

SURVEILLING WOMEN'S BODIES IN PURSUIT OF FETAL ANATOMICAL
NORMALITY: FRAMING RISK AND
RESPONSIBILITY IN AMERICAN PRINT NEWS
COVERAGE OF THE ZIKA VIRUS

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ANATOMICAL NORMALITY: FRAMING RISK AND
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COVERAGE OF THE ZIKA VIRUS

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ABSTRACT

In 2015, the mosquito-borne Zika virus made international news as it spread rapidly across northeastern Brazil. These stories were not fundamentally concerned with Zika virus infection itself. The primary focus of the news coverage in 2015 into 2016 was upon the prenatal transmission of Zika virus due to an association between maternal infection and congenital neurological disorders, specifically microcephaly. For many, scientific and medical literacy and understanding comes from press coverage. As such, it is important to understand risk communication because it can persuade individuals to direct attention and concern towards certain contexts and modify behavior in order to reduce risks. Given this, this thesis discusses the impact of health communication regarding the Zika virus. Specifically, I conducted a paired content and discourse analysis of media frames in order to answer the following broad questions: (1) What threats does Zika pose and to whom? (2) What are the organizational-level responses to Zika?; and (3) What are the suggested individual-level responses and to whom are they oriented. I coded 50 articles from American

print news coverage of the Zika virus using seven frames: conflict; uncertainty/new evidence; metaphors; human impact; strategy/action; attribution of individual-level responsibility; and morality. Based on this analysis, I found that the majority (58%) of articles focused on the impacts of Zika on fetal development rather than the impact on human health in general. Yet when journalists construct four primary risk groups (people in general, various categories of women, travelers, and offspring), women are almost twice as likely to be described as victims of a Zika virus infection than fetal or juvenile subjects. Regulatory power is enacted through coercion in the form of approach- or avoidance-based instructions for self-regulation. As anticipated, women are the primary target for both medically-oriented and reproductive instructions, and the majority of these directives are concerned about what women as maternal bodies should or should not do.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the College of Arts and Sciences have examined a thesis titled “Surveilling Women’s Bodies in Pursuit of Fetal Anatomical Normality: Framing Risk and Responsibility in American Print News Coverage of the Zika Virus,” presented by Catherine Thompson, candidate for the Master of Arts degree, and certify that in their opinion it is worthy of acceptance.

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CHAPTER 1

INTRODUCTION

While people with disabilities have little power in the social world, their identities possess great theoretical power because they reflect perspectives capable of illuminating the ideological blueprints used to construct social reality. Disability identities, because of their lack of fit, serve as critical frameworks for identifying and questioning the complicated ideologies on which social injustices and oppression depend (Siebers, 2008, p. 105).

In 2015, the mosquito-borne Zika virus made international news as it spread rapidly across northeastern Brazil. These stories were not fundamentally concerned with Zika virus infection itself. For one, the virus was first identified in humans in 1952 and an outbreak had occurred on the Pacific island of Yap in 2007. Secondly, Zika infection is typically asymptomatic, and symptomatic disease is relatively minor (equivalent to a common cold or mild flu). The most serious side effect of Zika infection in adults is Guillain–Barré syndrome—a rare autoimmune disease that damages the peripheral nervous system by initially causing pain, weakness, and tingling in the face and/or extremities before potentially paralyzing the whole body in the most extreme cases. But the coverage was not focused upon this rare—but horrifying—disease either. The primary focus of the news coverage in 2015 into 2016 was upon the prenatal transmission of Zika virus as there was an association between maternal infection and congenital neurological disorders, specifically microcephaly. Microcephaly is a medical condition in which the circumference of the head is smaller than normal because the brain has not developed properly or has stopped growing. Children born with microcephaly can suffer from loss of hearing or vision, seizures, and experience cognitive, speech, and motor developmental delays. As “Zika babies” with “shrunk skulls” made headlines, so did the advocacy of preventative measures and therapeutic interventions.

Provided the experience of sickness and health are socially constructed, it is worth noting that journalists' reports of the Zika virus both reflect and reinforce medicalized conceptions of illness and disease. Journalism serves a critical role in mediating information between experts, politicians, and the public, thus warranting the need to critically examine the degree to which the biomedicalized discourse is transported through national print news media. In particular, this study emphasizes the ways in which the creation and distribution of medical knowledge bring new biomedicalized subjectivities to life, and in so doing make individuals responsible for their own health and the management of risks.

Accordingly, I conducted a paired content and discourse analyses of media frames early in the emergence of the Zika virus. I sought to answer the following broad questions: (1) What threats does Zika pose and to whom? ; (2) What are the organizational-level responses to Zika? ; and (3) What are the suggested individual-level responses and to whom are they oriented? Fifty articles were sampled from American print news coverage of Zika between January 1, 2015 and July 31, 2016; this date range was selected based upon momentous events in the Zika virus trajectory of particular importance to the United States. The study sampled articles from the top four newspapers by circulation (listed in order): USA Today, Wall Street Journal, the New York Times, and LA Times. Additionally, I selected articles from one of the most popular online news sites (Yahoo News) in order to account for digital news consumption. Codes were developed from previous frame-related research along the lines of seven frames: conflict; uncertainty/new evidence; metaphors; human impact; strategy/action; attribution of individual-level responsibility; and morality.

The human impact frame specifically locates the ways in which news media report the impact of Zika virus on human health. This frame helps us capture the essence of why

Zika matters, of identifying “the problem.” I coded the articles for descriptions of the effects of Zika on human anatomy, and the stated effects were grouped dichotomously by stages of lifespan development. On one hand, the articles note the effects of Zika virus in adults by reporting the symptoms, or lack thereof, of Zika virus infection or situations in which the disease has resulted in serious disease outcomes or death. On the other hand, is the impact of Zika on fetal development

In describing the impact of Zika on human health, journalists disproportionately emphasize the effects of Zika on fetal development compared to effects on health in general. Analysis revealed that the real concern surrounding Zika is not the infection itself, but the impact the infection has on a developing fetus. True, people fretted over contracting the virus in general, but the relative lack of concern regarding Zika infection itself is further apparent in the language used to describe birth outcomes associated with Zika virus infection compared to descriptions of Zika virus disease itself. For example, birth defects associated with Zika are repeatedly characterized as “severe”, “tragic” and “heartbreaking” whereas the experience of Zika virus infection in general is explicitly noted to be mild and temporary.

It is imperative to ask, “For whom is intrauterine Zika infection heartbreaking and tragic?” In addition to identifying the threats posed by Zika, journalists report specific risk factors; when reporting risk factors, specific groups are often conceptualized as “victims of the Zika virus.” Interestingly, offspring only comprise about one-fifth of the subjects identified most at risk or in need of protection. Although women are just as likely to be considered at risk as travelers and people in general, they are most twice as likely to be described as victims of a Zika virus infection than fetal or juvenile subjects, and more than four times as likely than men, families, couples, and partners of women combined to be

labeled at risk. Notably, most of the female bodies under scrutiny are women as maternal subjects, and pregnant women especially are described as being at risk.

Many journalists' reports on Zika rely on a medical model of disability, disproportionately locating the problem in the bodies of current and future children rather than upon the social structures that render disabilities problematic. The medical model of disability posits that people are disabled by impairments whereas a social model would examine the ways in which the organization of society places barriers in individuals' lives; as such, the medical model advocates for medical interventions instead of collective or social solutions (Conrad 2007). Roughly one-fifth of the organizational actions and strategies focus on the management of mosquitos, whereas 78% emphasize the need to understand, monitor, manage, or treat the virus in individuals or populations. Although children born with microcephaly can and do thrive with access to healthcare, under one-tenth of organizational actions and strategies call for an expansion of access to healthcare or treatment after birth. At no point is it suggested these children should be born despite an increased need of supportive services. Rather, the proposed solution is to track the virus in humans, boost biomedical research, and advocate the need to prevent the birth of children born with microcephaly at all costs.

On the surface, the desire to prevent intrauterine transmission is an altruistic expression of pity, but it is also quite likely the motivation stems from our general discomfort in dealing with people who do not "fit into the standard categories of anatomy and identity" (Dreger, 2004). Moreover, it is important to note the ways in which these public health campaigns, especially those which are reproductively-oriented, are grounded in "judgements of value concerning certain features of the bodies and capacities of citizens" (Rose, 2007, p.

74). In addition to revealing constructions of disease, the framing of Zika virus prevention and treatment displays the gendered distribution of responsibility regarding the health of children.

Since women are positioned as the symbolic and literal producers of tomorrow's citizens, they often become the target of state-based health campaigns whilst men are portrayed as secondary to reproduction. Noteworthy, the bodies of all women, not just pregnant women are subject to policing because any female body is constructed as a maternal body. Thus, all women of childbearing age became the primary target of public health campaigns. Since biomedicalized subjectivities are responsible for their own health and the management of risks, journalists transport guidance from health organizations through various methods.

In order to encourage readers to modify their behaviors in order to reduce risks, journalists rely on three strategies: fear mongering, framing the management of Zika as moral obligation, and explicitly mentioning expert-endorsed directives. Although Zika-carrying mosquitos are not discriminatory; infection is associated with various side effects and symptoms; and the virus can be sexually transmitted by men and women, journalists largely frame Zika as a story about current or future fetal development and the maternal (or potentially maternal) bodies in which this process takes place.

I go into this research guided by the impetus to raise questions about the about the medical model of abnormal anatomies and the degree to which "compulsory motherhood" exercises control over women's lives. Moreover, it is critical to note the ways in which a shift towards a social model might alter the subjective experience of pregnancy and the lives of individuals with anomalous bodies. Lastly, it is necessary to critique the biomedicalized

regulation of women's bodies because although a woman *can* provide a container for a developing fetus, she is an autonomous individual who should be liberated from the dogmatic triad of womanhood, motherhood, and morality.

CHAPTER 2

REVIEW OF LITERATURE

Medicalization and Biomedicalization

While it is true that illnesses, diseases, and disorders have a biological component, medical knowledge and the experience of sickness and health are socially constructed (Berger & Luckman, 1996). Depending on what gets constructed as sick and what is considered a routine part of life, an individual may be healthy in one culture but sick in another (Westermeyer & Janca, 1997). Additionally, there are cultural variations in explaining the causes of maladies, how individuals seek treatment, and the type of treatment one receives (Fadiman, 1997). Two processes central to a sociological discussion of transformations in health and illness are medicalization and biomedicalization.

