and drug experience*. 2012;35(11):1053-9.
60. Paterson P, Larson HJ. The role of publics in the introduction of new vaccines. *Health policy and planning*. 2012;27 Suppl 2:ii77-9.
61. Larson HJS, W. The State of Vaccine Confidence: 2015. London School of Hygiene and Tropical Medicine; 2015.
62. Schaetti C, Ali SM, Chagnat CL, Khatib AM, Hutubessy R, Weiss MG. Improving community coverage of oral cholera mass vaccination campaigns: lessons learned in Zanzibar. *PLoS one*. 2012;7(7):23.
63. Tohme RA, Francois J, Wannemuehler K, Iyengar P, Dismer A, Adrien P, et al. Oral Cholera Vaccine Coverage, Barriers to Vaccination, and Adverse Events following Vaccination, Haiti, 2013(1). *Emerg Infect Dis*. 2015;21(6):984-91.
64. Honjo K. Social epidemiology: Definition, history, and research examples. *Environmental Health and Preventive Medicine*. 2004;9(5):193-9.
65. Krieger N. Theories for social epidemiology in the 21st century: an ecosocial perspective. *Int J Epidemiol*. 2001;30(4):668-77.
66. Krieger N. Methods for the scientific study of discrimination and health: an ecosocial approach. *American journal of public health*. 2012;102(5):936-44.
67. Krieger N. Does racism harm health? Did child abuse exist before 1962? On explicit questions, critical science, and current controversies: an ecosocial perspective. *American journal of public health*. 2003;93(2):194-9.
68. Social Epidemiology. Berkman LK, I., editor 2000.

69. Kaplan GA. What's Wrong with Social Epidemiology, and How Can We Make It Better? *Epidemiologic Reviews*. 2004;26(1):124-35.
70. Williams L, Rasmussen S, Kleczkowski A, Maharaj S, Cairns N. Protection motivation theory and social distancing behaviour in response to a simulated infectious disease epidemic. *Psychology, health & medicine*. 2015;20(7):832-7.
71. Baghiani-Moghadam MH, Seyed-Andi SJ, Shokri-Shirvani J, Khafri S, Ghadimi R, Parsian H. Efficiency of two constructs called "fear of disease" and "perceived severity of disease" on the prevention of gastric cancer: Application of protection motivation theory. *Caspian journal of internal medicine*. 2015;6(4):201-8.
72. Neel M, Butala MJV, Ronak Bhailal Patel. Improved health outcomes in urban slums through infrastructure upgrading. *Social Science & Medicine*. 2010;71:935-40.
73. Codern N, Pla M, De Ormijana AS, González FJ, Pujol E, Soler M, et al. Risk Perception Among Smokers: A Qualitative Study. *Risk Analysis: An International Journal*. 2010;30(10):1563-71.
74. Renner B, Schüz B, Sniehotta FF. Preventive Health Behavior and Adaptive Accuracy of Risk Perceptions. *Risk Analysis: An International Journal*. 2008;28(3):741-8.
75. Binder AR, Scheufele DA, Brossard D, Gunther AC. Interpersonal Amplification of Risk? Citizen Discussions and Their Impact on Perceptions of Risks and Benefits of a Biological Research Facility. *Risk Analysis: An International Journal*. 2011;31(2):324-34.
76. Brewer NT, Chapman GB, Gibbons FX, Gerrard M, McCaul KD, Weinstein ND. Meta-analysis of the relationship between risk perception and health behavior: the example of vaccination. *Health Psychol*. 2007;26(2):136-45.
77. Rubin GJ AR, Page L & Wessely S. Public perceptions, anxiety and behaviour change in relation to the swine flu outbreak: cross sectional telephone survey. *British Medical Journal*. 2009;339:b2651.
78. GJS W. Target Risk. Toronto, Canada 1984.
79. L Brabin SAR, R Stretch, D Baxter, P Elton, H Kitchener, R McCann. A survey of adolescent experiences of human papillomavirus vaccination in the Manchester study. *Br J Cancer*. 2009;10(9):1502-4.
