

**MEDIA FRAMING OF INFECTIOUS DISEASES IN KENYA: A CASE STUDY OF
PNEUMONIA**

BY

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DECLARATION

This research project is my original work and has not previously been presented for the award of a degree in any other university.

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This research project has been submitted for examination with my approval as the university Supervisor.

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DEDICATION

I dedicate this study to my parents, Karoli Ooko and Seline Ooko, for their invaluable support and insights provided throughout my academic journey. Your unwavering belief in me has always been my pillar of strength and source of inspiration.

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TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the Study	1
1.2 Problem Statement	3
1.3 Justification of the Study	4
1.4 Research objective	5
1.4.1 Specific objectives:	6
1.4.2 Research Questions	6
1.5 Research Significance	6
CHAPTER TWO: LITERATURE REVIEW	7
2.1 Insights into Framing Theory	7
2.2 Selection and Salience in Framing	9
2.3 Linking Agenda Setting Theory to Framing Theory	10
2.4 Cognitive Dissonance Theory	13
2.5 Newspaper coverage of health issues in Nigeria	15

2.6 Media Framing of Health Epidemics	16
2.7 Media Framing of Health Information Sources	17
2.8 Media Coverage of Health Issues in Kenya.....	19
CHAPTER THREE: METHODOLOGY	20
3.1 Research Approach	20
3.2 Research Method	21
3.2.1 Content Analysis.....	21
3.2.2 Textual Analysis	21
3.3 Population and Sampling	23
3.4 Research Instrument.....	25
3.5 Data Analysis and Presentation	25
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION ...	26
4.1 Quantitative Aspects	26
4.1.1 Frequency of coverage.....	26
4.1.2 Story Frames	30
4.1.3 Effectiveness of frames in passing pneumonia control and prevention messages.....	33
4.1.4 Sources of Pneumonia Stories	36
4.1.5 Framing of images used in pneumonia stories.....	37
4.2 Qualitative Aspects	37
4.2.1 Textual coherence of pneumonia messages.....	38
4.3 Framing of pneumonia victims	42
4.4 Summary of findings.....	44

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS	46
5.1 Action and Consequence Frames are dominant in reporting pneumonia	46
5.2 Media demean pneumonia victims	47
5.3 Pneumonia is not a priority for media in Kenya	49
5.4 Media lack of expertise in covering infectious diseases	51
5.5 Future Research	52
REFERENCES.....	53
APPENDICES	57
APPENDIX 1: CATEGORIES USED FOR CODING OF ARTICLES.....	57
APPENDIX 2: CODE SHEET USED FOR DATA COLLECTION	59

LIST OF TABLES

Table 1: Frequency of key pneumonia control and prevention messages covered.....	34
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LIST OF FIGURES

Figure 1: Frequency of Pneumonia coverage in Print Media	26
Figure 2: Frequency of Pneumonia Coverage Per year	27
Figure 3: Pneumonia Story Frames.....	30

LIST OF ABBREVIATIONS

WHO	World Health Organisation
MOH	Ministry of Health Kenya
KNBS	Kenya National Bureau of Statistics
UNICEF	United Nations Children's Fund
AWF	African Women and Features Services
KES	Kenya Shillings

ABSTRACT

This study sought to analyse print media coverage of pneumonia, as a reflection of how the Kenyan press frame infectious diseases. Pneumonia is the second leading killer disease in Kenya, claiming about 18 thousand lives each year. This ailment and other infectious diseases are largely to blame for Kenya's high child mortality, thus compromising the country's ability to attain the millennium development goals. By use of content analysis and textual analysis, the study scrutinised pneumonia stories written in four newspapers (Daily Nation, Standard, Star and East African) over a four year period, from January 2010 to December 2013. The study found that though useful, the frames used to cover pneumonia in print media - mainly Action and Consequence - are inadequate in passing across key pneumonia prevention and control messages to the public. It also discovered that pneumonia is not a priority for the country's print media, despite its severity. The study recommends an introduction of newer effective frames and strategies aimed at increasing the quality and prominence in the coverage of pneumonia and other infectious diseases in Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Despite most of the world's population living longer, sub-Saharan Africa's inhabitants still die at higher rates and at a young age. A huge proportion of these deaths are attributed to communicable or infectious diseases that the continent still grapples with (Institute for Health Metrics and Evaluation, 2010). These diseases are caused by micro-organisms - such as bacteria, parasites, fungi and viruses - and can be spread directly or indirectly from one person to another. They contribute to more than 50 percent of the disease burden in the region.

Even though many ailments fall under the category of infectious diseases, governments often focus on those that pose serious threats to their citizenry. Examples include HIV/Aids, diarrhoea, pneumonia and malaria which are responsible for most deaths in the sub-Saharan Africa (UN Inter-agency Group, 2013).

The most vulnerable to these infectious diseases are usually children below the age of five years due to their low immunity. This has indeed contributed to the high rates of child mortality witnessed in sub-Saharan African countries. Here, out of every 1000 children born alive, 98 will die before the age of five. This is more than 15 times the average for developed nations (UN Inter-agency group 2013).

The World Health Organisation (WHO, 2014) defines Pneumonia as an infection that affects the lungs. Those with the disease develop pus and fluids which fill up the lungs making breathing painful and thereby limiting oxygen intake. The disease is the single largest cause of death in children worldwide (just as in Kenya), killing about 1.1 million children under five years old mainly in sub-Saharan Africa and South Asia annually.

Pneumonia is caused by a number of infectious agents including viruses, bacteria and fungi. The ones caused by bacteria are often the most severe. The disease is transmitted mainly through air borne droplets from a cough or sneeze. Its symptoms include coughs, difficulty in breathing and wheezing. Severely ill infants may be unable to feed or drink and may also experience unconsciousness, hypothermia (cold chills) and convulsions.

While most healthy children can fight the infection with their natural defences, those whose immune systems are compromised are at higher risk of developing pneumonia (WHO, 2014). A child's immune system may be weakened by malnutrition or undernourishment, especially in infants who are not exclusively breastfed for the first six months of life. Pre-existing illnesses, such as HIV infections and measles, also increase a child's risk of contracting pneumonia. The WHO adds that the following environmental factors also enhance a child's susceptibility to pneumonia: indoor air pollution caused by cooking and heating with biomass fuels (such as wood or dung), living in crowded homes and parental smoking.

According to WHO (2014), pneumonia prevention can be achieved by immunising children against severe types of pneumonia (such as *Hib* and *pneumococcal*) as well as other diseases that can make them vulnerable to pneumonia such as measles and whooping cough. Adequate nutrition is also essential to improving children's natural defences - starting with exclusive breastfeeding for the first six months of life – which aside from preventing pneumonia also helps to reduce the length of the illness if a child does become ill.

The WHO (2014) notes that addressing environmental factors such as indoor air pollution by smoke, and encouraging good hygiene practises in crowded homes (such as hand washing with soap) also reduces the number of children who fall ill with pneumonia. Indeed, a study in

Pakistan found that hand washing with soap reduced the number of pneumonia-related infections in children under the age of five by more than fifty percent (Luby et al., 2004).

For treatment of most pneumonia cases, oral antibiotics are required and their prescriptions are often made at health facilities. Hospitalisation is recommended only for severe cases of pneumonia, and for all cases of pneumonia in infants younger than two months of age (WHO, 2014). Prompt diagnosis and treatment of the disease is crucial to prevent loss of lives as well as reducing the pool of infected people to cut transmission.

1.2 Problem Statement

Infectious diseases are largely to blame for Kenya's high child mortality rate which is at a high of 74 deaths per 1000 live births made. This figure needs to drop to 32 deaths (for every 1000 live births) to enable Kenya meet the third Millennium Development Goal (MDG) target (Kenya Ministry of Planning and Devolution, 2011).

Indeed, Ministry of Health (MOH) studies show that of all top ten causes of child deaths, five are infectious diseases - namely pneumonia, diarrhoea, HIV, tuberculosis, malaria and measles (Kenya National Bureau of Statistics [KNBS], 2003). With regards to magnitude, pneumonia ranks highest and thus requires special consideration.

The Kenya National Bureau of Statistics (KNBS, 2013) indicates that pneumonia (alone) kills approximately 19 thousand people annually. Moreover, its treatment cost can range from KES 4000 to KES 8000 in a District hospital (Ayieko, Akumu, Griffiths, & English, 2009) which is borne partly by the government and those affected.

Yet, Kenya is not doing well in some of the key interventions aimed at fighting pneumonia. The United Nations Children's Fund (UNICEF, 2014) statistics indicate that

children with pneumonia symptoms who seek medical care at health facilities are only 56 percent. Moreover, children infected with pneumonia who receive antibiotic treatment are only 50 percent. Exclusive breastfeeding rates are also at a low of 32 percent among nursing mothers. These are worrying trends.

1.3 Justification of the Study

Judging from the afore mentioned statistics, it is obvious that Infectious diseases such as pneumonia pose a huge economic burden to affected families and the government due to incurred treatment costs, as well as reduced family incomes as mothers spend so much time taking care of the ill child instead of working. Parents who lose a child due to these diseases often undergo emotional pain and suffering that may continue for years rendering them less productive. Therefore, if ignored, infectious diseases will continue draining the country's financial resources, adversely affecting its human resources, and wiping away innocent lives who are potential innovators and drivers of Kenya's economy.

Media can contribute significantly to sensitising people on pneumonia and other infectious disease interventions so as to enable the public to evade, control or manage the ailments. Torwel and Rodney (2010) note: "Print media especially perform necessary functions of providing information that will empower readers to action...[They] are an alternative source people rely on for health information about health risks, disease outbreaks, domestic and international alerts and healthy living" (p.235).