The term medicalization emerged in the 1970s when Ivan Illich (1976) and Irving K. Zola (1972) used the term to describe the expansion of medical jurisdiction over an increasing range of human conditions, processes, or behaviors. Previously non-medical experiences came to be defined as medical problems, typically in terms of illnesses or disorders. For example, issues that were once perceived as legal or moral problems—such as homosexuality or addiction—came to be treated as medical conditions. The medical model is particularly problematic because it locates problems in the bodies of individuals rather than the social context (Conrad 1980, 2007). The medical model of disability posits that people are disabled by impairments whereas a social model would examine the ways in which the organization of society places barriers in individuals' lives. It then comes as no surprise that the medical model advocates for medical interventions instead of collective or social

solutions (Conrad 2007). A social model of disability contends that barriers are not purely physical so society should be restructured in order to provide more equal opportunities as well as reduce disablism. The medical model states that individuals with impairments should seek medical interventions even if they do not experience pain or illness.

Medical categories are not static; they can expand or contract. ‘Diagnostic expansion’ refers to the process whereby an established condition incorporates new or similar disorders or when a definition includes “additional populations beyond what were designated in the original diagnostic formulation” (Conrad, 2007, p. 47). For example, in the 1980 third edition of the Diagnostic Statistical Manual of Mental Disorders (DSM-III), post-traumatic stress disorder (PTSD) was added to describe the response to catastrophic stressors such as war, torture, rape, and natural or manmade disasters (Friedman, 2016). The DSM-III diagnostic criteria for PTSD were modified in 1987, 1994, and 2000 to include a more comprehensive set of experiences (Friedman, 2016). In addition to expansion, medicalized categories can contract or become demedicalized. Demedicalization occurs when a problem loses its medical definition and the involvement of medical officials is no longer necessary or appropriate (Conrad 1992, 2007).

There are two divergent perspectives when explaining the promulgators of medicalization: on one hand, medicalization is the product of “medical imperialism”. On the other, it is the result of an interactive process in which medical professionals can take on many different roles (Conrad 1992, 2007). Using medical terminology to describe a condition is fundamental to medicalization (Conrad 2007, 1992). Consequently, this necessitates a discussion of social control for knowledge and power are inextricably related (Foucault, 1995). Medical ideology “involves defining a behavior or condition as an illness primarily

because of the social and ideological benefits accrued by conceptualizing it in medical terms” (Conrad & Schneider, 1980, p. 245).

In *Discipline and Punish*, Foucault (1995) contends that modern society is a disciplinary society. In contrast to pre-modern society in which power was enacted in highly visible and corporeal ways, such as public torture, discipline in modern society involves the subtle regulation of thoughts and behavior through perpetual surveillance, classification, and judgment. One way that this power operates is through discourse and knowledge tied to institutions of power. Disciplinary knowledges are scientific truths about the body which, through the establishment of various techniques and procedures, produce “docile bodies”. Three technologies which enable the production of docile bodies are: hierarchical observation, normalizing judgment, and examination. Hierarchical observation is the bureaucratically-organized ability to observe an institution’s subjects. Normalizing judgement creates a standard against which all individuals are measured. It defines limits and differences that will not be tolerated. Examination is the incessant process through which the body is gazed upon and makes it possible to qualify, classify, and punish (Foucault, 1995). Medicalization defines “what is ‘normal’, expected, and acceptable in life” (Conrad, 2007, p. 149), in turn justifying medical interventions with those who diverge from these standards.

Historically, physicians and other medical professionals have been the main proponents of medicalization. Medicine is able to be a structure of power through its connection to the law and financial institutions. Moreover, the cultural authority of science enables the medical profession and medical experts to have a monopoly on almost anything associated with “health” or “illness” (Conrad & Schneider 1980, Conrad 1992). Once medical models become dominant, “they diminish competing definitions. Consequently,

most decisions regarding diagnoses and treatment have been regulated almost entirely by medical professionals (Conrad & Schneider 1980). Though medical professionals, social movements, and interest groups were originally depicted as the primary movers of medicalization, starting in the 1980s “changes in medical knowledge and organization have engendered an important shift in the engines that drive medicalization” (Conrad, 2005, p. 3). This time saw an erosion of medical authority as the drivers of medicalization shifted to consumers, managed care organizations, and biotechnology.

Biomedicalization

The process of medicalization has expanded in such a way that social scientists have termed this new process, biomedicalization— “the increasingly complex, multisited, multidirectional processes of medicalization that today are being both extended and reconstituted through the emergent social forms and practices of a highly and increasingly technoscientific bio-medicine” (Clarke et al., 2003, p. 162). Biomedicalization builds upon the concept of medicalization with a specific focus on the increasingly symbiotic relationship between science, technology¹, and the production of medical knowledge in modernity—a process referred to as ‘technoscientization’ (Clarke et al., 2003). Clarke and Colleagues (2003) list five key interactive processes of biomedicalization:

Expanding technoscientific practices includes things such as computerization and data banking. A data bank is an organized collection of data on one or more subjects—stored for a specific purpose—which helps aggregate big data efficiently. According to the report by Global Market Insights, Inc. (2017), the annual growth rate of the health care analytics market is expected to exceed 12% over the period of 2017-2024. In the United States, much

¹ Whereas science is a method for gathering knowledge on a particular subject, technology is the practical use of science for various purposes.

of this growth is due to the increased acceptance of electronic health-record systems (Sinha, 2017). Computerization enables more aspects of life to be “scrutinized, quantified, and analyzed for their relationships to health and disease” (Clarke et al., 2003, p. 173), because “population-based analytics are used to suggest improvements to individual care” (Health Catalyst, 2018). Furthermore, the expansion of computer and information sciences have amplified the role of molecular biologies² in the transformation of biomedical sciences. Genetic innovations are used to identify individuals at increased risk of various illnesses (Adele E. Clarke, Shim, Mamo, Fosket, & Fishman, 2003; Wailoo & Pemberton, 2006)

Transformations in the production, distribution, and consumption of medical knowledges is another central process of biomedicalization. Whereas medicalization largely emphasizes top-down control over the production and distribution of medical knowledge, the production and transmission of health and medical information is altered in the biomedical framework. Notably, the Internet and mass media have revolutionized the production of and access to health-related information. Conrad (2007) writes, “The widespread popular acceptance of entities as illnesses suggests a “feedback loop” among professionals, claim-makers, media, and the public in terms of the creation, expansion, and application of illness categories.” (p. 67). Additionally, interventions themselves are no longer exclusively initiated by medical professionals; instead, medicine is increasingly market-driven (Clarke, Shim, Mamo, Fosket, & Fishman, 2003). The development of new technologies and advertising increase consumer demand of medical interventions (Conrad 2007). Drug

² In fact, one theme of biomedicalization is molecularization—the conceptualization and surveillance of human life at the molecular level (Oudshoorn, 1994). Rose (2007) states that biomedicine “envisages life at the molecular level, as a set of intelligible, vital mechanisms among molecular entities that can be identified, isolated, manipulated, mobilized, recombined, in new practices of intervention, which are no longer constrained by the apparent normativity of a natural vital order” (p. 5-6).

companies have become powerful agents of biomedicalization. Williams and colleagues (2009) use the term ‘pharmaceuticalization’ to describe “the transformation of human conditions, capacities or capabilities into pharmaceutical matters of treatment or enhancement” (p. 37). Pharmaceuticalization is potentially problematic because corporations bear more responsibility to their shareholders than patients (Conrad, 2007).

In the biomedical era health has become a commodity. As aforementioned, medicalization works through a framework of definition, diagnosis, classification, and treatment of illnesses and diseases (Clarke et al., 2003). In addition to these processes, biomedicalization emphasizes the treatments of risks and the commodification of health and lifestyles. Conrad (1992) uses the term ‘healthicization’ to describe this process which proposes lifestyle and behavioral causes and interventions in defining conditions. Biomedicine “redefines ‘healthy’ and ‘normal’ in regard to bodily function” (Conrad, 2007, p. 26). Distinct from medicalized control over bodies with an emphasis on standardization and conformity, biomedical transformations include interventions to gain “desired new properties and identities” (Clarke et al., 2003, p. 180). Conrad (2007) writes that “biomedical enhancements are a modern form of self-improvement in which consumers seek interventions to improve mind, body, and/or performance” (p. 70). Examples of biomedical interventions include things such as cosmetic surgery, LASIK eye surgery, and the use of pharmaceuticals to treat sexual dysfunctions.

Risk and surveillance are co-constitutive and both shape the technologies and discourses of biomedicalization. Drawing from Foucault, “risk technologies are a part of programs and strategies of inscription that indicate the exercise of a rationalized, disciplining,

and regulating of bodies” (Mamo & Fishman, 2001, p. 14). As risk technologies invade more aspects of people’s lives, it creates new biomedicalized subjectivities (Clarke et al., 2003).

Transformations of bodies and the production of new collective and individual identities is another basic process of medicalization. Foucault’s concept of biopower is particularly useful for it focuses on the relationships through which the life and health of populations become objects of scientific and institutional regulation. Biopower is the combination of two “poles” of power—disciplinary power and regulatory power—which converge at the level of individual bodies and entire populations (Foucault, 1990). Risk factors implicate individuals as well as whole populations such that everyone is in the process of eventually “becoming ill” (Peterson, 1997). Biopower is totalizing in that it asserts populations possess similar biological or genetic characteristics (Clarke et al., 2003). Due to transformations in the production and distribution of medical knowledge and an emphasis on risk technologies, health and the management of chronic illness are individual moral responsibilities (Clarke et al., 2003). An ethic exists in which the “maximization of lifestyle, potential, health and quality of life has almost become obligatory” (Rose, 2007, p. 25).

Furthermore, “biological citizenship” (Rose & Novas, 2005) denotes the ways in which the biology of a population provides “the grounds for social membership and the basis for making citizenship claims” (Petryna, 2002, p. 5). In addition to group belonging, biological citizenship legitimizes right to claims and demands for access to resources, such that biological citizenship encompasses the individual and collective claims to welfare made by a biologically damaged population. Accordingly, as news media note the need for medical intervention in managing Zika, public sentiment towards the Zika virus is influenced by

nationalist discourse which positions access to healthcare as a privilege for “legitimate” citizens. Americans display animosity towards non-citizens who receive healthcare within the country. For example, in the comment section of an article within my sample, one reader argued that a woman who traveled to the United States to deliver a baby affected by the virus because “she figured she’d get better medical care here...she just delivered a disabled US citizen we now have to care for” (Heller, 2016).