80. Article O. A Myth About the HPV Vaccine Debunked. *The New York Times*. October 18, 2012.
81. Mullins TL, Zimet GD, Rosenthal SL, Morrow C, Ding L, Shew M, et al. Adolescent perceptions of risk and need for safer sexual behaviors after first human papillomavirus vaccination. *Arch Pediatr Adolesc Med*. 2012;166(1):82-8.
82. Wheelock A, Eisingerich AB, Gomez GB, Gray E, Dybul MR, Piot P. Views of policymakers, healthcare workers and NGOs on HIV pre-exposure prophylaxis (PrEP): a multinational qualitative study. *BMJ Open*. 2012;2(4):2012-001234.
83. Underhill K, Operario D, Skeer M, Mimiaga M, Mayer K. Packaging PrEP to Prevent HIV: An Integrated Framework to Plan for Pre-Exposure Prophylaxis Implementation in Clinical Practice. *J Acquir Immune Defic Syndr*. 2010;55(1):8-13.
84. Bartholow BN, Buchbinder S, Celum C, Goli V, Koblin B, Para M, et al. HIV sexual risk behavior over 36 months of follow-up in the world's first HIV vaccine efficacy trial. *J Acquir Immune Defic Syndr*. 2005;39(1):90-101.
85. Martin JN, Roland ME, Neilands TB, Krone MR, Bamberger JD, Kohn RP, et al. Use of postexposure prophylaxis against HIV infection following sexual exposure does not lead to increases in high-risk behavior. *Aids*. 2004;18(5):787-92.
86. Enserink M. Policy Shifts on Emergency Use of Cholera Vaccines. *Science*. 2012;337(6096):785-6.
87. Aibana O, Franke MF, Teng JE, Hilaire J, Raymond M, Ivers LC. Cholera vaccination campaign contributes to improved knowledge regarding cholera and improved practice relevant to waterborne disease in rural Haiti. *PLoS Negl Trop Dis*. 2013;7(11):e2576.
88. Ivers LC, Farmer PE, Pape WJ. Oral cholera vaccine and integrated cholera control in Haiti. *Lancet*. 2012;379(9831):2026-8.

89. DRC considers cholera vaccination. IRIN Humanitarian News and Analysis. 2013.
90. Sierra Leone braces for cholera season. IRIN Humanitarian News and Analysis. 2013.
91. Prasad P. *Crafting Qualitative Research: Working in the Postpositivist Traditions*. New York: M.E. Sharpe; 2005.
92. Scheper-Hughes N, Lock MM. The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology. *Medical anthropology quarterly*. 1987;1(1):6-41.
93. Olujic MB. Embodiment of terror: gendered violence in peacetime and wartime in Croatia and Bosnia-Herzegovina. *Medical anthropology quarterly*. 1998;12(1):31-50.
94. Olujic MB. Coercion and torture in former Yugoslavia. *Cultural survival quarterly*. 1995:43-5.
95. Nordstrom C. Terror warfare and the medicine of peace. *Medical anthropology quarterly*. 1998;12(1):103-21.
96. Henry D. Violence and the body: somatic expressions of trauma and vulnerability during war. *Medical anthropology quarterly*. 2006;20(3):379-98.
97. Nguyen VK, Ako CY, Niamba P, Sylla A, Tiendrebeogo I. Adherence as therapeutic citizenship: impact of the history of access to antiretroviral drugs on adherence to treatment. *Aids*. 2007;21 Suppl 5:S31-5.
98. VK N. Antiretroviral globalism, biopolitics, and therapeutic citizenship. In: Ong A CS, editor. *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*: Wiley-Blackwell; 2008. p. 124-44.
99. Streefland P, Chowdhury AM, Ramos-Jimenez P. Patterns of vaccination acceptance. *Social science & medicine (1982)*. 1999;49(12):1705-16.