Thus, media coverage of infectious disease have the ability to push policy makers to direct all necessary efforts - such as putting in place required legislation and channelling sufficient funds - aimed at curbing these diseases. They can also make the public know where to

seek treatment or medical attention if they are already sick. The ultimate goal, as envisioned by health officials, is that mass media messages can encourage behaviour change among Kenyans that will culminate in favourable health conditions for everyone.

Yet, a 2012 study by the African Women and Features Services (AWC) found that lack of awareness on health matters amongst ordinary citizens is still a bottleneck to the country's health development. "The public is generally uninformed on what public health issues are. Many think it is a preserve of professionals, and this has made the public naïve. This problem is partly due to poor packaging and dissemination of information" (p.4).

Many scholars have argued that media rely on frames - well defined expectations - to process gathered information and package it for audiences (Goffman, 1974; Entman, 1993). Therefore, an analysis of the same is especially pertinent for better understanding of media strengths or weaknesses in coverage of health issues. This will facilitate the growth of a vibrant press that can complement the efforts of government and civil organisations in articulating health issues so as to improve the country's health indicators.

Even though studies like the AWC (2012) are important in providing an overview of how the press treats health issues in general, no studies – to the best of my knowledge – have endeavoured to analyse media framing of infectious disease issues, with a special emphasis on pneumonia – a disease responsible for majority of deaths in Kenya.

1.4 Research objective

This study sought to investigate how print media report pneumonia health concerns in Kenya. This in turn also offered perspectives into media handling of infectious diseases in Kenya.

1.4.1 Specific objectives:

- i. Determine the nature of frames media use to cover pneumonia disease.
- ii. Establish the degree of prominence given to pneumonia issues.
- iii. Discover sources the media rely on as they cover pneumonia public health concerns.

1.4.2 Research Questions

- i. Which frames do media give to pneumonia?
- ii. To what extent are frames media give to pneumonia effective in delivering information on key pneumonia prevention strategies and interventions endorsed by WHO and MOH?
- iii. What prominence do media give to pneumonia issues?
- iv. Through which sources do media get information on pneumonia?

1.5 Research Significance

The results of this study can be beneficial to policy makers, both in the government and non-governmental organisations (NGOs) who would like to develop effective communication strategies to forestall the spread of infectious diseases such as pneumonia in Kenya. It may also provide the media fraternity with broader perspectives to consider when developing infectious disease stories. Finally, findings of this study will also be useful to the research community by contributing to the body of knowledge on health communication frames – specifically for pneumonia – that lack in the country.

CHAPTER TWO: LITERATURE REVIEW

2.1 Insights into Framing Theory

This research draws its foundation from the Framing Theory, developed by sociologist Erving Goffman in 1974. It provides a systematic account of how we use expectations (frames) to make sense of daily life situations and the people in them. The framing analysis had its roots in symbolic interaction and social constructionism which both argue that the expectations we form about ourselves, other people and our social world are central to social life (Baran & Davis, 2012). Therefore, expectations we have about various health issues are very significant as they will eventually influence decisions we make on a day to day basis with regards to particular diseases or health hazards.

Baran and Davis (2012) further argue that we are not born with these expectations. They are based on previous experience of some kind - derived from the media or personal encounters. They argue that "these expectations (frames) can be quite resistant to change, even when they are contradicted by readily available information. Expectations are (also) often associated with and can arouse strong emotions such as hate, fear, or love" (p. 389). Once formed, these expectations often get applied by us without our conscious awareness. This happens especially when strong emotions are aroused that interfere with our ability to consciously interpret new information available regarding situations (Baran & Davis, 2012). It is for the above reasons that frames given by media to health issues should be scrutinised to ascertain that they promote behaviour or conditions suitable for improving health indicators.

According to Baran and Davis (2012), framing theory challenges the widely accepted notion that journalism can or should be objective. Instead, the theory implies that journalism should aim at providing a forum in which ideas about the social world are routinely presented and debated.

As it is now, the forum is dominated by social institutions (like media) having the power to influence frames routinely used to structure news coverage of the social world. These institutions are able to promote frames that serve to reinforce or consolidate an existing social order and to marginalise frames that raise questions about or challenge the way things are. (p. 397)

Indeed, Goffman (1979) had observed that most news is about frame violations. Media will tend to report deviations from what is considered 'normal' which often happen to be events that unsettle the elite or political class. By doing so, Goffman explains, they serve as protectors of the status quo. Whenever external forces threaten the status quo, news stories will provide detailed coverage of the disruption. But most importantly, as observed by (Gans, 1979), they almost always document how elites go about restoring order.

Finally Goffman argues that frames offer individuals routine patterns of dealing or making sense of happenings in the social world. Anything that causes disruption to these frames creates discomfort among people hence their resistance to change. Herein lies the problem. "We work so hard maintaining our sense of continuity in our experience that we inevitably make many framing mistakes. We literally see and hear things that aren't - but should - be there according to the rules we have internalised" (Goffman as quoted in Baran & Davis, 2009, p. 395).

This summarises the power of frames, once adopted. They have an incredible ability to make us see only what we have tuned our mind to see, thus blinding us to realities or other truths, be it in health or other social problems.

2.2 Selection and Saliency in Framing

Since its development, many scholars have expounded on various aspects of Framing Theory, especially on its relevance to the communication field. A major contributor to this field is Robert Entman. He emphasised that framing essentially involves selection and saliency.

To frame is to select some aspect of perceived reality and make them more salient in a communication text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described. (Entman, 1993, p.52)

Thus media frames attempt to define problems, diagnose causes creating those problems, make moral judgement on these causes and their effects, and suggest solutions to the problem. According to Entman (1993), a single sentence may perform more than one of these four framing functions or just a few.

Entman adds that frames have at least four locations in the communication process: the communicator, the text, the receiver and culture.

Communicators make conscious or unconscious framing judgements in deciding what to say, guided by frames that organise their belief systems. The text contains frames which are manifested by presence or absence of certain key words, stock phrases, stereotyped images, sources of information, and sentences that provide thematically reinforcing clusters of facts or judgements. The frames that guide the receiver's thinking and conclusion may or may not reflect the frames in the text and the framing intention of the communicator. The culture is the stock of commonly invoked frames. (1993, pp. 52-53)

Entman defines salience as the process of making a piece of information more noticeable, meaningful or memorable to audiences. He states that texts can make bits of information more salient by placement or repetition, or by associating them with culturally familiar symbols. He states that once a frame is widely accepted, to use another is to risk that target audiences will perceive the communicator as lacking in credibility. They may even fail to understand what the communicator is talking about. "Thus the power of a frame can be as great as that of language itself" (Entman, 1993, p.55).

Entman is however quick to argue that since salience is a product of the interaction of texts and receivers, the presence of frames does not guarantee their influence in audience thinking.

2.3 Linking Agenda Setting Theory to Framing Theory

For one to understand how framing of news issues take place in the media, it is impertinent to draw insights from the Agenda Setting Theory. According to Severin and Tankard

(2000), “the agenda-setting function of media refers to media’s capability, through repeated news coverage, of raising the importance of an issue in the public’s mind” (p.219).

The origins of this theory can be traced back to 1972 following results of studies conducted by Maxwell McCombs and Donald Shaw. The two researchers studied agenda setting in the 1968 United States (US) presidential campaigns. They focused on undecided voters in Chapel Hill, North Carolina as this category of voters is deemed to be the most vulnerable to agenda setting (Severin & Tankard, 2000).

When asked to cite major problems in the country as they saw them, a majority of respondents mentioned campaign issues that the media were emphasising at that time more than those that received less coverage. These findings underlined a very strong relationship between emphasis placed on different campaign issues by media and judgement of voters as to the importance of various campaign topics.

Iyengar, Peters and Kinder (1982) later discovered a special way through which the media have an impact on presidential elections. They noted that by setting the agenda for an election campaign, the media also determine the criteria by which presidential elections will be evaluated. Iyengar et al. (1982) called this *priming* which refers to “the process in which media attend to some issues and not others and thereby alter the standards by which people evaluate election candidates” (Severin & Tankard, 2000, p. 226).

Therefore, we can deduce that agenda setting works through priming. And it is at this point that Entman (2007) brings forth an interesting view which connects this process to framing. He notes: "Framing works to shape and alter audience interpretations and preferences through priming. That is, frames introduce or raise the salience or apparent importance of ideas...that encourages target audiences to think, feel and decide in a particular way" (p. 164).

Entman (2007) therefore argues that Agenda setting can be seen as another name for successfully performing the first function of framing: defining problems worthy of public and government attention. He further notes that the second level of agenda setting centrally involves three claims that encompass the core business of strategic framing: to highlight the causes of problems, to encourage moral judgements (and associated effective responses), and to promote favoured policies.

Hence, to successfully build the agenda for various public concerns including health issues, the media must also endeavour to prime key events surrounding those issues. However, this may also pose major challenges as at times the media may focus on just a few health interventions and ignore others that are equally important.

Entman (2007) goes further to link framing to *bias* and news *slant* by distinguishing the two terminologies. According to him, "slant characterises individual news reports and editorials in which framing favours one side over the other in a current or potential dispute" (p. 165). On the other hand, Entman states that content bias refers to "consistent patterns in the framing of mediated communication that promote the influence of one side in conflicts over the use of government power (Entman, 2007, p. 166).

In the context of health issues, slant could refer to news frames that tend to favour either victims of particular infectious diseases or official sources charged with the responsibility of addressing these health challenges. Similarly, content bias will refer to consistent framing tendencies that promote influence of disease victims or authorities (policy makers).