This quote captures the relationship between biomedicine, nationalism, and citizenship rather well. Furthermore, it reveals a disturbing sentiment in which some bodies are constructed as full citizens and others second-class based on their biology. Significantly, modern biological citizenship operates within a ‘political economy of hope’—a time in which biology is no longer accepted as destiny, but rather conceived as intelligible and “eminently manipulable”. Rarely is an event conceptualized as a medical abnormality left to its own devices. As such, state-based campaigns advocate for early detection of various maladies in efforts to make medical intervention more effective.

As we will see in the conversations surrounding Zika, the biology of individuals is linked to “citizenship projects”— how authorities conceptualize some individuals as potential citizens and how they act upon them: “specific biological presuppositions, explicitly or implicitly, have underlain many citizenship projects, shaped conceptions of what it means to be a citizen, and underpinned distinctions between actual, potential, troublesome, and impossible citizens” (Rose & Novas, 2005, p. 2). Since the family is a primary agent of socialization, this social group becomes a principal site through which ‘citizenship projects’ are enacted.

Future Citizens and Abnormal Anatomies

At this point, it is necessary to mention the ways in which transformations in healthcare, the economy, and the nuclear family created new identities for, and social values of, children. The “discovery of childhood” as a separate life stage emerged between the fifteenth and eighteenth century in Europe alongside bourgeois notions of family, home, privacy, and individuality (Aries, 1962). In 18th century rural America, children were welcomed as future laborers (Zelizer V. A., 1985). Notably, America saw an increasing separation of economic production from the home during the nineteenth century which disrupted the traditional basis of family unity (Zelizer V. A., 1985). During this time period, the instrumental value of all family members, including children, was replaced by their expressive value (Zelizer V. A., 1985).

Moreover, the majority of children did not live past the age of three prior to the early nineteenth century (Aries, 1962), but by the 1800s, the death of a child became the most painful of all deaths for upper-and-middle class families. By the late nineteenth century the death of all children across all strata of class “emerged as an intolerable social loss” (Zelizer V. A., 1985, p. 27). Consequently, a social movement to reduce child and infant mortality began. In 1881, Dr. Abraham Jacobi organized the Pediatric section of the American Medical Society in order to treat disease and preserve the health of children.

As childhood came to be thought of as distinct from adulthood, medicine constructed children’s bodies and diseases as dissimilar to adult bodies and diseases (Armstrong, 1986). Pediatricians focused their attention on ‘normal’ childhood and typically emphasized positive health rather than the treatment of disease. In fact, pediatrics pioneered the shift in medicine from an emphasis on treatment to surveillance and prevention (James, Jenks, & Prout, 1998).

Statistical techniques were introduced as a result of governmental concern to improve the health practices of the population. Constructing the child's body as a medico-social problem "provided a "gateway for the regulation of the private sphere, especially the domestic and familial" (James et al. , 1998, p. 152; Armstrong, 1986; Donzelot, 1980).

Normal: A good start in life

Although it is common in modern American society to celebrate children as the future—as vessels worthy of investment— this sentiment did not begin to take root until the eighteenth and nineteenth century (James et al., 1998). During this time, notions of parental responsibility and the state's interest regarding the well-being of children in terms of the reproduction of the social order positioned childhood as a developmental stage aimed at preparing individuals to fully participate in the adult world. Accordingly, children are judged, cultivated, and protected with the future adult they represent in consideration, consistent with a model of child welfare which has influenced social policy since at least the late 1800s (Parton, 1985; James, Jenks, & Prout, 1998). Preparing children for transition into the adult world entails cultivating youth to be fully-participating citizens in the future.

The routine usage of reproductive technologies "shows that judgements of value concerning certain features of the bodies and capacities of citizens have become escapable" (Rose, 2007, p. 74). For Bourdieu, physical capital is the embodied state of cultural capital; however, Schilling (1991) extends Bourdieu's concept of embodied capital to include the ways in which the body itself is a form of capital. Therefore, "in some respects, such as health inequalities, the body itself may thus be part of the process by which class relations are reproduced, a point often expressed explicitly by parents through the notion of a 'good start in life'" (James, Jenks, & Prout, 1998, p. 160).

To reiterate, conceptualizations of good health are not ontological truths. Modes of producing knowledge support specific ethical values (Petryna, 2002). For one, “values internal to the strategies and goals of scientific institutions often drive the selection of biological sites considered [for technical means and monitoring]” (Petryna, 2002, p. 52). Secondly, the interpretation of information obtained from the biological sites may “serve as a measure of what counts as a normal life and a normal life expectancy in populations identified as being at risk” (Petryna, 2002, p. 52). Thus, “a technology of abnormal individuals appears precisely when a regular network of knowledge and power has been established” (Foucault, 2003, p. 61). The idea of normality “claimed to ensure the physical vigor and the moral cleanliness of the social body; it promised to eliminate defective individuals, degenerate and bastardized populations. In the name of biological and historical urgency, it justified the racisms of the state” (Foucault, 1990, p. 54).

It is common practice in medical culture to see anything “outside of the biomedically defined realm of normal as an indication (“sign”) of pathology and therefore a risk for the population under consideration” (Brett & Niermeyer, 1990, p. 111). Thus, cultural stereotypes about what constitutes a normally developing body for a child assume great importance both for parents and for children themselves, and deviations from these normative conceptualizations can create a strong sense of unease for both children and adults.

Children’s experiences of the body, especially bodily differences, “function as important signifiers for social identity” (James, Jenks, & Prout, 1998, p. 155). “Appearance-impaired children differ from the normal body image that we hold and that it is this difference which is capable of producing a cognitive dissonance powerful enough to disrupt the existing social order of things, resulting in the stigmatization and rejection of the

appearance-impaired as ‘nonpersons’” (Weiss, 1998, p. 159). However, it is critical to note that anomalous bodies are usually more upsetting to the people who witness them than to the people who embody them (Solomon, 2012). “As repulsive, sad, and *unnecessary* as these conditions may seem to someone who does not inhabit them,” writes Dreger (2004) “they often function as an inexplicable, essential, even cherished aspect of the self for those who do inhabit them” (p. 47). Oftentimes, adults who impose normalization procedures view it as a charitable manifestation of pity. However, while well intended, “pity implies the subject must be suffering and unfortunate...so, however unintentionally, pity silences the person who might otherwise speak to defend the value of her person and her life” (Dreger, 2004, p. 5).

When a child is born with an unusual anatomy, the parent’s identities are also thrown into question (Dreger, 2004; Solomon, 2012). Parents may be apprehensive because they “only know how normal parents are supposed to behave, but they can’t be normal parents if they don’t have a normal child” (Dreger, 2004, p. 57). Oftentimes, “parents’ expectations invariably include that the child will be able to surpass, or at least attain, the parent’s level of socio-cultural accomplishment” (Ross A. O., 1972, pp. 55-56). In addition, parents may be, at least initially, unqualified to care for their child with an anomalous anatomy (Solomon, 2012). Parents tend to see anatomical abnormalities as a medical problem “because U.S. culture tends to see nearly anything anatomical as a medical issue” (Dreger 2004:56).

As Ruth Hubbard (1988) writes, “In this liberal and individualistic society, there may be no need for eugenic legislation. Physicians and scientists need merely to provide the techniques that make individual women, and parents, responsible for implementing the society’s prejudices, so to speak, by choice” (p. 232). Zika coverage mobilizes the ableist

rhetoric by framing the issue in terms of reproductive rights or reproductive justice, whilst ignoring the ways in which children with microcephaly can and do thrive with access to healthcare. As such, it is important to note the ways in which ableist rhetoric complicates the ideal of parental choice in reproductive decision-making.

Within this context, everything anatomical is primarily seen as an individual health issue. The emphasis the United States places on the values of individualism, self-improvement, and high-tech medicine encourages its citizens to have socially advantageous anatomies (Dreger, 2004). Accordingly, “Americans typically see medical interventions as the only way to deal with anatomical uncertainty” (Dreger 2004:56). In fact, Dreger (2004) notes that “with anatomical normalizations (minor and major) increasingly available, increasingly suggested, and increasingly allied with the prestige of health and modern medicine, it will become more difficult and costly for people to resist them” (p. 144).

Ultimately, the medical model of anomalous anatomies is hinged on misinformation which promotes interventions to enforce conformity to oppressive social norms (Solomon, 2012). Moreover, because parents and medical professionals are generally unfamiliar with the “day-to-day lives of adults with stigmatized anatomies and because they lack a developed political consciousness about these issues, their choices about normalization are constrained by an oppressive ignorance about the social context of their decisions” (Dreger, 2004, p. 78). “Prenatal diagnosis reinforces the medical model that disability itself, not societal discrimination against people with disabilities, is the problem to be solved.” (Parens & Asch, 2007, p. 13). Similarly, normalization procedures sanction the shame that comes with anomalous anatomies. By not addressing or questioning the shame that is attached to abnormal bodies, medical officials “put the weight of their cultural authority behind it. The

problem that is always being fixed and attended to is the child, not the social situation” (Dreger, 2004, p. 72).

It is not my intention to condemn every normalizing procedure nor the decision to choose a selective abortion. Rather, the intent of this section is to highlight the social context in which these decisions are made. Moreover, it is important to raise questions about the medical model of abnormal anatomies and examine the ways in which a shift towards a social model might alter the subjective experience of pregnancy and the lives of individuals with anomalous bodies. We might recall that the medical model encourages normalization procedures regardless of the child actual health and “even though the child may not be suffering at all” (Dreger 2004:56). As Solomon (2012) notes, “The disability rights movement seeks, at the most basic level, to find accommodation of difference rather than erasure of it” (p. 27). Moreover, Dreger (2004) urges that instead of medical normalization “we could seek social and legal liberation for people with unusual anatomies who are constricted because of oppressive assumptions about their worth and potential” (p. 150). “At this point in our liberal democracy, we ought not to tolerate a system that makes people who are merely anatomically different feel broken, guilty, worthless, and subhuman” (Dreger p. 78).

Ultimately, treating children as investments in the future places parents and potential parents under a microscope to ensure the right kinds of people are bringing the right people into the world. However, there is an asymmetrical distribution of responsibility regarding the creation of suitable members of the next generation. While men are typically portrayed as secondary to reproduction and childrearing, a dogmatic triad of womanhood, motherhood, and morality results in the persistent surveillance of women’s bodies. Women’s bodies, in

particular, are policed because they are perceived to be mothers of future citizens and of the nation more broadly. Science, technology, and medical knowledge(s) have further contributed to the construction of distinctive gendered embodiments, which for women is fundamentally grounded in reproduction and child rearing.