100. Streefland PH, Chowdhury AM, Ramos-Jimenez P. Quality of vaccination services and social demand for vaccinations in Africa and Asia. *Bull World Health Organ*. 1999;77(9):722-30.
101. Larson HJ, Cooper LZ, Eskola J, Katz SL, Ratzan S. Addressing the vaccine confidence gap. *Lancet*. 2011;378(9790):526-35.
102. Leaning J, Guha-Sapir D. *Natural Disasters, Armed Conflict, and Public Health*. New England Journal of Medicine. 2013;369(19):1836-42.
103. Editors PM. Health care in danger: deliberate attacks on health care during armed conflict. *PLoS Med*. 2014;11(6):e1001668.
104. Guha-Sapir D DaO. *Demographic and health consequences of civil conflict: background paper*. Washington, D.C.: World Bank; 2011.
105. Johnson DH. Briefing: The crisis in South Sudan. *African Affairs*. 2014;113(451):300-9.
106. Maxwell DS, M; and Gordon, R. Looking back to look ahead? Reviewing key lessons from Operation Lifeline Sudan and past humanitarian operations in South Sudan. 2014.
107. Ojaba E, Itto Leonardo, A. and Itto Leonardo, M. Food aid in complex emergencies: lessons from Sudan. *Social Policy & Administration*. 2002;36(6):664-84.
108. Bradbury M. Normalising the crisis in Africa'. *Disasters*. 1998;22(2):328-38.
109. de Waal A. When kleptocracy becomes insolvent: Brute causes of the civil war in South Sudan. *African Affairs*. 2014;113(452):347-69.
110. Taylor-Robinson S. Operation Lifeline Sudan. *Journal of Medical Ethics*. 2002;28(1):49-51.
111. Pinaud C. South Sudan: Civil war, predation and the making of a military aristocracy. *African Affairs*. 2014;113(451):192-211.
112. Maxwell DS, M; Moro, L; Gordon, R and Dau, P. Questions and Challenges Raised by a Large-Scale Humanitarian Operation in South Sudan. 2015.
113. Maxwell DS, M; Gordon, R; Dau, P; and Moro, L. Livelihoods, access to services and perceptions of governance: An analysis of Uror and Nyirol counties, South Sudan. 2014.
114. Adiebo KB, Luca; Zacchia, Paolo. *Public expenditures in South Sudan : are they delivering?* Washington DC: World Bank; 2013.
115. partners WaU. *South Sudan: WHO Statistical Profile*. January 2015.
116. Astill-Brown J. *South Sudan's Slide into Conflict: Revisiting the Past and Reassessing Partnerships*. 2014.

117. UNICEF. The Crises in South Sudan. UNICEF; 2014.
118. Downie R. The State of Public Health in South Sudan: Critical Condition. Center for Strategic and International Studies; November 2012.
119. Green A. The Power Struggle Was Only Beginning: In South Sudan, a failed coup, violent confusion---or the first spark of civil war? Foreign Policy December 19, 2013.
120. De Waal AM, Abdul. Breakdown in South Sudan; What went wrong---and How to Fix It. Foreign Affairs. January 1, 2014.
121. Natsios A. Lords of the Tribes: The Real Roots of the Conflict in South Sudan. Foreign Affairs. July 1, 2015.
122. Howden D. South Sudan: the state that fell apart in a week. The Guardian. December 23 2013.
123. Sudan UN-OS. Common Humanitarian Fund (CHF) - South Sudan, 2014 Annual Report. 2014.
124. Hutchinson SE. Nuer Dilemmas: Coping with Money, War and the State: University of California Press, Ltd; 1996.
125. Hutchinson SP, N. Violence, legitimacy, and prophecy: Nuer struggles with uncertainty in South Sudan. *American Ethnologist*. 2015;42(3):415-30.
126. Leonardi C. 'Liberation' or capture: Youth in between 'hakuma', and 'home' during civil war and its aftermath in Southern Sudan. *African Affairs*. 2007;106(424):391-412.
127. Grabska K. The Return of Displaced Nuer in Southern Sudan: Women Becoming Men? *Development and Change*. 2013;44(5):1135-57.