2.4 Cognitive Dissonance Theory

As mentioned earlier in this text, frames offer individuals routine patterns for making sense of happenings in the social world. Anything that challenges already formed frames creates discomfort in people thus making them resistant to change since they become reluctant to accepting new information. Why does this happen? To comprehend this phenomenon and understand why frames have so much influence over people's decision or interpretation of social events like health issues, one needs to analyse the Cognitive Dissonance theory developed by Leon Festinger.

Cognitive Dissonance can be defined as "the distressing mental state that people feel when they find themselves doing things that don't fit with what they know, or having opinions that do not fit with other opinions they hold " (Festinger as quoted in Griffin, 2009 , p. 205) . Festinger considered the need to avoid dissonance to be as basic as the need for safety or the need to satisfy hunger. He described it as an *aversive drive* that goads us to be consistent.

To maintain consistency in our belief systems (frames), Festinger claimed that people avoid information that is likely to increase dissonance. That is, they shy away from information that contradicts frames they are fond of. Dissonance researchers refer to this as *selective exposure*.

Not only do we tend to listen to opinions and select reading material consistent with our existing beliefs, we usually choose to be with people who are like us...(so) we can maintain a relative comfort of the status quo....(and this) buffer us from ideas that could cause discomfort. (Griffin, 2009, p. 207).

To exemplify this selective exposure hypothesis, Griffin (2009) introduces the plight of Cliff, a habitual smoker confronted by medical claims that smoking is hazardous to his health - an idea that strongly conflicts his daily smoking practise. The new frame (smoking is bad for your health) clearly contradicts his previous frame (smoking is good) thereby creating dissonance in him. To fight this discomfort, Cliff ends up lighting the cigarette and dismisses the health risks. His story underscores why it is of utmost importance for the media to 'get it right' while framing health issues. This is because once audiences have become accustomed to certain framing patterns; it becomes hard for them to easily accept future contradictions of the same.

The selective exposure hypothesis also explains why journalists rely on existing media frames to process their stories. Most of them learn these frames in school or become accustomed to them as they consume media messages. Therefore, when they join media organisations, they naturally report stories using those media frames they are already familiar with. This is especially strengthened through in-house training that advocates for the same frames. A departure from these frames will create dissonance in these journalists, hence their insistence on maintaining the status quo.

Williams (2003) sheds some light on this process:

Media organisations, like all organisations, develop techniques to transform the unpredictability of the world into a set of routines....The millions of events happening everyday around the world are the basic raw material...(They are) packaged into a number of routines (frames) for the gathering, selection and processing of news. To be newsworthy, events must be compatible with these routines" (p.108).

In summary, the selective exposure hypothesis has two components (Tan, 1984): "It predicts that we will actively avoid or that we will be less receptive to information contradicting existing attitudes, behaviours and choices. It (also) predicts that we will seek out or be more receptive to supportive information" (p.181).

Tan nevertheless observes that this hypothesis is not cast on stone as several studies have concluded that there is no evidence to support claims that people tend to avoid contradictory information (those contrary to familiar frames). In fact, Tan notes that other researchers have gone ahead and studied conditions when audiences would prefer contradictory information (frames) over supportive information. This can happen in scenarios where the contradictory information is deemed as interesting, useful in solving a problem and balanced (supporting both sides of an issue).

2.5 Newspaper coverage of health issues in Nigeria

Torwel and Rodney (2010) studied newspaper coverage of health issues in Nigeria to determine how articles are framed so as to empower readers to attain better health. Empowerment is defined "as a by-product of what happens when health articles provide readers with specific means to gain control over their health problems and actively participate in a path towards attaining better health" (Rappaport as quoted in Torwel & Rodney, 2010, p. 241). This empowerment aspect is important in the fight against infectious diseases since most of them are largely preventable. Thus, health experts aim at using media to empower the public with the intended messages in a bid to spur behaviour change and reduce prevalence of the diseases.

Results of the 2010 Nigeria study by Torwel and Rodney discovered two main framing categories used to empower readers: the "informational frame" and "medical frame". The former

was the most prominent and was used to create awareness on occasional free medical services available such as immunisation and donation of relief materials. The information frame also called for action in dealing with disease outbreaks among other health issues. Despite the already mentioned uses of the information frame, the researchers noted that it "adopted only the traditional straight news account format that merely defines issues and events without attempting to diagnose causes, make moral judgements or suggest remedies" (Torwel & Rodney. 2010, p. 244). Such an approach to news reporting may be useful while dealing with breaking news but it denies readers the opportunity to get sufficient information on health issues that would enable them make informed choices on their health behaviours.

The medical frame, based on the Nigeria study, was found to have the greatest contribution towards empowerment. "It provided information about scientific findings, medical discoveries...and discussed ailments by defining them, diagnosing causes, symptoms, treatment and preventive measures....It also helped readers to detect ailments in their early stages "(Torwel & Rodney, 2010, pp. 244-245). Such frames offer more in-depth views of health issues thereby giving sufficient knowledge to readers.

2.6 Media Framing of Health Epidemics

Shih, Wijaya and Brossard (2008) examined how print media frame health epidemics - mainly comprising of infectious diseases - such as mad cow disease, West Nile virus and Avian flu. Their case study was based on the New York Times newspaper. They found that "action" and "consequence" were the two frames commonly employed by journalists while covering these epidemics.

The researchers defined the action frame as the stories ability to stress any action against the diseases including prevention, potential solutions or strategies. But the consequence frame refers to the effects of the diseases such as the human (victims) social or economic impact (cost). "In addition to the damages, it also includes any phenomenon; social or political issues, events or discussion generated by the occurrence or spread of the disease"(Shih, Wijaya & Brossard, 2008, p. 149).

The researchers noted that the fact that these two frames appeared consistently across different diseases covered, led credence to conclusions by various scholars that journalists tend to use the same themes for stories of similar nature. This observation may reflect on some inherent weakness of media coverage of infectious diseases. As much as these ailments fall under the same category, each is unique in its own way and thus deserves special attention. In other words, while employing generalisations, the media should also endeavour to inform readers on the distinct nature of different communicable diseases like pneumonia, malaria and diarrhoea.

2.7 Media Framing of Health Information Sources

An interesting insight on media framing of health information sources was provided by Clarke (1999) whose research presented the results of a study of the images given to breast cancer in the highest circulating periodicals in the USA and Canada over a twenty year period of time.

The findings of this study were consistent to Gans (1979) claims that media frames often tend to favour the elites. In this research Clark (2009) notes:

Another outstanding feature of this literature is the stark contrast between the portrayal of doctors (elites) in general and women with cancer. Women are pictured as volatile and emotionally labile individuals who respond to symptoms such as a breast lump and to the actual diagnosis with terror - and more recently sometimes with anger and political activism. Doctors, on the other hand are pictured as rational, dispassionate yet concerned and affiliated with major research and university institutions. (p. 122)

To further accentuate the superior frames given to doctors as opposed to cancer victims, Clark (2009) observed that doctors were described as if they are above feelings and bodies since their feelings of vulnerability, weakness or dependence are never described.

Moreover, in contrast to women patients, doctors are never introduced by first name. Instead, they are (almost) always mentioned with their affiliations to research institutions or universities. This doctor -friendly frame thus seem to promote this narrative: Doctors think, research, study, find, report and announce. They are not hysterical, terrified or angry like breast cancer patients. (p. 123)

Such biased frames reduce the worth of disease victims and could dissuade those infected from developing a conqueror attitude which is crucial for the treatment and management of infectious diseases.

2.8 Media Coverage of Health Issues in Kenya

The AWC (2012) study noted that media coverage of public health issues can be considered erratic, inadequate and in certain instances a misrepresentation of facts. “Due to the profit-orientation of most media houses, they focus on what is fashionable and sensational even in health topics so as to increase sales. Real public health issues get very little coverage” (p.6). Moreover, the study found that most publications did not give people options to act on when dealing with public health problems.

According to AWC (2012), the media are not very keen on following up on public health issues, they merely offer scant information which is deemed pointless as they do not propose concrete alternatives or suggestions. The study accused media of reporting catastrophes and epidemics when it comes to public health rather than preventive reportage on these diseases before they occur.

CHAPTER THREE: METHODOLOGY

3.1 Research Approach

This study was guided by both quantitative and qualitative research approaches. According to Wilson, Esiri and Onwubere (2008), *quantitative* research is a type of research designed to yield numerical data. "It involves the collection of numerical data in order to explain, predict and/or control the phenomena of interest" (p.30). With regards to *qualitative* research, they note that it is designed primarily to yield non-quantitative or non-numerical data. "It involves the collection of extensive narrative data in order to gain insights into the phenomena of interest" (p.30).

By combining the two research approaches, this study adopted a technique known as *triangulation*. Wimer and Dominick (2000) define it within the context of mass media research as the use of both qualitative and quantitative methods to fully understand the nature of a research problem. Triangulation was significant to this study because some of its objectives were better assessed using quantitative methods such as establishing the degree of prominence given to pneumonia issues by media, discovering sources media rely on as they cover pneumonia public health concerns and determining frames used to cover pneumonia in media.

A qualitative assessment of pneumonia articles on the contrary, was useful in unearthing the 'hidden' meanings of texts which included: the implication of sentences and phrases used in pneumonia stories, the implication of frames given to disease victims and the implication of topics given to pneumonia stories.

3.2 Research Method

3.2.1 Content Analysis

The research method used in this study to yield quantitative data is known as Content Analysis. " In this very useful method of measurement, messages are examined for the occurrences of certain themes, types of language, organisational structures, language intensity, types of evidence, reasoning etc. "(Infante, Rancer & Womack, 1990 , p. 427). They note that before using Content Analysis, categories of things to look for in the message are formed ahead of time or after preliminary reading of the messages if theory does not provide guidance for the categories. This study followed these guidelines.