Sex, Gender, and Reproduction

Provided that there are many definitions of ‘reproduction’, this paper draws from Ginsburg and Rapp’s (1991) definition that “encompasses events throughout the human and especially female life-cycle related to ideas and practices surrounding fertility, birth, and childcare, including the ways these figure into understanding of social and cultural renewal” (p. 311). It is important to note early on that men are typically portrayed as secondary to reproduction. In many social scientific studies related to conception, birth, and childcare, very few focus on men’s reproductive bodies and experiences (Almeling, 2015). Moreover, the bodies of pregnant women are persistently subject to scrutiny in terms of the decisions they make while they are pregnant because in many ways pregnancy has shifted from being an individual experience to a public event (Brubaker, 2007; Armstrong, 2003). For this reason, strangers feel welcome to place their hands upon the bellies of pregnant women and admonish and regulate visibly-pregnant woman who smoke or drink. Women are expected to stay in shape in order to have a healthy pregnancy but are ridiculed if they are lifting weights that are “too heavy” because it *might* lead to premature labor. Meanwhile, in communication materials from national health organizations, men are largely removed from the health of their children. For example, Department of Health and Human Services pamphlets highlight the ways in which the causes of birth defects can be attributed to women’s lifestyle behaviors

—such as maternal substance abuse or lack of exercise—while the behaviors of men are rarely mentioned (Balasmo, 1996).

Additionally, in cases where people are ordered not to procreate because the parent is deemed unfit or too irresponsible, men are significantly less likely to have the state's will imposed on their reproduction (Flavin, 2009, p. 41). Significantly, the policing of women's reproductive bodies includes *all* women, not just pregnant women largely because the biomedicalization process constructs women's bodies as always potentially childbearing and this feature as central to what it means to be a woman. This is not true for men.

Reproduction has been culturally constructed as a series of events that occur primarily in women's bodies. This has come about as the result of medical professionals that have been able to visualize, classify, and construct the maternal body through contemporary medical technologies. Such technological innovations and reproductive technologies have created new identities and changed the subjective experience of pregnancy, as well as provide the means for exercising control over women's bodies.

The body is a social, cultural, and historical construction, and quite similarly, gender is a social construction produced at the level of the body (Balasmo, 1966). Noteworthy, there is not a naturalistic reality of the body waiting to be discovered in which scientists simply uncover truths; rather, an “understanding of the body is mediated by language [and] scientists are bound by language as well” (Oudshoorn, 1994, p. 3). In other words, the clarity of any given work or text depends upon the discourse within which it is intelligible (Balasmo, 1996). Thus, biomedical discourses are not only “shaped by technological developments but also shift in response to changes in a society” (Oudshoorn, 1994. p. 5).

To speak of a discourse of the body means to identify the “the patterned ways that the body is represented according to broader cultural determinations and also the way the body becomes a bearer of signs and cultural meaning” (Balasmo, 1996, p. 19). As a discourse, gender “includes representations, symbols, utterances, signification, and codes” (Balasmo, 1996, p. 36). In biomedical discourse, bodies are useful and purposeful in the production of knowledge. Through various medical techniques and “discoveries”, a woman’s gender identity became closely linked to her reproductive physiology (Lenskyj , 1986; Balasmo, 1996). Balasmo (1996) argues that “scientific facts” within discourses of biotechnology continuously construct the female body as “the ‘natural,’ the ‘sexual,’ and ‘the reproductive’” (p. 9).

From the ancient Greeks until the late 18th century medical scientists contended that male and female bodies were structurally similar--structurally similar but not equal³. In the middle of the eighteenth century, medical scientists increasingly focused on bodily differences between the sexes, and argued that sex was not restricted to the reproductive organs (Oudshoorn, 1994). In fact, by the late nineteenth century researchers argued that every part of the body differed by sex, and furthermore that male and female bodies were understood as opposites in terms of organs, feelings, and functions (Laquer, 1990). After this shift, “the female body became the medical object ‘*par excellence*’ (Foucault 1990), emphasizing women’s unique sexual character” as medical scientists sought to identify the essential features that belong to women (Oudshoorn, 1994, p. 7). Until the mid-nineteenth

³ . The belief was that men’s bodies “possessed “heat” than women and hence were considered more perfect. The relative coolness of the female body prevented her reproductive organs from extruding outside the body but, happily for the species, kept them inside where they provided a protected place for conception and gestation” (Martin 1987: 27-30).

century the “essence of femininity” was located in the uterus and only then shifted to the ovaries (Oudshoorn, 1994).

Early in the twentieth century, the new field of sex endocrinology transformed the prescientific idea that the sexual dichotomy was located in the gonads, instead the “essence of femininity” came to be located in sex hormones (Oudshoorn, 1994). Thus, hormones were used to explicate roles and characteristics traditionally considered male or female in Western society. In this process females, not males, were “increasingly portrayed as a body completely controlled by hormones” (Annas, 1995, p. 8). The medicalization of menstruation and menopause further contributed to the notion that women are weak and out of control. Culturally defined ‘facts’—supported by medical knowledge at the time—proclaimed that women were chronologically weak and “eternally wounded” because they bled during portions of their menstrual cycle (Vertinsky, 1987). This is extremely significant for it provided legitimacy in motivations to police women’s bodies.

Furthering the negative views of these bodily events is biomedical discourse which has often described “bodily processes in terms of economical modes of thinking” (Oudshoorn, 1994, p. 5). The fragmentation of the unity of the body corresponds with the metaphor of the body as a machine with an emphasis on production. The negative connotation of failed production is especially powerful when metaphorically applied to women’s bodies (Martin, 1987) because the female body is intimately tied to a culturally constructed obligation to reproduce (Balasmo, 1996). Conceptualizing menstruation as failed reproduction and menopause as a lack of production contribute to the negative views of these bodily events (Martin, 1987; Martin, 1987). Thus, there is some sense that women are out of control when they menstruate because “...they are not reproducing, not continuing the

species, not preparing to stay at home with the baby, not providing a safe, warm womb to nurture man's sperm" (Martin, 1987, p. 47).

The woman-as-producer and body-as-machine metaphors are reflected in the language used during birth itself. Medical imagery puts forth two contrasting images: the uterus as a machine that produces a baby and the woman as laborer who produces the baby (Martin, 1987). Continuing the metaphor, the physician becomes the supervisor of the labor process. A woman's labor, like factory labor, is subdivided into many stages and sub stages. Good or bad labor is determined by the amount of progress made within certain amounts of time. During labor and delivery, the woman becomes the 'raw material' from which the 'product' is extracted (Martin, 1987; Martin, 1987). The woman-as-producer metaphor similarly affects the process of childrearing. After birth, the child is a product which has to be produced to exact specifications in which women need the instruction of experts on how to raise their children.

Recalling that biopower (Foucault, 1990) occurs at the levels of the population and the individual, Morgan and Roberts (2012) draw on Foucault to describe 'reproductive governance' as incidences of "state, religious, and international institutions using legislative controls, economic advancements, moral injunctions, and direct coercion to produce, monitor, and control reproductive behaviours and practices" (p. 243). Material applications of new reproductive technologies, supported by the authority of medical science, "are used to discipline material, female bodies as if they were all potentially maternal bodies and maternal bodies as if they were all potentially criminal" (Balasmo, 1996, p. 83). By conceiving of the fetus as a citizen, any actions of the mother construed as "unhealthy" is transformed into a crime against the unborn. Fueling the new discourse surrounding reproduction are "evocative

narratives about motherhood, the family, and the role of techno-science and the medicalized citizen” (Balasmo, 1996, pp. 82-83).

Technological innovations have dramatically changed the discourse surrounding prenatal development by creating new maternal and fetal identities. Moreover, monitoring devices have created new bodies to surveil. Prenatal testing technologies have fundamentally altered the experience of pregnancy and the interpretations of unborn life (Verbeek, 2008). Imaging technologies play a significant role in the construction of new bodies to watch. Ultrasound imaging portrays the fetus “as a separate living being, rather than forming in unity with its mother” (Verbeek, 2008, p. 16); as such, prenatal testing ascribes fetuses with the statuses of personhood and patient-hood (Layne, 2002; Verbeek, 2008) leading some obstetricians to claim that the fetus is actually the *primary* obstetrics patient (Balasmo, 1996, p. 90).

Significantly, this subordinates the bodies of women to the biological structure of the fetus. The construction of fetal personhood and patient-hood paves the way for not only increased monitoring of the fetus but also the pregnant woman. The orientation of obstetrics shifted after World War II from medical intervention in the process of childbirth to the monitoring and surveillance of the obstetric patient (Balasmo, 1996). The ‘government of risk’ modifies the subjective experience of pregnancy because women are encouraged to have their pregnancy professionally managed (Tremain, 2006; Verbeek, 2008; Brubaker, 2007). For example, Tremain (2006) notes that although sonar screening was developed to benefit women with high-risk pregnancies, it is now used in every pregnancy. Thus, women’s bodies are monitored in routine clinical appointments in which they are encouraged to reduce or eliminate consumption of substances (e.g., nicotine, alcohol, caffeine, etc.)

associated with stillbirths or miscarriages (Flavin, 2009) and to assess what they eat or drink. (Armstrong, 2003). Furthermore, public health officials have expanded efforts to the period before conception, encouraging women to prepare their bodies for pregnancy in an effort to improve reproductive outcomes (Waggoner, 2013). As a *potentially* ‘maternal body’ even when not pregnant, the female body is also evaluated in terms of its physiological and moral status as a potential container for the embryo or fetus” (Balasmo, 1996, p. 90).

Reproductive technologies are embedded within “narratives about the relationship between women’s bodies, surveillance, and threats to public health” (Balasmo, 1996, p. 97). Following the construction of fetal personhood are claims of fetal rights and fetal protectionism. The subordination of women to the unborn deprives women of their right to bodily sovereignty (Flavin, 2009). Furthermore, due to the rise of surveillance medicine and what Waggoner (2017) refers to as the cultural ethic of “anticipatory motherhood”, “all women of childbearing age are placed in a holding category for anticipatory care practices and interventions” (p. 25). Thus within the “zero trimester” (Waggoner, 2017), two bodies become the target of anticipatory risk: the potentially-pregnant women and her future fetus. Interestingly, “assumptions of maternal vulnerability have been reconstructed around risks to the fetus mediated through the maternal body” (Daniels, 1997, pp. 582-83) and even the pre-pregnant body.