128. Smith D. South Sudan ceasefire deal signed. The Guardian. 2014.
129. Green A. South Sudan's displaced people wary of return despite aid problems in camps. The Guardian. 30 January 2014.
130. Jones S. Conditions at UN's South Sudan camp inhumane, says MSF. The Guardian. 21 August 2014.
131. Medair. Emergency Response Team: Summary Report Oral Cholera Vaccination Campaign UNMISS Tomping & UN House Juba, CES. 11th June 2014.
132. Cholera vaccines: WHO position paper-Recommendations: Vaccine. 2010 Jul 5;28(30):4687-8. doi: 10.1016/j.vaccine.2010.05.008. Epub 2010 May 16.
133. WHO. Weekly Epidemiological Record: Oral Cholera Vaccine Campaign Among Internally Displaced Persons in South Sudan. 2014;20(89):214-20.
134. WHO. Cholera in southern Sudan - update 3. 2006.
135. Sudan WaMRoS. Cholera in South Sudan - Situation Report #91 as at 23:59 Hours, 01-07 September 2014. 2014.
136. Sudan WaMRoS. Cholera in Juba, Central Equatoria State - Situation Report (Sitrep No. 1) as at 17:00 Hours, 16 May 2014. 2014.
137. Brooks J. Humanitarians Under Attack: Tensions, Disparities, and Legal Gaps in Protection. Harvard Humanitarian Initiative; 2016.
138. Outcomes H. The Aid Worker Security Database (AWSDB). 2016.
139. Stoddard AH, A and Ryou, K. Aid Worker Security Report 2014. 2014.
140. Patinkin J. South Sudan: Aid workers say they are increasingly targeted. Associated Press. 2015.
141. Rwakaringi M. South Sudan Government Says Foreign Workers Directive Misunderstood. Voice of America. 2014.
142. South Sudan U-turn on banning foreign workers. BBC. 17 September 2014.
143. Padgett D. United States: Sage. 2012.
144. Ritchie J LJ, Nicholls CM, Ormston R. . Qualitative Research Practice: A Guide for Social Science Students and Researchers. London: Sage Publishing; 2014.
145. Charmaz K. Teaching Theory Construction With Initial Grounded Theory Tools: A Reflection on Lessons and Learning. *Qualitative health research*. 2015;25(12):1610-22.

146. Denzin NK LYe. *The Sage Handbook of Qualitative Research*. Fourth ed. London: Sage Publishing; 2011.
147. Petit D, Sondorp E, Mayhew S, Roura M, Roberts B. Implementing a Basic Package of Health Services in post-conflict Liberia: perceptions of key stakeholders. *Social science & medicine* (1982). 2013;78:42-9.
148. Sudan WaMRoS. South Sudan Health Situation Report #44, 22 December 2014. 2014.
149. Sudan WaMRoS. South Sudan Health Situation Report #45, 30 January 2015. 2015.
150. Pilkington E. Haitians launch new lawsuit against UN over thousands of cholera deaths. *The Guardian*. 2014.
151. Fassin D, D'Halluin E. The Truth from the Body: Medical Certificates as Ultimate Evidence for Asylum Seekers. *American Anthropologist*. 2005;107(4):597-608.
152. Aleu P. UNMISS Destroys Weapons Seized in South Sudan Camps. Available from: <http://www.voanews.com/content/south-sudan-unmiss-weapons-destruction/2552112.html> [Internet]. 2014.
153. South sudan: Humanitarian coordinator condemns death and destruction in malakal protection of civilians site [press release]. February 2016.
154. Roberts B, Felix Ocaka K, Browne J, Oyok T, Sondorp E. Alcohol disorder amongst forcibly displaced persons in northern Uganda. *Addictive behaviors*. 2011;36(8):870-3.
155. Roberts B, Ezard N. Why are we not doing more for alcohol use disorder among conflict-affected populations? *Addiction* (Abingdon, England). 2015;110(6):889-90.