3.2.2 Textual Analysis

This study went further to conduct a textual analysis on selected pneumonia stories with an aim of yielding qualitative data.

Van Dijk (1991) notes that discourse analysts just as ordinary language users are primarily interested in meaning: "what is this text or talk about, what does it mean, and what implication does it have for language users" (p.111).

To understand the meaning of news texts, van Dijk (1991) explains that researchers have to analyse a text's three levels of coherence: Local, Functional and Referential. He notes that *local Coherence* refers to how subsequent propositions of the text are bound together. This basically looks at how meanings of sentences in a news story are related. The meanings in various sentences - as noted by van Dijk - may be related by time, condition, cause or consequence. For instance, the first sentence of a new story may talk of the emergency of a new

disease. The subsequent sentences may then go ahead and discuss the causes and consequence of the disease.

Van Dijk (1991) adds that propositions are also conceptually related. For instance, these two concepts: “maternity leave” and “expectant mothers” are part of the script for pregnancy related matters. Van Dijk notes that our shared social knowledge of such scripts provides the numerous missing links in a text. A writer will not need to explain the meaning of each concept as readers can infer the meaning based on previous experiences or interactions with these words. Van Dijk is however quick to caution that “this dependence on world knowledge and beliefs may also make coherence subjective and ideological: what is coherent for the journalist may not be so for all readers” (p.112). He refers to this as *referential local coherence*.

He states that propositions may also be functionally related. For instance, the second sentence in a text may have the function of paraphrasing or contrasting the first one. "Propositions in news reports are often connected by a relation of specification: more general propositions are followed by more specific ones that give further details" (van Dijk, 1991, p. 112). Indeed, this is a characteristic of the inverted pyramid in news writing where the most important information is placed at the top as other less – important facts are just used to fill the gaps in subsequent sentences.

Aside from meaning relationships between sentences in a news text, van Dijk (1991) notes that a text should also have overall semantic unity which is known as *global coherence* "what we intuitively know as themes or topic" (p.113). He argues that topics conceptually summarise a text and specify its most important information. In news discourse, this is conventionally expressed in the headline or lead paragraph (van Dijk, 1991) and it has the

potential of influencing the meanings readers will associate with a particular news text. It can also reflect the ideological disposition of the paper or journalist.

According to van Dijk (1991):

One of the most powerful semantic notions in a critical news analysis is that of *implication*...as much of the information of a text is not explicitly expressed, but left implicit. Words, clauses and other textual expressions may imply concepts or propositions which may be inferred on the basis of background knowledge. (p.113)

He notes that this feature of discourse has important ideological dimensions. Thus, "the analysis of the "unsaid" is sometimes more revealing than the study of what is actually expressed in a text. This argument further lends credence to the importance of not only looking at superficial aspects of a text (through quantitative analysis) but also attempting to scratch the surface (through qualitative analysis).

3.3 Population and Sampling

Mugenda and Mugenda (2003) defines population "as an entire group of individuals, events or objects having a common observable characteristic" (pg.9). For this study, the target population were four newspapers containing pneumonia stories: *Daily Nation*, *Standard*, *Star* and *East African*. Because it would have been problematic to analyse pneumonia stories written on all these four newspapers, starting from the year each newspaper was established (due to time, money and personnel constraints) the researcher only chose a few copies from this entire population. This is known as sampling.

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they are selected. The individuals selected form the sample and the large group from which they were selected is the population. (Mugenda & Mugenda 2003, pp. 10 -11)

Thus, to meet the study objectives, the researcher's sample comprised of the four newspapers containing pneumonia stories, published over a four year period (2010, 2011, 2012 and 2013). The year 2011 was significant as it was the year when the government of Kenya launched a pneumonia vaccine known as *PCVIS* (or *pneumococcal*) that aimed at preventing children from getting a severe type of pneumonia disease. To create awareness on its relevance and encourage its uptake, the Ministry of Health and other stake holders began organising sensitisation campaigns prior to the vaccine's launch and continued with advocacy activities several months after the launch. This period was therefore characterised with numerous print media articles focusing on pneumonia. The other three years (2010, 2012 and 2013) were selected with an aim of generating data on trends in print media coverage of pneumonia, as well as increasing the quantity of pneumonia stories to be used during data analysis so as to adequately meet this study's objectives.

There are different types of sampling methods but the one that was used in this research project is known as purposive sampling. It is a technique that allows the researcher to use cases that have the required information with respect to the objectives of his or her study (Mugenda & Mugenda, 2003). For this study consequently, the researcher only selected newspapers with pneumonia stories published from 1, January, 2010 to 31, December, 2013.

3.4 Research Instrument

Wilson, Esiri and Onwubere (2008) note that: “coding in content analysis refers to recording evidence observed in the field” (p.108). The researcher used a coding sheet to enter required information from the sampled newspapers during data collection. The coding sheet indicates the variables being investigated based on categories shown in *Appendix 2*.

3.5 Data Analysis and Presentation

Data analysis “is the process of bringing order, structure and meaning to the mass of information collected” (Mugenda & Mugenda, 2003, p. 203). Wilson, Esiri and Onwubere (2008) explain that data on their own do not make any meaning; hence they need to be scientifically processed for the decision arrived at to be meaningful. This study used mixed (qualitative and quantitative) approaches of data analysis.

The quantitative analysis of this study provides an overview of media coverage of pneumonia such as: frequency of stories, sources, frames and images used. Frequencies for the variables of interest to this study are analysed by way of descriptive statistics (counts and percentages). This information is presented in bar graphs, pie charts and tables.

The qualitative analysis on the other hand offers an in depth view of the implication of texts, words or phrases used in pneumonia stories. The information is presented in prose form.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

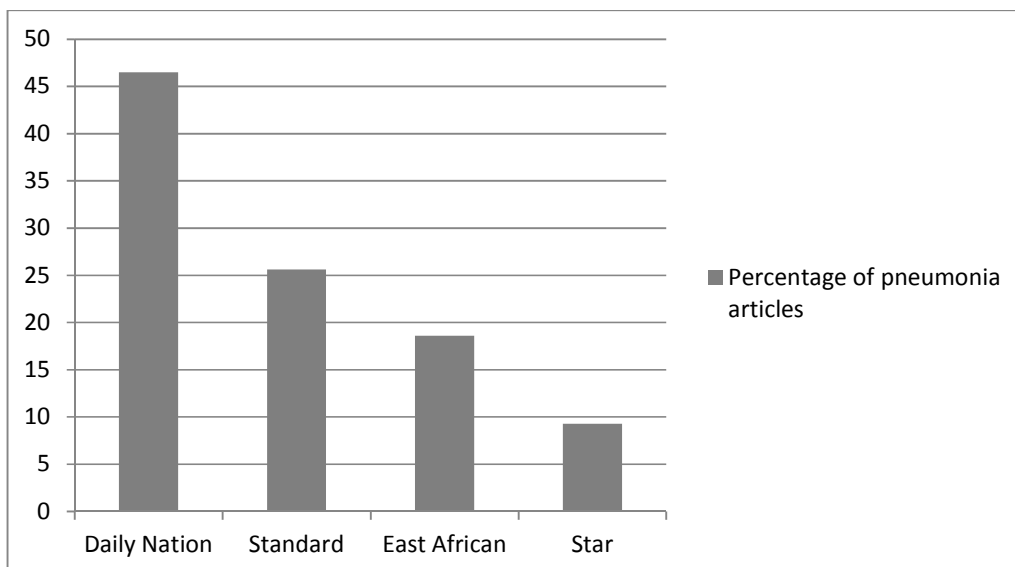
This study looked at print media coverage of pneumonia in four Kenyan newspapers over a four year period - January 1, 2010 to December, 31, 2013. During data collection, a total of 60 articles touching on the disease were identified in the *Daily Nation*, *Standard*, *Star* and *East African* newspapers. However, only 43 met the study inclusion criteria as they had substantial content on pneumonia. Those rejected only mentioned pneumonia - in passing - within stories focusing on other themes such as politics or business.

4.1 Quantitative Aspects

4.1.1 Frequency of coverage

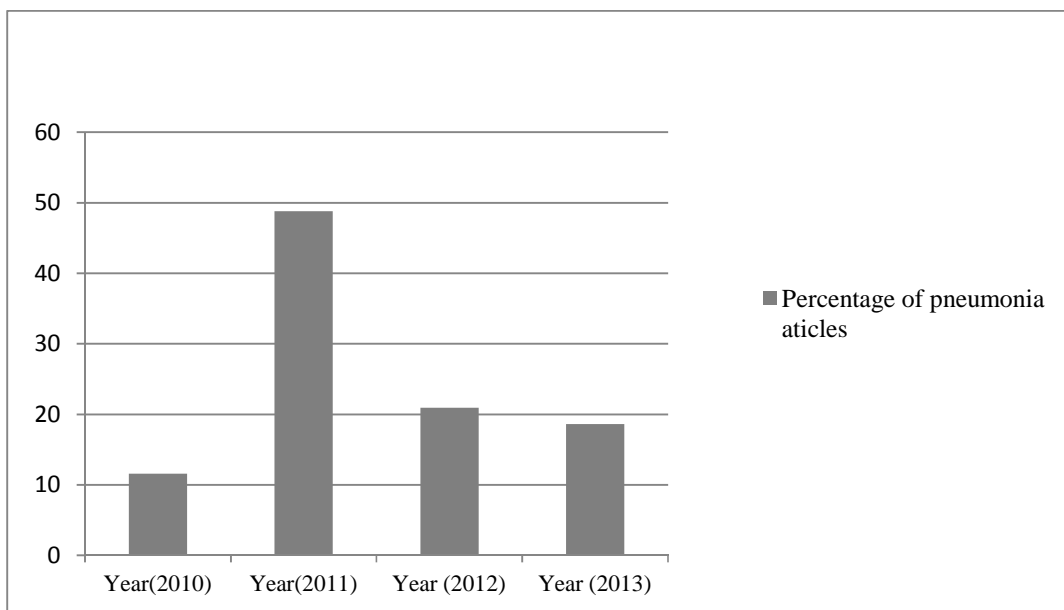
As shown in Figure 1, 46.5% pneumonia stories were from the *Daily Nation*, 25.6% stories were from the *Standard*, 18.6% stories were from the *East African* and 9.3% stories were from the *Star*.