‘Maternalist politics’ concern themselves with the rights and welfare of children (Koven & Michel, 1990). Oftentimes, this leads to the shift from pregnancy and motherhood as personal responsibility to public policy (Balasmo, 1996). As Waggoner (2017) states, the health outcomes of mothers and children “proxy a nation’s health and reflect on our healthcare institutions” (p. 29). This has created a culture “that has given rise to a brutal ethos

of mother-blaming, online and in public. People have a sense, be it accurate or not, of what ‘proper motherhood’ is” (Waggoner, 2017, p. 179). There is a long history in the United States which punishes women who are not “good”—or “good enough”—mothers. As “areas of women’s lives are colonized by medical interventions, they are also stacked out as legal territory” (Balasmo, 1996, p. 102). Criminal charges related to pregnancy are largely common. The criminalization of abortion, prenatal exposure to illicit drug use, and mother-to-child HIV transmission are examples of state control over women’s reproductive behaviors (Flavin, 2009). As Waggoner notes this judgement further extends into the pre-pregnancy period because “much of the rhetoric around pre-pregnancy care is about improving birth outcomes, not about women’s reproductive autonomy” (p. 181).

Flavin (2009) argues that the control over reproduction has always been linked to societal concerns about the “‘right’ people reproducing in the ‘right’ ways” (p. 12). Waggoner (2017) notes that at the turn of the twentieth century pre-pregnancy discussions around syphilis and other conditions were largely concerned with leading a “proper lifestyle” (p. 41). Declining birth rates among whites around this same time period were seen as a departure from American values. The eugenics movement at the beginning of the twentieth century “encouraged white Protestant women to have children and steer clear of birth control and abortion (i.e., “positive eugenics”). While abortions were discouraged among white Protestant women, eugenics advocates promoted a campaign to limit the fertility of poor and immigrant women (i.e., “negative eugenics”)” (Flavin, 2009, pp. 15-16).

Such regulation does not result better care for women or unborn children; for example, women may not seek prenatal care out of fear of criminal charges or of the stigma associated with alcohol and illicit-drug use (Finkelstein, 1994). Reproductive rights are legal

rights and freedoms related to reproductive health and autonomous decision making. In addition to birth control and abortion access, reproductive rights extend “to the need for state-supported child-care services, decent wages and benefits, safe and affordable housing, and good medical care that would permit them to bear and raise healthy children” (Flavin, 2009, p. 17). Reproductive justice involves the placement of reproductive health issues and choices in the broader context of one’s community (Ross L. , 2006). Stratified reproduction proposes that in addition to gender, reproductive experiences vary across categories of race, class, and immigration status (Colen, 1995). Stratified reproduction examines “the power relations by which some categories of people are empowered to nurture and reproduce, while others are disempowered” (Ginsburg & Rapp, 1995, p. 3).

Access to reproductive healthcare often influences women’s choices and ability to get pregnant (Balasmo, 1996). For one, the cost of reproductive services is expensive (McNulty, 1988). Consequently, services such as fertility treatments are often marketed to upper-middle-class couples (Brubaker, 2007; Balasmo, 1996). Alternatively, it is also more difficult for young, poor, and/or incarcerated women and women with advanced pregnancies to get an abortion (Flavin, 2009). This is important because the Zika outbreak disproportionately affected marginalized and impoverished women. In fact in a UN report detailing the socio-economic impact of Zika Virus in Latin America and the Caribbean, (Martínez-Solimán & Faieta, 2017), characterize Zika as a “disease of poverty” and inequality. Because impoverished women are less likely to have access to contraception, prenatal care, and healthcare for the child after birth, it is important take socioeconomic status into account when discussing the politics of reproductive risk.

Using Zika as a snapshot of reproductive governance, we are able to examine the ways in which women's bodies and the bodies of children become the target of the "medical gaze." Women become the target of state-based campaigns aimed to prevent the intrauterine transmission of Zika and the birth of children with the virus. On one hand, conceptions about "normal" fetal development and the standard requirements for full personhood—thus citizenship- largely inform the fears, hopes, and anxieties which developed alongside the emergence of the Zika virus epidemic. On the other, the ability to manage the effects of Zika—an epidemic which took the world stage—is a display of power because the health outcomes of mothers and children "proxy a nation's health and reflect on our healthcare institutions" (Waggoner, 2017, p. 26). Accordingly, journalists reiterate claims that the United States is good at—or at least better than other countries—at controlling the spread of Zika. Issues such as nationhood, biomedicine, finite resources, and citizenship run throughout the discussions surrounding the virus. Worth consideration, it has been suggested that diseases can become metaphors for social ills and anxieties. In other words, the language used to describe diseases evokes various economic, political, or social disorder.

Social Ills

Sontag (1979) specifically notes that mysterious diseases—those with a poorly understood etiology— "have the widest possibilities as metaphors for what is felt to be socially or morally wrong (p. 60). Given that much was unknown about the Zika virus as it travelled from a Ugandan forest to the world stage, it is rather appropriate to consider the sociohistorical moment in which Zika developed— a context which made the emergence of the Zika virus particularly scary.

For one, Zika researchers and reporters note the threat Zika poses to health *and* the economy. In a study published in *Plos Neglected Tropical Diseases* (Lee, et al., 2017) argue that Zika virus infection in the United States could end up costing between \$183.4 million and \$10.3 billion in direct medical costs and lost productivity, depending on the rate of attack. Journalists further note that Zika is expensive for consumers to avoid (Berr, 2016), detect, and treat (Globe editorial board, 2017). However, others report that avoidance, detection, and treatment are important because they are significantly less costly than “the price of a generation of Zika-infected babies” (Ellis, 2016). Overall, a deep obsession with “the bottom line” helps frame the concerns regarding viral infection.

In addition to economic factors, Zika emerged in the midst of the culturally charged issue of immigration, especially debates focused on migration from America’s southern border. The Obama Administration helped set the stage in November 2014 when he announced Executive Actions that included temporary protections for immigrants who arrived as children and a new program for parents of U.S. citizens or lawful permanent residents. Immigration policy reform became a cornerstone of Donald Trump’s presidential campaign—proposing to overturn Obama’s Immigration Accountability Executive Actions and announced plans to build a wall at the southern border, paid for by Mexico. Zika is a tropical disease, which moved across the Pacific Ocean into Brazil, to other Central American nations and Mexico. Noting the origin of the Zika virus, the rhetoric of immigration is used to shape understandings about the transmission of Zika virus in the United States.

The discourse surrounding Zika reveals fears and anxieties about the virus entering the country, but more importantly it exposes a sociopolitical ideology which frames

immigration itself as a threat to public safety. In an article for the *National Review*, Malkin (2016) states that “Latin America’s Zika virus is the latest undocumented immigrant to hit our shores”. Abruzzo (2016) echoes this sentiment in arguing that “Illegal immigrants are a drain on our economy, a peril to our national security, and a drag on our souls. They may also be hazardous to our health, thanks to sloppy U.S. immigration laws acting as incubators for diseases once foreign to North America — like the untreatable Zika virus now affecting dozens of Americans.” In addition to blaming lax immigration laws for the presence of Zika in the United States, these statements reveal the ways in which biomedicine, finite resources, and citizenship are intimately connected.

Because the emergence of Zika was riddled with many unknowns, it is important to pay attention to the ways in which journalists frame risk and responsibility in the early phases of the epidemic. In particular, it is important to capture the discourse at the point it transitioned away from being a distant disease that affected citizens in other nations to a virus of pressing concern for citizens of the United States. Throughout this study, I seek to unveil assumptions regarding the value of an American life worth living and identify those handed the responsibility for maintaining a more-perfect citizenry.

CHAPTER 3

METHODS

Frame Analysis

In this study, I set out to understand the biomedicalized risks and responses that are reported in American print media early in the emergence of the Zika virus epidemic. As such, I used content and discourse analysis in order to identify the most salient cultural frames used in Zika virus coverage. Gitlan (1980) notes that “what makes the world beyond direct experience look natural is a media frame” (p.6). Frames organize the world for both journalists and their audiences. News frames are “conceptual tools which media and individuals rely on to convey, interpret and evaluate information” (Neuman, Just, & Crigler, 1992, p. 60). Framing highlights certain aspects of an issue while omitting others (Cappella & Jamieson, 1997; Entman, 1993). In selecting some features of a perceived reality, framing promotes a “particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993, p.53). Given the importance of framing in the social construction and interpretation of reality (Berger & Luckman 1973), it is important to identify and analyze the frames that construct social, medical, and political issues like the Zika virus.

Ball-Rokeach & DeFleur’s “dependency theory” (1976) suggests that the role of the media in the process of constructing meaning varies from issue to issue. The relative importance of media-generated meanings depends on the audience members’ personal experiences, such that when experience is limited, people are more likely to rely upon the media for information. For example, media provides cognitive shortcuts—telling them how

they should feel and what they should do when confronted with an issue—to audience members who may lack scientific literacy (Scheufele & Lewenstein, 2005). For many people, an understanding of scientific and technological information is dependent upon press coverage of pertinent issues (Nelkin, 1995). Therefore, the media is an important source of scientific knowledge for many. Oftentimes journalists call upon experts—scientists or researchers—as sources to provide legitimization and clarification of scientific findings; however, even these comments are bite-sized for consumption compared to the research studies themselves (Conrad, 1999).

In order to analyze such frames present in Zika coverage, I conducted a paired content and discourse analysis. Content analysis is the “systematic, objective, quantitative analysis of message characteristics” (Neuendorf, 2002, p. 1). While the goal is to avoid any bias of the researcher, “knowledge” and “facts” are socially constructed (Berger & Luckman, 1996). Accordingly, all research is inherently subjective. Content analysis attempts to overcome this barrier by relying on the scientific method, and rather than seeking truth with a capital “t” researchers strive for intersubjectivity—agreement across scholarly inquiries. This study employed an idiographic investigation. Whereas a nomothetic study attempts to identify generalizable findings, “an ideographic study seeks to fully describe a single artifact or case from a phenomenological perspective and to connect the unique aspects of the case with more general truths or principles” (Neuendorf, 2002, p. 11).

I complemented content analysis with discourse analysis. While content analysis provides a description of topics in media texts “through consistency and connection of words to theme analysis of content and the establishment of central terms” (Neuendorf, 2002, p. 5), discourse analysis is a popular technique for analyzing public communication, thus making it

an appropriate method for this study. This study specifically engages in a critical discourse analysis (CDA). CDA is “discourse analytical research that primarily studies the way social-power abuse and inequality are enacted, reproduced, legitimated, and resisted by text and talk in the social and political context” (Van Dijk T. A., 2015, p. 466).