Figure 1: Frequency of Pneumonia coverage in Print Media



The trends in pneumonia coverage over the four years kept varying. As indicated in Figure 2. The year 2011 registered the highest number of pneumonia stories at 48.8%. This was followed by 20.9% stories in 2012, 18.6% stories in 2013 and 11.6% stories in 2010.

Figure2: Frequency of Pneumonia Coverage Per year



Seeing as pneumonia is a leading cause of death in the country, the findings in Figure 1 portray a bleak scenario of its coverage in the country's print media outlets. Having only 43 pneumonia articles in a period of four years is an indication that the disease is not considered newsworthy or significant. Hence it does not warrant extensive coverage, such as that given to issues like politics in Kenya.

These findings are similar to previous studies by various scholars who have analysed media coverage of health issues worldwide. Balasegaram, Balasegaram, Malvy, and Millet (2008) investigated international media coverage of neglected tropical diseases. These are infectious diseases - just as pneumonia - that mainly afflict African and other third world nations.

The researchers conducted a content analysis of articles retrieved from online archives of 11 leading international English language media outlets. They found only 113 articles touching on infectious diseases over the four year period covered by the study. This meant that each media organisation averaged only about 10 articles for the four year study period (January, 1, 2003 to June, 1, 2007).

The increased frequency of pneumonia stories in 2011 can be attributed to the government launch of the pneumococcal vaccine (PCV 10) that year, which was aimed at protecting Kenyan children against a severe type of bacterial pneumonia. During this period, the government rolled out a massive nationwide media campaign aimed at sensitising Kenyans on the new vaccine and encouraging parents to ensure that their children receive the vaccine. These campaigns also provided the government with a platform for educating the public on pneumonia prevention, protection and treatment strategies.

The massive coverage here thus lends credence to journalists' reliance on media routines guided by news values while covering various societal events, as argued by Baran and Davis (2012). Novelty is one of the news values. Therefore, the PCV10 vaccine launch was considered as newsworthy since it was a new intervention in the fight against pneumonia. It was therefore not surprising that the coverage of the disease drastically dropped in subsequent years, once the 'thrill' passed and the vaccine launch became 'old news'.

This study also found that all pneumonia stories were tucked away in the inner pages of the newspapers analysed. None made it to the first five pages, even during the launch of the vaccine. This finding was not unique. Waithaka (2011) analysed newspaper coverage of maternal healthcare issues in Kenya for a period of six months (January 2013 to June 2013). The research concluded that maternal health issues were not considered newsworthy as only 5.3 % occurred as

a news splash or second lead story on the front page of the *Daily Nation* newspaper analysed in the study.

On the day of the vaccine launch (February, 14, 2011); the *Daily Nation* had a brief editorial story on page 12 titled "Make pneumonia vaccine available to all". This article urged the government to put in place mechanisms for the sustainable supply of the vaccine so as to meet all children's needs. Whereas this was a milestone in the fight against pneumonia disease, the vaccine launch presided over by Mwai Kibaki (the former president of Kenya) on that day, received wanting coverage in the following day's newspapers (of February, 15, 2014). For instance, the launch story was published on the last page of the *Daily Nation*. Worse still, nothing appeared in the *Standard* newspaper.

All was not lost though. Despite not including information about it on the front pages, the weekly *East African* newspaper (14th to 20th February 2011) is the only publication that gave a high level of prominence to the vaccine launch. It dedicated four pages of its *Outlook* magazine section to the new vaccine as well as other pneumonia issues.

An article on page 27 of the newspaper titled "Vaccinating Infants Lowers Risk of Infection in Adults" informed readers of the new vaccine and went further to explain why this would in turn lead to declines in pneumonia infections among adults who are not immunised against pneumonia. Moreover, there was a 'Question and Answer' article on page 28 of the paper where Dr Tatu Kamau (head of vaccines and immunisation at the Ministry of Health) shed light on the new vaccine, its cost and other strategies for eradicating pneumonia.

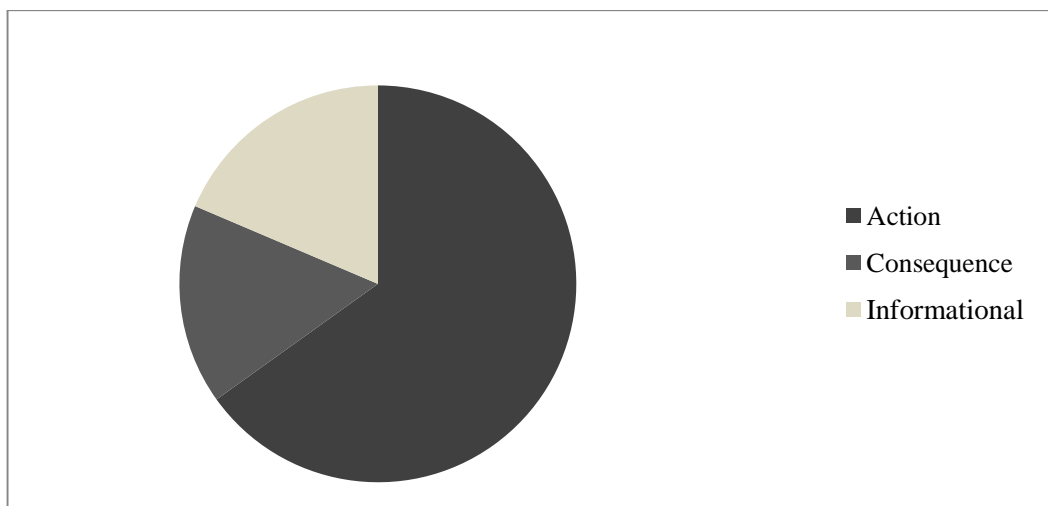
Aside from this special coverage in the *East African*, the rest of the papers just gave a straight forward breaking news story that focused solely on the launch of the vaccine and its effect on pneumonia

November 12 is World Pneumonia Day. It was therefore surprising to find that most newspaper lacked any stories about the disease on this special day. In 2010, only the *Daily Nation* published an opinion piece on the disease on page 12 of the paper. The story informed Kenyans of the soon to be launched pneumonia vaccine. The following year, only the *Star* newspaper wrote about the disease, focusing on its deadly effect on children. In 2012, the *Daily Nation* was the sole publication that wrote about the disease on November 12, thanks to an advertisement feature by the Kenya AIDS NGOs Consortium (KANCO). The scenario was dire on World Pneumonia Day 2013 where no newspaper published an article about the disease. This further show the high level of negligence accorded to pneumonia by the print media in Kenya.

4.1.2 Story Frames

Three broad frames (focus areas) did emerge from the 43 newspapers analysed. As Figure 3 shows, the **Action**, **Informational** and **Consequence** frame was present in 65.1%, 18.6% and 16.3 % of the articles respectively.

Figure 3: Pneumonia Story Frames



The **Action frame** encompasses all newspaper stories that stressed any action against pneumonia disease including prevention, potential solutions or strategies. One opinion article in the *Daily Nation* newspaper (November 11, 2010) best illustrates this through its introduction:

In Kenya, we understand how fragile life is. Too many babies die from preventable diseases that take them before they even reach the age of five. One of the biggest killers is pneumonia. But in a matter of months, we will have a vaccine that can help stop it in its tracks. (p.13)

Another one in the February, 14, 2011 issue of the East African states that to prevent pneumonia "the family should be keen on personal hygiene, for example ensuring hands are clean always"(p.28).

The **consequence frame** on the other hand was present in stories that mainly focused on the adverse effects of pneumonia, be it the loss of human lives or the disease's social and economic impact. The *Star* newspaper on November, 12, 2011 featured an article titled "Pneumonia kills 100 children daily" to highlight the devastating impact of the disease. Similarly, a story in the *Daily Nation* (May, 18, 2012) noted that more than 150, 000 children had died of preventable diseases like pneumonia and diarrhoea the previous year.

The informational frame captured stories that sought to provide balanced and in-depth knowledge about pneumonia. These stories went beyond just covering pneumonia control interventions or its consequences. They also offered additional background information - such as pneumonia's definition, symptoms and causes - that enable readers to adequately understand the disease.

A feature article in the *Standard* newspaper magazine section (May, 29, 2012) titled "Guarding against pneumonia" talks about pneumonia as a leading cause of child mortality and goes ahead to provide solutions to the problem. The writer also informs readers of pneumonia treatment and symptoms of the disease which include high fever, shaking chills and a cough with sputum.

The frames identified in this study were similar to findings of a research conducted by Shih, Wijaya and Brossard (2008). The study examined how print media frame public health epidemics such as Mad Cow disease, West Nile virus and Avian flu. Their results - yielded from stories in the New York Times newspaper - showed that action and consequence were the two most salient frames appearing in coverage of all three diseases. The researchers concluded that "the fact that some frames appeared consistently across diseases coverage resonates with the argument that journalists tend to use the same themes for stories of similar nature" (p. 155).

This argument further resonates with Goffman (1979) assertion that frames offer individuals routines patterns of dealing or making sense of happenings in the real world. In addition, Entman (1993) stated that communicators make conscious and unconscious framing judgements in deciding what to say, guided by frames that organise their belief systems. As such, it can be deduced that journalists in Kenya most probably rely on certain frames to cover health stories based on habit or how they have been socialised to cover such events.