News media play a central role in giving publicity and meaning to health crises. While these heuristics influence public opinion and attitudes, the framing of “complex diseases is important because the way these are presented may affect individuals’ choices regarding health” (Andsager & Powers, 1999, p. 76). In times of health crisis, media plays an important role in communicating risk. In so doing, risk communication persuades individuals to direct attention and concern towards certain contexts and modify behavior in order to reduce risks (Seeger & Reynolds, 2007). Further, Barnett (2006) found that women’s magazines idealize and reinforce the traditional stereotype of women as caretakers; they portray health as women’s work, not only their own health but as protectors of their family’s health. This frame is particularly important to this study because much of the Zika news coverage emphasizes the need to either prevent mosquito-to-human of the disease or human-to-human transmission of Zika. Furthermore, the discourse surrounding constructs the need to control Zika, largely to prevent intrauterine transmission of the virus. Communication materials from the CDC note it is not enough to protect yourself, but it is important to follow tips to protect your family and your community.

This study uses frames from previous frame-related research. It is essential to note that the frames are often co-constitutive. Various frames were coded as “not present” (0) or “present” (1). I then tallied the frequencies for each frame:

1. *Conflict* (Neuman et al., 1992; Nisbet & Huges, 2006; (Maasen & Weingart, 1995)
A predominant frame in print news coverage of biotechnology, this frame draws attention to polarized forces such as us/them and winners/losers. The conflict frame is partially constructed through reports of new evidence and uncertainty, as well as the metaphorical framing of Zika.
2. *Uncertainty/new evidence* (Wijaya, Brossard, & Shih, 2008; Nisbet & Huges, 2006) are common frames in news coverage of public health epidemics.
Uncertainty includes doubt about multiple aspects of an epidemic including cause, cure, potential contagion, etc. and conceptualizing the disease as something in need of further inquiry by experts or governments. Some of the key terms used to identify this frame include: confusion, [to] learn, not known, question(s), uncertain, unclear, unknown, and unsure. The new evidence frame encompasses references “to new findings/results of research efforts or discovery of new evidence that help advance the understanding of the disease or the ability to quell the disease” (Wijaya, Brossard, & Shih, 2008, p. 149.).
3. *Metaphors* (Van Dijk T. A., 2015; Lakoff & Johnson, 1980; Maasen & Weingart, 1995; Nerlich, Wallis, & Larson, 2005) Metaphors are a significant discourse structure in framing (Van Dijk T. A., 2015); therefore, attention was given to metaphors in both the content and discourse analysis of Zika coverage. Metaphors structure “how we perceive, how we think, and what we do” (See Lakoff & Johnson, 1980, p. 4). It is important to note that “because so many of the concepts that are important to us are either abstract or not clearly delineated in our experience...,we need to get a grasp on them by means of other concepts that we

understand in clearer terms” (Lakoff & Johnson, 1980, p. 115). Due to the complex nature of scientific and medical knowledge, attempts to transport it to most non-specialists often rely upon metaphors (Maasen & Weingart, 1995). Furthermore, national and international policies regarding the spread of bacterial and viral organisms “have often been shaped by militaristic metaphors of “biosecurity” and warfare” specifically (Nerlich, Wallis, & Larson, 2005, p. 244). Interestingly, metaphorical language can be used to frame invasive species and diseases as enemies. In response to the latter, militaristic metaphors have drawn several criticisms. For example, Sontag (1979) and Annas (1995) argue that such metaphors encourage excessively strong actions and cause stigmatization of the ill.

In order to identify the use of military metaphors, I coded articles for references to combat-related terminology. While deductive codes were formed, further inspection of the articles generated additional codes such that the primary the key terms and phrases include: attack, battle, burned its way, combat, contain, control, creep, fight, invade, kill, lose, plow, spread, and war. Articles were also coded to identify the opponent of each militaristic statement; the enemies within the metaphorical framing of Zika are mosquitos themselves or the Zika virus.

4. *Human Impact*, adapted from the human-interest frame (Neuman et al. 1992).

Whereas Neuman and colleague’s human-interest frame broadly describes how individuals or groups are likely to be affected by an issue, my frame of human impact specifically locates the ways in which news media report the impact of Zika virus on human health. This frame helps us capture the essence of why Zika

matters, of identifying “the problem.” I coded the articles for descriptions of the effects of Zika on human anatomy; the stated effects were grouped dichotomously by stages of lifespan development. On one hand, the articles note the effects of Zika virus in adults by reporting the symptoms, or lack thereof, of Zika virus infection or situations in which the disease has resulted in serious disease outcomes or death. On the other hand, is the impact of Zika on fetal development. I further identified those who were identified as victims /most at risk, or in need of protection, through the following key terms: affect(ed), alarm, caution, concern, danger, fear, help, infect(ed) prevent, protect, risk, scary, susceptible, support, threat, and vulnerable.

5. *Strategy/Action*, adapted from attribution of responsibility (Semetko & Valkenburg, 2000). I use the strategy/action frame to outline reports of institutional/organizational level responses to the Zika epidemic. Noteworthy, I made no distinction between what governments and groups *are* doing and what governments and groups need to be/should be/will be doing. Thus, I included all stated/utilized and proposed solutions. Institutional-level strategies were then coded as either efforts to control mosquitos or prevent infection from insect bites; or biomedical solutions. Biomedical solutions include many things ranging from researching various aspects of Zika; surveilling the behaviors and movements of people; tracking Zika infection in people; developing vaccines or therapeutics; increasing access to healthcare; and public health awareness campaigns.

6. *Attribution of Individual-Level Responsibility*, adapted from Semetko & Valkenburg's (2000) attribution of responsibility frame. Whereas Semetko & Valkenburg's (2000) content analysis of European politics included an "attribution of responsibility" frame as that which "presents an issue or problem in such a way as to attribute responsibility to its causes or solution to either the government or an individual or group" (p. 96), I chose to keep individual- and institutional/organizational- level actions separate. For this frame, I coded for the attribution of responsibility in regards to Zika virus prevention or treatment. Individual-level solutions were identified through the use what the CDC (2017c) refers to as "guidance." These solutions can be in the form of either prescriptive or proscriptive directives though analysis did not make a distinction between the two. A few of the key terms used for the framing of individual responsibility are: advise, avoid, must, recommends and should/should not. Each directive was then coded as either advocating for (1) the control of mosquitos or avoidance of bites; (2) medical discourse that was NOT reproductive; or (3) medical discourse that was explicitly about reproductive processes. Inductive coding revealed nine primary targets of each directive: people in general, travelers, partners of women, couples, men, women, pregnant women, women who want to/or will become pregnant, and women of childbearing age. Significantly, discourse surrounding health behaviors is infused with moral undertones.
7. *Morality* (Neuman et al. (1992; Nisbet & Huges, 2006) places an event or issue in the context of religious tenets or moral prescriptions. Since the aim of journalism

is to remain relatively objective, journalists often refer to morals indirectly—through quotes or inference (Neuman, Just, & Crigler, 1992). Notably, many of the conversations surrounding Zika are hinged on moral evaluations of the quality of a life worth living. Additionally, the domain of morality can be further be examined through the lens of motivation and self-regulation (Janof-Bulman, Sheikh, & Hepp, 2009). Janof -Bulman and colleagues (2009) identify two fundamental constructions of morality: prescriptive morality involves utilizing “good” behaviors in order to achieve positive outcomes whereas proscriptive morality involves evading “bad behaviors” in order avoid negative outcomes. Significantly, the moral prescriptions are not limited to individual-level behaviors because we can also speak about the moral obligations of organizations. This frame is further important because notions of justice and morality significantly inform the distribution of economic resources for healthcare.

Sample

While there has been a decline in newspaper readership, over half of Americans still read daily newspapers on a regular basis (Pew Research Center, 2016) As of January 2016, the top four newspapers by circulation include (in order): USA Today, Wall Street Journal, the New York Times, and LA Times (Top 15 U.S. Newspapers by Circulation, 2017). For multiple newspapers, web traffic is substantially greater than their circulation (Pew Research Center, 2016). To account for digital (desktop and mobile) news consumption—which may or may not have daily print versions— I also selected articles from the most popular online news sites. As of July 2017, Yahoo News and Google News had far more online traffic than the aforementioned news websites (eBizMBA, 2017). The articles on these sites are

aggregated from news sources all over the world. To account for those who also get their news online, I sampled articles from Yahoo News⁴. The search produced articles from various sources including: AFP, Reuters, ScienceDaily, Time Magazine, and Tumblr.

In conducting this research, the unit of analysis is the newspaper article. Using Google's advanced search, I used the search term "Zika virus" and narrowed results by language (English), region (United States), and set the date range from January 1, 2016-July 31, 2016. These criteria were held constant as the only thing modified for each search was the site or domain from which I retrieved articles. All results were sorted by relevance and the top ten articles were selected for analysis.

The date range was selected based upon momentous events, listed on the bulletin of the WHO's website (Kindhauser, Allen, Frank, Santhana, & Dye, 2016), in the Zika virus trajectory of particular importance to news reports in the United States:

- **December 1, 2015:** The Pan American Health Organization and WHO issue an alert noting the association between the Zika virus infections and neurological syndrome and congenital malformations in the Americas.
- **January 5, 2016:** researchers report the first diagnoses of intrauterine transmission of the Zika virus in two Brazilian pregnant women.
- **January 15, 2016:** The United States issues temporary travel regulation for pregnant women

⁴ Google News was not used because I could not retrieve articles from Google News using Google's advanced search as I could for the other websites.

- **February 1, 2016:** WHO declares the association of Zika infection with clusters of microcephaly and other neurological disorders constitutes a Public Health Emergency of International Concern.
- **February, 2016:** The United States reports three likely cases of sexual transmission of Zika
- **March 8, 2016:** The Zika Emergency Committee announces that evidence is increasing of a causal relationship of neurological disorders with Zika virus. WHO updates its travel recommendations to advise pregnant women not to travel to areas with ongoing Zika virus outbreaks.

Media coverage reported new scientific findings throughout the summer months.

However, the 2016 Olympic games, which ran from August 5-21 in Brazil, became the focus of a lot of news coverage. For the purposes of this research project, I chose to set a date range in which the majority of articles would be about the management of Zika in the United States specifically.

CHAPTER 4

RESULTS

In order to identify the seven listed frames in my sample of newspaper articles, I conducted a paired content and discourse analyses in attempt to answer the following broad questions: (1) What threats does Zika pose and to whom?; (2) What are the organizational-level responses to Zika?; and (3) What are the suggested individual-level responses and to whom are they oriented?

Provided the experience of sickness and health are socially constructed, it is worth noting that journalists' reports of the Zika virus both reflect and reinforce medicalized conceptions of illness and disease. Journalism serves a critical role in mediating information between experts, politicians, and the public, thus warranting the need to critically examine the degree to which the biomedicalized discourse is transported through national print news media. In particular, this study emphasizes the ways in which the creation and distribution of medical knowledge bring new biomedicalized subjectivities to life, and in so doing make individuals responsible for their own health and the management of risks. In order to encourage readers to modify their behaviors in order to reduce risks, journalists rely on three strategies: fear mongering, framing the management of Zika as moral obligation, and explicitly mentioning expert-endorsed directives. Although Zika-carrying mosquitos are not discriminatory; infection is associated with various side effects and symptoms; and the virus can be sexually transmitted by men and women, journalists largely frame Zika as a story about current or future fetal development and the maternal (or potentially maternal) bodies in which this process takes place.

As Conrad (1992) notes, medicalization can occur at the conceptual, institutional, and interactional levels. By all means, Zika virus infection is not treated as an acceptable, routine part of life nor a normal human-environment interaction for it is certainly conceptualized as a pathology. Consequently, medical terminology is employed to describe Zika virus infection and congenital Zika virus syndrome. Situating Zika within the medical framework involves the delineation of “necessary” or “desired” medical interventions. Thus, we the four types of medical social control become evident in this process –medical ideology, medical collaboration, medical technology, and surveillance— (Conrad, 1992) are at work in Zika discourse. The journalists in my sample draw upon an extensive network of information creators and providers in order to frame risk and responsibility early in the emergence of the Zika virus. Throughout the articles, journalists quote a broad spectrum of organizations, institutions, and groups ranging from international health organizations, national institutes of health, medical journals, politicians, state and county health departments, vector control agencies, nonprofits, and healthcare providers to individual patients as a means of legitimating their claims. These conversations reflect the highly interactional nature of medicalization and biomedicalization. All groups considered, experts from the National Institute of Health, Centers for Disease Control and Prevention, and World Health Organization are the sources most frequently cited.

The spring/summer of 2015 presented an interesting case of diagnostic expansion (Conrad, 2007). Zika virus was not “new” *per say* given that it was first detected in humans in 1952—nor was microcephaly a newly-discovered disease. However, Brazil’s Ministry of Health reported a large increase in incidences of children born with microcephaly and noted a possible association with the Zika virus. Though microcephaly can be caused by various

things—such as severe malnutrition, infections in the fetus such as chickenpox or rubella, or intrauterine exposure to drugs, toxic chemicals, and alcohol— the emergence of Zika-virus-associated cases of microcephaly sparked largescale interest in Zika virus pathogenesis. This is especially important because “the process of pathogenesis [becomes] so complex that discussions of cause necessarily become a socially constructed domain” (qtd. In Petryna 2002:15) in the discourse of anomalous biological structures.” Accordingly, journalists repeatedly cite the incomplete and developing claims of causality in the communication of risk and ensuing preventative strategies.

Impact on Human Health. Constructing “the Problem” and Identifying the Victims

In order to identify the threat that Zika posed, I coded the articles for descriptions of the effects of Zika on human health. Codes were either present or not present. The stated effects were grouped dichotomously by stages of lifespan development. On one hand, journalists note the effects of Zika virus in adults by reporting the symptoms, or lack thereof, of Zika virus infection or situations in which the disease has resulted in serious disease outcomes or death. On the other hand, journalists note the impact of Zika on fetal development. Of all the stated effects, the majority focus on the bodies of offspring (See Figure 1).

On average, the word “defect” is used on 1.6 times per article and the description of an anatomical structure as “abnormal” appears on average, once per article. “Microcephaly” is explicitly mentioned in in three-fourths of the sample. Of specific symptoms associated

with microcephaly, the size of head and brain structure comprise the majority of those listed; 40% and 36%, respectively.

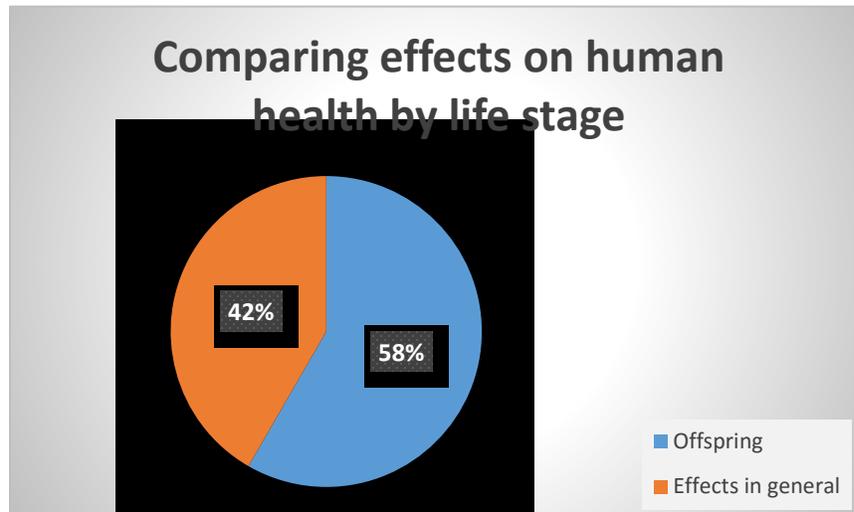


Figure 1. Comparing effects on human health by life stage.

Taken as a whole, it is apparent that the real concern surrounding Zika is not the infection itself, but the impact the infection has on a developing fetus. This becomes further apparent when looking at the language used to describe birth outcomes associated with Zika virus infection compared to descriptions of Zika virus disease itself. For example, birth defects associated with Zika are characterized as “severe”, “serious”, “devastating”, and “heartbreaking”. It is important to ask “For whom is congenital Zika syndrome devastating and heartbreaking?” On the surface, the desire to prevent intrauterine transmission is an altruistic expression of pity, but it is quite likely the motivation stems from our general discomfort in dealing with people who do not “fit into the standard categories of anatomy and identity” (Dreger, 2004, p. 4). Aware of the degree to which unusual anatomies are stigmatized, parents may very well experience distress, fear, guilt, and grief upon learning their child has an anomalous anatomy. As Florida senator Bill Nelson (Democrat) states,

“Down the road we'll find a vaccine. Down the road we will be able to manage this problem...But in the meantime there's a great deal of trauma (and) some extraordinary heartbreak to some families” (Korte, 2016).

In describing the emotional toll of having a child with disabilities, the framing of Zika-related congenital malformations also reveals assumptions regarding the types of bodies and capacities deemed necessary for full personhood and citizenship. Notably, the narrative which frames birth outcomes as less than ideal is influenced by an ideology which equates individualism with independence and interdependence with weakness. “Each case is a tragedy,” states former CDC director, Tom Frieden “[because] a child that may never walk or live independently” (qtd. in Santora, 2016). It would be one thing to note that certain circumstances may make life more difficult but versatility and adaptation are possible. Journalists do not do this, but they do note the economic impact of children born with Zika.

To that point, birth defects are not only “heartbreaking” and “devastating” for families and caretakers, for they pose a threat to the larger society because physical and/or intellectual disabilities can place economic strains on families or populations. Santora (2016) notes that the lifetime cost of care for each child is estimated to be \$10 million. Santora does not outline any specific expenditures which comprise this estimated cost of lifetime healthcare, but stating this shocking figure without qualifications is likely to influence medical decision making. Writing for the L.A. Times, Laura King (2016) similarly notes, “The burden of birth defects has fallen chiefly on impoverished populations with fewer resources to deal with often-devastating effects that can last a lifetime.” Therefore, economic and psychological despair color descriptions of birth outcomes associated with maternal Zika virus infection.

In contrast to the effects of Zika on fetal development, reports of the effects of Zika on health in general are not painted as distressing or catastrophic; for adults, Zika virus infection is largely tolerable. The contrast between the two threats Zika poses is evident in the statement in the L.A. Times that, “the Zika virus causes only a mild illness, at worst, in most people. But infection during pregnancy can lead to severe brain-related birth defects for the fetus” (Associated Press, 2016). In all but three articles in which specific Zika virus signs and symptoms are mentioned, the effects are either characterized as “mild” or the report is covering an isolated incident.

By ‘isolated’ I mean the journalist mentions new cases of Zika virus infection, but either explicitly state the cases are isolated; or the news story is about infection in one person while also indicating the case is not evidence of a larger threat to public health. For example, after a University of Pittsburg research accidentally infected herself with the Zika virus, Dr. Karen Hacker, director of the Allegheny County (Pennsylvania), reminds “residents that, despite this rare incident, there is still no current risk of contracting Zika from mosquitos in Allegheny County...” (qtd. in Chan, 2016). In another incident, a family caretaker of a man who had contracted Zika while traveling abroad was also diagnosed with Zika, indicating the virus may have been transmitted through an unknown route of transmission. Dr. Angela Dunn, deputy epidemiologis of the Utah Department of Health reassured citizens that “We have found no evidence that mosquitoes here in Utah are transmitting the Zika virus” (qtd. in Tavernise, 2016) which the journalists further interpret as evidence that “the case was not a danger to the broader public” (Tavernise, 2016b).

The most serious complication associated with Zika virus infection in adults is Guillain-Barré syndrome, which causes varying degrees of tingling sensations, muscle

weakness, or paralysis in extreme cases; GBS and its associated symptoms are listed in about one-third of the total articles (whereas microcephaly and brain abnormalities were discussed in 75% of the sample). Most often, incidences of GBS are described as rare, though it is noted that there is an association between Zika infection and the syndrome. Unlike Zika, Guillain–Barré syndrome cannot be passed from person to person (Boston Public Health Commission , n.d.), and Guillain–Barré syndrome never mentioned in an article in which birth defects are not; the converse is not true. Altogether, in describing the impact of Zika on human health, journalists disproportionately emphasize the effects of Zika on fetal development compared to effects on health in general.

Victims

In order to report information regarding risk factors, risk groups are often conceptualized as “victims of the Zika virus”. The narrative paints those most at risk not only as worthy of protections, but as helpless or in need of assistance in order to avoid infection. Statements of “victimhood” were identified through various key terms. Out of 162 statements, four primary risk groups emerge: people in general, travelers, women, and offspring (See Figure 2).