Another study that looked at print media coverage of health issues in Nigeria (Torwel & Rodney, 2010) found two major frames employed by journalists while covering those stories - the medical and informational frame. These two frames played a key role in informing readers of the consequences, action and preventive strategies of controlling various health ailments - just as the frames identified in this study.

4.1.3 Effectiveness of frames in passing pneumonia control and prevention messages

Having identified the prevalent story frames used to cover pneumonia in Kenya, this study also sought to gauge their effectiveness in passing pneumonia control and prevention messages. The action frame plays a significant role in empowering people with information that enables them to fight against pneumonia. Without it, media would just focus on problems associated with various health ailments without offering solutions to the public. That said, this study found that the action frame, as used in the stories analysed - was inadequate in providing readers with all necessary actions aimed at controlling the disease. This is because most articles (79.1%) mainly focused on just one pneumonia prevention and control strategy - vaccination.

Whereas being immunised against pneumonic is key to reducing the pneumonia disease burden, other measures are equally important since not all types of pneumonia have vaccines. As such, the World Health Organisation and the Ministry of Health laid down six strategies that work together to reduce pneumonia infection. They include: the use of vaccines, treatment of malaria cases, preventing HIV infection, reducing air pollution, regular hand washing with soap and exclusive breastfeeding of infants for the first six months of life.

Apart from vaccines, the other five interventions or actions were largely ignored by media as shown in Table 1. This happened even in 2011 despite the fact that the Ministry brochure and posters used during the pneumococcal vaccines media campaigns stressed the importance of all six strategies in pneumonia control.

Table 1: Frequency of key pneumonia control and prevention messages covered

Messages	Number of articles	Percentages
Vaccination	34	79.1
Treatment	13	30.2
Hand washing	9	21
Breastfeeding	8	18.6
Reducing air Pollution	5	11.6
HIV prevention	2	4.7

➤ **Percentages in each column do not add up to 100 because some articles contained more than one pneumonia control and prevention message.**

The consequence frame is also important in covering health issues as it gives people the push to act. For instance, when families read in the newspaper that pneumonia is a leading cause of child deaths, then they will be prompted to act and embrace strategies aimed at protecting their loved ones from the disease. This study found that there was an overwhelming focus on death as the major impact of pneumonia in all stories that used the consequence frame. Yet, pneumonia also exerts an economic burden to families who may need to incur treatment costs and even lose their daily sources of income when forced to stay home and take care of a sick child. Equally, pneumonia being a disease of public health concern means that it exerts immense pressure on the already meagre healthcare financial resources. It is therefore important for media to highlight these issues - not only death -so as to push policy makers to step up efforts aimed at controlling the disease.

Secondly, the overwhelming focus on death as a pneumonia consequence over time creates the impression that the disease often kills its victims which is not always the case. This

may thus create unnecessary panic among those infected or affected by it. Yet, there are many survivors of the disease.

By employing the action or consequence frame, newspapers indirectly appeal to readers to make a choice between the 'gain frame' and 'loss frame'. Rothman, Bartels, Wlaschin and Salovey (2006) note that "information about a health behaviour can emphasise the benefit of taking action (i.e., a gain-framed appeal) or the costs of failing to take action (i.e., a loss-framed appeal)" (p.S 203). For instance, most newspapers emphasised the fact that failure to prevent pneumonia by vaccinating children can eventually lead to death.

By merging the two frames (action and consequence), then going further to address other pneumonia parameters such as causes or symptoms, the information frame was more appropriate - compared to the rest - in covering the disease based on the analysed newspapers. Even though it provides balanced and detailed information on pneumonia, the informational frame may prove challenging for media to use at all times due to space and time considerations especially when dealing with breaking news stories. It is no wonder only feature stories employed this frame among the stories analysed.

The informational frame best captures Entman (1993) argument that media frames attempt to define problems, diagnose causes creating the problems, make moral judgements on these causes and their effects, and suggest solutions to those problems. These four roles can be effectively achieved with adequate space and time.

However, even the action or consequence frame used in most breaking news health stories also partly meets Entman's definition of frames as he notes that media frames can perform all of the four roles or just a few. An action frame for instance, offers solutions to a problem while a consequence frame, talks of the effects of the disease.

4.1.4 Sources of Pneumonia Stories

As shown in Figure 4, an overwhelming (93%) of all stories analysed relied on authority sources for the information on various pneumonia issues. Only a paltry 9.3% of the stories captured the voices of victims of the disease. The authority sources included medical doctors, research scientists, government officials and research bodies. Since pneumonia often affects babies, mothers (indirect victims) whose children had been infected by the disease were the ones that gave an account of the effect of pneumonia on their children.

The over-reliance of authority sources once again underlines the influence of news values in the coverage of news stories. The more prominent a source, the more newsworthy he or she is considered. By relying so much on this approach, journalists covering health stories run the risk of always covering events from the point of view of authorities which may at times be misleading. This further compromises the 'balance' (of information in stories) which is another news value.

Thus Goffman (1979) argued that by reporting stories based on frames given by the elite or political class (authorities), the media serve as protectors of the status quo, always serving the interests of the ruling class.

The obsession of media with authorities also creates an impression that solutions to health problems lie solely with professional experts which is not true. Numerous studies have provided evidence to show that simple interventions such as hand washing, boiling water, maintaining a clean environment and breastfeeding can drastically reduce the burden of infectious diseases such as pneumonia and diarrhoea in developing nations like Kenya. These preventive measures can be adopted by anyone irrespective of their education level, economic or social status.

Having victims' voices in a story is important as it enables the public to verify the authenticity of statements made by authorities. For instance, as the government launched the pneumococcal vaccine and noted that it was available for all children, it would have been equally important to ascertain from families if indeed the vaccine was present even in remote health facilities.

4.1.5 Framing of images used in pneumonia stories

Fourteen out of the 43 stories analysed had images accompanying the pneumonia stories. Just as vaccination was a dominant theme in most of the stories analysed, so were the pictures showing a needle being inserted into a child's arm as the mother looked on (perhaps representing the vaccination process). The children in those images appeared to be in pain as their mothers looked on with concern. Overuse of such images frame the pneumonia immunisation process as dreadful and may thus scare children and make them fearful of hospitals. Similarly, images of mothers with children infected with pneumonia showed gloomy faces and painted a picture of helplessness which further frames pneumonia as a hopeless case.

4.2 Qualitative Aspects

Having looked at the quantitative trends in the print media coverage of pneumonia stories in Kenya, this study went further to undertake a qualitative analysis of 15 pneumonia stories selected from the initial 43 articles. This section endeavoured to unearth the meaning of texts so as to identify the hidden implications in pneumonia stories that were not out-rightly obvious during the quantitative analysis.

4.2.1 Textual coherence of pneumonia messages

The analysis in this section borrowed heavily from Van Dijk (1991) who noted that to understand the meaning of news texts and the implication they have for language users, researchers have to analyse texts at three levels of coherence: *local*, *functional* and *referential*.

Local Coherence basically refers to how meanings of sentences in a news story are related. In a story on the effect of pneumonia, the *Star* newspaper writer (November, 12, 2011) begins as follows, "pneumonia is killing 100 children daily even though existing vaccines and medicines could save many of these lives. The government said most of the affected children cannot access treatment from health facilities." Here, the meaning of the first and second sentence is related by cause. The latter seeks to explain to readers why pneumonia is killing many children. Without this connection, readers would be left in suspense. However, by choosing to make this connection, the writer seeks to create a particular frame that will influence how readers interpret the entire story. In this scenario for instance, children's lack of access to treatment in public health facilities is seen as the cause of pneumonia deaths. However, taking this as gospel truth may be misleading since it is not clear whether those facilities have the necessary medical supplies and equipment to treat pneumonia.

As Van Dijk (1991) explains, propositions in texts may also be conceptually related, requiring the reader to infer the meanings based on previous experiences or interactions with those words. This is known as *referential local coherence*. Numerous stories written about the launch of the new pneumonia vaccine (PCV10) best illustrate this point. In most instances 'pneumonia' was used interchangeably with 'pneumococcal disease'. Though the two are related, they do not mean the same thing.

Pneumococcal disease refers to a range of ailments caused by a type of bacteria known as pneumococcal. These ailments mainly include pneumonia, meningitis and ear infections. Thus by using 'pneumonia' and 'pneumococcal disease' interchangeably, the writers of these stories assumed that the readers would automatically use their background knowledge to tell the difference. This can easily happen among people in the medical field but to lay readers, the distinction may not be obvious. Therefore, the reliance on conceptually related concepts when covering science or health issues should be discouraged so as to enhance the clarity and better understanding of such stories.

While looking at the *functional coherence* of pneumonia texts, this study sought to determine how functions of different sentences in various stories were related. An analysis of news stories on pneumonia, which were many compared to feature stories, revealed that they employed the inverted pyramid approach to news writing where the most important news information came at the top while the least important ones followed at the bottom. Consequently, sentences in the latter part of stories had the function of complementing, emphasising, challenging or adding contextual background information to claims made in initial sentences.

For instance, a *Daily Nation* article (December, 1, 2011) breaks the news in its initial paragraphs noting that, “the pneumonia vaccine launched early in the year has been an overwhelming success.” Subsequent sentences talk about the type of vaccine and what it was set to achieve. They also give some background information on the cause of pneumonia and risk factors such as HIV infection. The *East African* (February, 14, 2011) had a story that cited Kenya as the first country in East Africa to receive the PCV10 vaccine under the Global Alliance for Vaccines and Immunisations (GAVI) programme. Sentences at the beginning or top of the story expounds on the impact of the GAVI programme. However, latter ones challenge the

sustainability of the GAVI funding programme, wondering what would happen if donors subsidising the vaccine for Kenya pulled out.

This textual analysis deduced that the *functional coherence* of texts was significant to ensuring a smooth flow of ideas right from the beginning until the end of the stories. However, since subsequent sentences in news stories basically expounded on important issues raised at the top of the pyramid, they at times came across as repetitive (saying the same thing only in different words). This is often a major limitation of the inverted pyramid approach to writing news stories.

The feature stories analysed were longer and more insightful. Here, the inverted pyramid approach was not employed. Stories took a narrative approach with important elements scattered throughout the text. Thus, instead of expounding on information already mentioned at the beginning of a story (as was the case with news stories) subsequent sentences in the feature introduced new information about the topic or main focus of a story. For instance, a page 26 *East African* feature (February, 14, 2011) enlightened readers on the link between the environment and pneumonia. As such, different paragraphs in the story performed the function of introducing various aspects of the environment (such as air pollution, contaminated water and untreated solid waste) that contribute to the spread of the disease. This keeps readers engaged throughout the story. The same style was used in pneumonia opinion pieces analysed.

Aside from meaning relationships between sentences in a news text, van Dijk (1991) noted that a text should have overall semantic unity which is known as *global coherence*. This is what is intuitively known as topics or themes. This has an impact on the tone of the story. It also sets the stage for how readers are likely to perceive the story.

The topics of pneumonia stories analysed were largely crafted with a positive frame based on the choice of words used. They included: “new hope for Kenyan parents over pneumonia”; “relief as pneumonia vaccine to cost less”; "now pneumonia vaccination initiative marks new dawn for Kenyan children"; "our dedication will cut pneumonia infections by sizeable margin." Such topics fill readers with optimism that pneumonia can indeed be defeated. But overusing them unnecessarily could create a false impression that all is well yet cracks in the disease management still exist.

Those topics framed negatively turned out to be the most dramatic. They included: "world losing war on virulent preventable childhood diseases"; "pneumonia still kills 100 children daily"; "pneumonia defies vaccine to kill more"; “mothers cry for help as pneumonia wipes babies out in IDP camp”. As much as negative titles highlight the importance of addressing pneumonia in the country, if overly dramatised, they may instil fear in the public whilst portraying pneumonia as a death sentence yet it can be prevented and treated.

Since topics bring about *global coherence* and semantic unity of texts, readers may end up being confused if the topic of a story differs from the actual content of the story. The *Standard* newspaper (June, 16, 2011) ran a story with the following headline, "Kenyans underestimate burden of flu, pneumonia". Yet the story went ahead to mainly talk about pneumonia vaccines. Similarly, a story in the *East African* (February, 14, 2011) was titled "striking a fatal blow at pneumonia" yet it mainly talked about a then ongoing research project that was aimed at identifying various causes of pneumonia. It is therefore prudent for print media to get it right with headlines so as to avoid misleading the public.

4.3 Framing of pneumonia victims

In this study, the researcher also conducted a textual analysis to determine how victims of pneumonia are portrayed in newspaper stories. This involved looking at the implication of certain words or phrases used to refer to direct victims of pneumonia (children infected with the disease) and indirect victims of the disease (mothers whose children had suffered from the disease). This analysis dealt solely with feature stories as this is where the victims were covered at length. News stories just focused on authorities as their source of information.

The study found that most pneumonia victims are cast under the impoverished frame based on the words used to describe them. This is how an *East African* (February, 14, 2011) feature describes the residence of a woman whose child died of pneumonia: "Jane Adhiambo lives in a small room (12 feet by 12 feet) with her husband and three children in Kibera...the room is dusty, dark and stuffy. A window at the far end barely provides enough ventilation, let alone light since it is obstructed by other houses."

Another mother in Kibera -where pneumonia is rife -is portrayed as ignorant, quick to use her doctor's advice out of context thus putting the baby at risk of pneumonia due to indoor air pollution, "the doctor said I should keep the child warm so as to prevent pneumonia. So I ensure my stove burns all day and night and that the windows remain shut..."

This is how the *Standard* (December, 3, 2012) feature defines the home of Milcah Chepkurui, a mother living with children at a camp for internally displaced people in Kiptagich where pneumonia cases were rampant, "she stares at her three tents and wipes tears before whispering how women in the camp are forced to sleep with men to earn at least Sh100 in a desperate move to get food for their children... inside her tent, *sukuma wiki* (kale) boils on firewood. She has been surviving on the meal since NGOs stopped donating food to them over a

year ago." The children suffering from pneumonia in the camp are deemed as helpless, "they wake up every morning hoping that one day the Government will listen to their plight and help their mothers lead them into a better future."

By this choice of words, writers create an impression among readers that pneumonia is a disease of the poor and down trodden in the society. As such, people outside these settings may ignore the disease at their own peril since pneumonia knows no class boundaries. Every child is at risk from it. Painting victims or their care givers as ignorant also creates a false belief that educated people are unaffected by the disease.

In fact, the *Daily Nation's* Living Magazine (February, 9, 2011) features a first person account story of a research scientist whose child was diagnosed with severe pneumonia. The child had been coughing incessantly the previous day but she took it lightly yet she is well educated.

Whereas victims are portrayed in a negative way, authorities are given first class treatment. No one invades their personal space. They also get fancy titles to further boost their credibility. They are seen as saviours of all those affected and whatever they say is not questioned in most stories. For instance, a scientist leading a pneumonia research for child health in an *East African* feature (February,14, 2011) is introduced as, "a consultant paediatrician and epidemiologist who worked in North America for 10 years before moving to Kenya two years ago." Melinda Gates, whose foundation is funding the project is introduced as, "the co-founder of one of the world's leading health and research-focused philanthropic organisation..." This additional background information is not really necessary but it serves the purpose of enhancing the credibility of authority sources.

By choosing to only elevate the status of authorities and downplay that of victims, media in a way demean victims of infectious diseases; stripping them of their dignity and making them think that solutions will often come from the so called experts. Yet, they also play an important role in the fight against infectious diseases. For instance if mothers are empowered to adhere to good hygiene and proper nutrition, then they will prevent a myriad of infections without any interventions from doctors. In this case, they are the champions and should thus be lauded by media.

4.4 Summary of findings

Only 43 pneumonia articles were found in the 1000 newspapers analysed during the study. Out of this, 46.5% of the stories were from the *Daily Nation*, 25.6% stories from the *Standard*, 18.6% from the *East African* and 9.3% from the *Star*. The trends in pneumonia coverage over the four years kept varying. The year 2011 registered the highest number of pneumonia stories at 48.8%. This was followed by 20.9% stories in 2012, 18.6% stories in 2013 and 11.6% stories in 2010. The dominant frames used to cover pneumonia in the Kenyan print media are: Action (65.1%), Informational (18.6%) and consequence (16.3%).

Among the six pneumonia control and prevention strategies endorsed by the WHO and MOH, the pneumonia stories analysed mainly focused on vaccination (79.1%) followed by treatment(30.2%), hand washing with soap(21%), breastfeeding (18.6%), reducing air pollution (11.6%), and HIV control strategies (4.7%).

While covering pneumonia stories, the print media overwhelmingly relied on authority sources (93%). Only a paltry 9.3% of the stories captured the voices of victims of the disease.

Pneumonia victims are framed as ignorant, impoverished and helpless whereas the authority sources are portrayed as intelligent and with great solutions to pneumonia.

Topics given to pneumonia stories were framed either positively (72%) or negatively (28%). Of all pneumonia stories analysed, 58.1 % were news stories while 29% were feature stories. The former employed the inverted pyramid approach to news writing where the most important news information came at the top while the least important ones followed at the bottom. The latter stories on the other hand employed a narrative approach, with important information scattered throughout the text. The narrative approach was also used in opinion pieces (5%).

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

This study looked at print media coverage of pneumonia in four Kenyan newspapers - *Daily Nation*, *Standard*, *Star* and *East African* - over a four year period from January 1, 2010 to December, 31, 2013. The major conclusions and recommendations arising from the study are discussed below.

5.1 Action and Consequence Frames are dominant in reporting pneumonia

As this study discovered, pneumonia stories were covered mainly using the action, consequence and informational frame (combination of the latter two frames). The action frame focused on any action against pneumonia while the consequence frame focused on the effects of the disease. The recurrence of these similar frames in four different newspapers means that media may be - knowingly or unknowingly - encouraging the public to think, feel and decide in particular ways (Entman, 2003) when confronted with pneumonia issues. But the public cannot only be made to think about the consequences of infectious diseases or actions against them as this leaves out other important elements in the fight against these ailments.

Media should thus aim at developing newer frames for covering infectious diseases. An example would be the 'follow-up' frame where journalists write stories that monitor the progress of various infectious disease interventions. So, if a vaccine against a disease is launched, journalists should seek to find out if it was successful in bringing down the prevalence of that specific disease. Similarly, a 'reality-check' frame would also be important. This would allow journalists to question the practicability of certain actions aimed at curbing infectious diseases. For instance, timely diagnosis and treatment is important for preventing deaths caused by severe pneumonia. But this intervention can only make sense among communities living next to

functional health facilities that are also well stocked and equipped. It will be difficult to sell this intervention to families living in marginalised areas that need to walk for hours over long distances to health facilities that cannot adequately handle pneumonia cases.

As frames offer individuals routine patterns for making sense of happenings in the social world (Goffman, 1979), media also regularly use certain set frames to process and determine angles that infectious disease stories will take. While this makes their work easier, it also blinds them to emerging frames that may be appropriate or better than the conventional ones. Judging from the tenets of Leon Festinger's Cognitive Dissonance theory (Griffin, 2009); a habit once formed is difficult to change. It will thus be an uphill task for journalists to adopt new frames and discard the ones they have always used as this requires a new thinking approach. However this can be achieved through training and exposing journalists to emerging appropriate frames.

5.2 Media demean pneumonia victims

Judging from news stories analysed in this study. Infectious disease victims (direct or indirect) are framed as impoverished, ignorant and helpless. Babies who get pneumonia in these stories as well as their mothers or caregivers live under deplorable settings and conditions. As this happens, most stories rely on authority resources that are glorified as having the expertise and knowledge to deal with infectious diseases. They thus come across as more superior than the infectious disease victims.

These contrasting scenarios create a false impression that infectious diseases like pneumonia are ailments that affect the poor who cannot do anything to change their circumstances. They have to rely on the elite (authorities) to solve their problems. Such assumptions are wrong for two reasons. First, infectious diseases are a threat to everyone

irrespective of their social status (Institute for Health Metrics and Evaluation, 2010). Media should thus include all these categories of victims in their stories so that the entire public can accord these diseases the seriousness they deserve. Secondly, authorities such as doctors that address infectious disease challenges are not always right. A disease like pneumonia has very many causes that doctors may not even be aware of. As Eddy (2005) states, “the causative organisms for pneumonia vary with age, comorbidities, severity of disease, clinical setting, and geographic location. In many cases, an etiology of pneumonia cannot be identified at all” (p.2). At times, despite knowing the cause, doctors can prescribe the wrong type of medication and harm the patient.

Stories written about infectious diseases should therefore aim at representing the two parties (authorities and victims) with dignity. They should portray an atmosphere of inclusivity where authorities work together with victims to address infectious disease problems. This is the reality on the ground. For instance, a doctor may prescribe antibiotics for the treatment of pneumonia, but if the patient (victim) refuses to take them, infectious diseases will absolutely soar high. So, there is a part that doctors play and another that victims play.

It is in this regard that in 2005, the government of Kenya rolled out the community health strategy (Ministry of state for Planning and National Development, 2012) which aims at empowering communities to take charge of their health. Through this approach, communities are motivated to adopt healthy practises such as good hygiene, breastfeeding and environmental cleanliness. By doing so, communities can prevent a myriad of infectious diseases on their own and never end up in hospitals to seek solutions from the doctors (authorities). In this case the communities are actually the winners, and such positive stories should also be covered by media.

5.3 Pneumonia is not a priority for media in Kenya

Based on this research, it is obvious that pneumonia and other infectious diseases are not priorities in the media. Having only 43 pneumonia articles in four newspapers over a four year period is a worrying trend that needs to be addressed, especially since pneumonia is a leading cause of death in Kenya. Thus by ignoring it, media contribute to denying Kenyans their constitutional right to health and life.

As observed by AWC (2012), public health issues are not a priority for the press as most media houses in the country are primarily profit making organisations. They will hence engage in issues that are of great interest to the public such as politics so as to increase their audience base and attract advertisements.

Even though media claim to be responding to people's needs or demands when they focus on political stories, this can easily change as it is the same media that create an appetite for such stories through their agenda setting role (Severin & Tankard, 2000). The more Kenyans are fed on politics by media, the more hunger they will have for such stories. Consequently, if media begin to raise the prominence of public health concerns, then it is highly likely that the public will develop an interest in such matters. These health issues have the potential to appeal to a large audience as death - mainly caused by disease - is an eventuality that human beings would like to delay as much as possible. They will thus be keen on information that can make them achieve this goal.

Since media have for a long time focused on political issues as newsworthy events, a change in media structure and leadership will be necessary to change this culture. For instance, editors who understand the contribution of health to a country's development should fill newsrooms since they will motivate interested reporters to write on health issues. Without this,

'old guards' will keep ignoring health stories whilst rewarding only those journalists with political stories. In line with this, editorial policies should be revised to set aside space for health stories in newspapers, as well as establish news desks or departments dedicated to science and health reporting.

Balasegaram, Balasegaram, Malvy, and Millet (2008) found that journalists thrive on new developments on issues. This can also explain the minimal coverage given to infectious diseases by media, as rarely are new developments in the fight against them communicated. This study found that there was an influx in pneumonia stories in 2011 compared to 2010, 2012 and 2013. The extensive coverage was driven by the launch of a pneumonia vaccine that year (2011). This was something new hence of interest to media. As such, health institutions should aim at regularly furnishing media with new information about infectious diseases so as to increase their coverage. In addition to this, they should organise news events whenever they make any new announcements on infectious diseases as this attracts the attention of media. Few journalists will go out of their way to look for health stories as it is a cumbersome and long process that involves calling and booking appointments even when stories have tight deadlines. News events make work easier for journalists, as they get all information they require in one location. This also enables them to access all required news sources in one place.

Politicians are fond of organising news events and making announcements on new political developments almost on a daily basis. They are also 'darlings' of journalists as no matter what time one calls them, they will be willing to provide the required information by journalists. This is a major contributor to the high press coverage media give them.

5.4 Media lack of expertise in covering infectious diseases

It is evident from this study that media sensationalise health stories at the expense of delving deeply into various issues surrounding infectious diseases. Almost all stories analysed in this study mentioned the thousands of lives claimed by the pneumonia each year. Whereas focusing on the deadly impact of infectious diseases serves to highlight the severity of these ailments, repeating these figures each time a story is written on a particular illness instils fears among readers and paints an image of a problem that cannot be solved.

Distorted journalistic reports can generate both false hopes and unwarranted fears. For instance, when a finding is reported in a sensational way, the results may create a national media feeding frenzy.... in some cases, it is easier for journalists to report superficial controversies than to conduct and report deeper analyses of complicated and substantive problems. (Ransohoff , 2001, p.185).

It would be prudent for media to stop their obsession with dramatic or shocking details of a disease, and instead focus on other impacts such as the effects of a disease to the economy or family livelihoods. Instead of framing impacts of diseases negatively (in terms of what we stand to lose), they can be framed positively (in terms of what we stand to gain).

Media predominantly focus on certain health themes while covering infectious diseases. This study found an overwhelming focus on vaccination at the expense of other pneumonia control and prevention strategies. This could be an indication of the lack of sufficient knowledge about various illnesses that journalists report on as found by AWC (2012). This challenge can be addressed through capacity building and having training workshops that sensitise media on various health issues.

But for these workshops to have an impact, they should target selected journalists who have a proven interest in, and passion for covering health issues. This can be done by making the selection process competitive, and encouraging all interested journalists to apply. The organisers of such workshops should also be certain that the incentive pulling journalists to such workshops is the desire to learn and not per diems (financial allowances) often given to participants during those trainings.

5.5 Future Research

This study only looked at print media coverage of one infectious disease - pneumonia - in Kenya. As this cannot provide a full picture of how communicable diseases are treated by media, the researcher recommends future studies focusing on the wide array of infectious diseases in Kenya such as malaria, tuberculosis and diarrhoea. Moreover, this study analysed pneumonia stories in newspapers to determine how they are covered. Future studies can look at coverage of infectious diseases in the electronic media (radio and television), then go further behind the scenes to interview media practitioners and determine why they cover infectious diseases in certain ways.

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APPENDICES

APPENDIX 1: CATEGORIES USED FOR CODING OF ARTICLES

	CATEGORIES	DETAILS	CODES
1.	Date	The day, month and year when the article was published	
2.	Page Number	Indicate the page where the story was placed.	1,2,3,4,5 etc
3.	Key word	Key word used in the analysis (as indicated in the topic).	Pneumonia – K1 Infectious Disease - K2
4.	Source	Where information given on pneumonia originates from.	Authorities - S1 Victims -S2 Others – S3
5.	Story Frames	<ul style="list-style-type: none"> • <i>Consequence</i>: Effects of the diseases, such as human life, social or economic impact. • <i>Action</i>: Any action(s) against the disease, including prevention, potential solutions or strategies. • <i>Informational</i>: Encompasses the action and consequence frame, as well as other background information on pneumonia. 	Consequence - F1 Action – F2 Conflict - F3
6.	Sources Frames	<ul style="list-style-type: none"> • Ignorant: Lack of knowledge, education, or awareness. • Impoverished: Lacking financial or other resources that prevent or minimise effect of pneumonia. • Helpless: Ill prepared to confront pneumonia disease hurdles 	Ignorance – G1 Impoverished – G2 Helpless – G3 Others – G4

7.	Key Health messages	Pneumonia interventions mentioned in the story	Vaccination – M1 Treatment – M2 Hand Washing with Soap – M3 Exclusive Breastfeeding - M4 Eliminating household air pollution – M4 Hiv prevention strategies - M4 Others - M5
8.	Pneumonia pointers	Background information on pneumonia	Definition – P1 Symptoms – P2 Causes – P3
9.	Story Treatment	Indicate the way that the story is written: <i>News:</i> Any story that emphasizes facts of a recent event. Often uses a straight news or inverted pyramid style of writing. <i>Feature:</i> longer, more insightful tone; covers referendum issues in more depth, tell a story rather than just regurgitate a series of facts. <i>Opinion:</i> Any story that offers a first-person opinion or is a stated opinion of the newspaper.	News - T 1 Feature – T2 Opinion - T3
10.	Graphic	Define the type of graphic used	Picture - G1 Graph - G2 Illustration – G3 Cartoon - G4 Pie Chart - G5

APPENDIX 2: CODE SHEET USED FOR DATA COLLECTION

CATEGORIES	Date	Page Number	Key word (Topic)	Source	Story Frames	Sources Frames	Key Health messages	Pneumonia pointers	Story Treatment	Graphic
CODES										