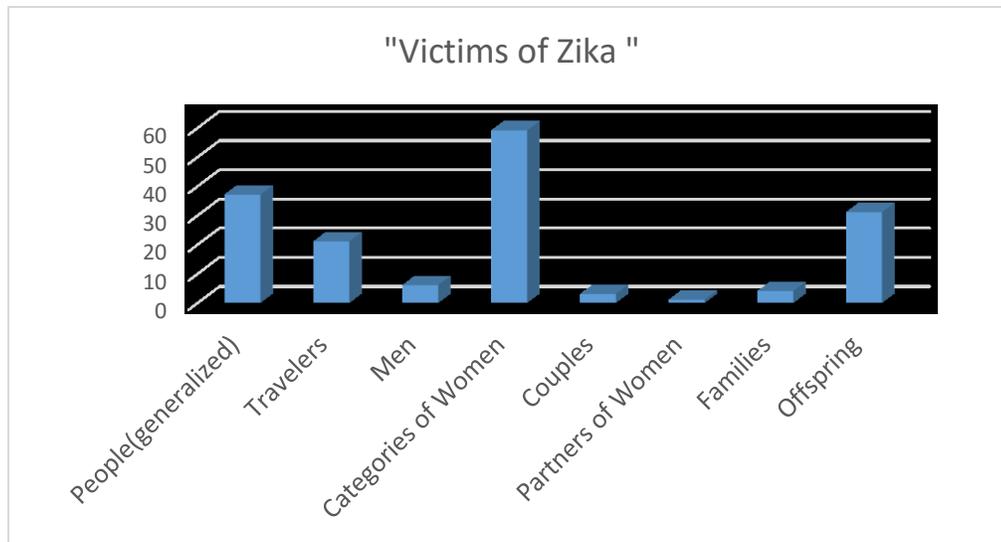


Figure 2. "Victims of Zika"

The discourse surrounding risk becomes more interesting when we further analyze the categories of "offspring" and "women." Offspring comprise about one-fifth of the subjects identified most at risk or in need of protection. This is surprising provided journalists overwhelmingly described the effects of Zika on a developing fetus in contrast to the effects on health in general. It is additionally interesting that out of 98 statements about risk to offspring, only a quarter characterize Zika as a threat to a fetus or embryo whereas 79% of the time this subject is labeled as either a baby, newborn, infant, or child. For the most part, journalists powerfully describe this subject as a baby. It is interesting to note the ideological work being done by framing Zika as a threat to a human being, a future citizen, rather than a danger to a biological process:

Pregnant women are typically tested for Zika at a minimum in their first and second trimesters, with or without symptoms, and get ultrasounds to monitor their babies—steps that protect their health and allow public-health officials to gather data that may provide clues about the disease (McKay, 2016d).

And researchers still don't know how many babies of women infected with Zika will end up with birth defects, or what drugs and vaccines may be effective” (Korte, 2016).

In addition to the risk Zika poses to fetuses or babies, the other subjects at greatest risk include travelers, people in general, and various categorical designations for women. Although women are framed just as likely to be considered at risk as travelers and people combined, they are almost twice as likely to be described as victims of a Zika virus infection than fetal or juvenile subjects, and more than four times as likely than men, families, couples, and partners of women combined to be labeled at risk. Noteworthy, the focus of concern is not on women as women; 82% of the female bodies under scrutiny are women as maternal subjects, and pregnant women especially are described as being at risk (See Figure 3).

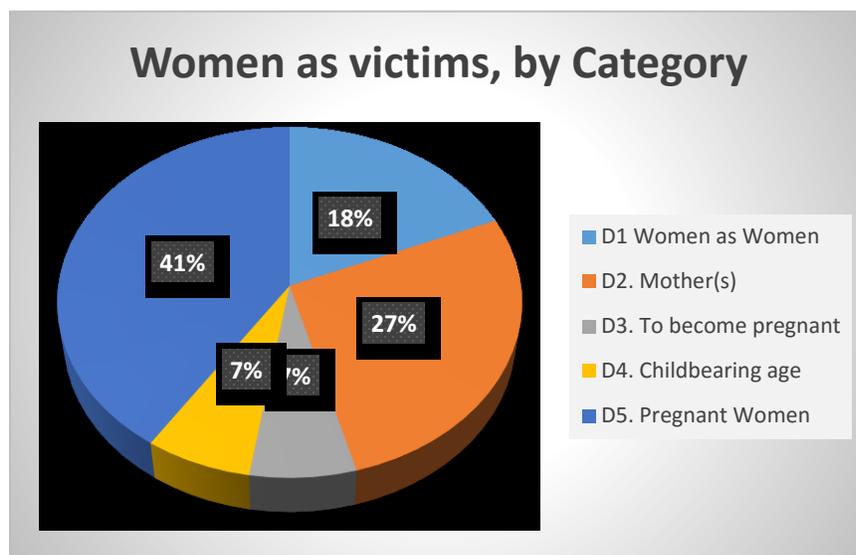


Figure 3. Women as Victims, by Category

The notion that Zika poses a particular danger to pregnant women and mothers is explicitly echoed over and over again throughout the articles:

Details provided by the agency [CDC] also suggest that pregnant women face significant risk from the disease [Zika] (McKay, 2016b).

Zika can pose a dire risk to pregnant women. It targets developing nerve cells in fetuses... (Santora, 2016).

In an interview with Gayle King, Barack Obama states, “What we now know, though, is that there appears to be some significant risk for pregnant women or women who are thinking about getting pregnant” (qtd. in Landler, 2016).

The language used in this framing of risk is particularly interesting because it suggests that once women are pregnant, they are actually more at risk of becoming infected which requires quite the leap of imagination. Within the discourse framing the risks of Zika, the maternal body serves as a proxy for the developing fetus. This is an example of fetal or child protectionism disguised as maternal risk. This is significant for it legitimizes the regulation and control of women’s reproductive bodies in the name of child welfare:

According to Fauci [National Institute of Allergy and Infectious Diseases director], women are the most susceptible to the infection in their first trimester as they may not be aware of their pregnancy in its early stages. For that reason, the NIH proposes that all women of childbearing age are vaccinated prior to becoming pregnant (Heller, 2016).

Within this quote we also see the endorsement of preventative behavior despite the varying degrees of certainty and uncertainty surrounding multiple aspects of Zika. Public health organizations have embraced the ‘precautionary principle’ which states that if something is assumed to be risky, it should be avoided entirely. As the American Public Health Association’s (2000) statement and policy states, operating under the precautionary principle means “recognizing that public health decisions must often be made in the absence of scientific certainty [and] Recognizing that proof of cause and effect relationships is often difficult to establish because of non-specificity of health effects, long latent periods, subtle changes in function that are difficult to detect without resource-intensive studies, and

complex interactions of variables that contribute to adverse health effects.” The principle is especially potent when there is potential harm to vulnerable populations: the APHA further states “that children and other sensitive populations are, therefore, in particular need of protection from environmentally related hazards...and encourages precautionary action to prevent potential harm to reproductive health, infants, and children, even if some cause and effect relationships have not been established with scientific certainty” (American Public Health Association, 2000)

Journalists repeatedly invoke fear in the communication of risk. While the discourse paints Zika as something to be feared, women are largely the group expected to be distressed. By and large, men are absent from the framing of emotional concern pertaining to the well-being of children for the majority of descriptions frame concern about the health of children as an emotional event for women, especially women as maternal bodies:

...new worries keep emerging among pregnant women” (Karlman, 2016).

“We know that this is a really scary time for pregnant women...” (Landler, 2016).

“For pregnant women, the bite of a Zika-carrying mosquito has come to be especially feared (Healy, 2016).

Before continuing, I will briefly recapitulate a few of the central findings discussed thus far. First, the risks of Zika can be separated into that which impacts the health of humans in general, and factors which specifically affect fetal development. It became clear that the threat worth caring about is the association between maternal infection and birth outcomes. This claim is substantiated through two points of analysis: First, of all the stated effects of Zika on human health, the majority highlighted the impact that Zika has on a developing fetus. Secondly, the language used to describe the two threats wildly contrasts, such that Zika infection in adults is portrayed as a minor concern whereas the impact on fetal development

is distressing and scary. The narrative which juxtaposes two threats of Zika similarly constructs various risk groups.

Coding revealed various risk groups: people in general, travelers, different categories of women, and offspring. Through my analysis of media frames, it became clear that governments and health organizations were specifically concerned with the health of travelers, women as maternal bodies, and fetal subjects. Considering the reports of minimal harm caused by Zika on people in general, we can conclude that the framing of Zika largely tells a story about fetal development and the maternal (or potentially maternal) bodies in which this development takes place.

Morality and Identities: Tools of Coercion

In addition to fear, morality serves as a powerful tool of coercion in the framing of the Zika virus. The domain of morality can be examined through the lens of motivation and self-regulation (Janof-Bulman, Sheikh, & Hepp, 2009). Janof -Bulman and colleagues (2009) identify two fundamental constructions of morality: prescriptive morality involves utilizing “good” behaviors in order to achieve positive outcomes whereas proscriptive morality involves evading “bad behaviors” in order avoid negative outcomes. Moral prescriptions are not limited to individual-level behaviors because we can also speak about the moral obligations of organizations. Since the aim of journalism is to remain relatively objective, journalists often make also reference to morals indirectly—through quotes or inference (Neuman, Just, & Crigler, 1992) For example, Szabo (2016) quotes Gostin’s claim that there is “a huge moral and public health concern about the well-being of pregnant women and their babies.” Notably, conversations surrounding Zika are hinged on moral evaluations of the quality of a life worth living. As Gostin also states, “if the association between microcephaly

and Zika virus is confirmed, there will be an ethical imperative to protect women of childbearing age from contracting the infection. The public will demand well-funded, proactive leadership from the World Health Organization.” (qtd. in Szabo, 2016).

Notions of morality and justice significantly legitimize and inform the recruitment of personnel and the distribution of economic resources dedicated to “solving” Zika through research and patient access to healthcare. CDC director, Tom Frieden declares, “We need to start to get ready to care for babies born with microcephaly,” (qtd. in McKay, 2016c). Dr. Peter J. Hotez, the dean of the National School of Tropical Medicine at Baylor College of Medicine, warns, “If no action is taken... [Countries with very little public health infrastructure and nearly nonexistent mosquito control, could be facing “tens of thousands of cases of microcephalic babies seven to nine months from now”” (qtd. in Tavernise & McNeil, 2016). Similarly, Dr. Denise J. Jamieson, one of the leaders of the pregnancy and birth defects team (part of the C.D.C.’s Zika response effort), cautioned, “Microcephalic babies are beginning to be born,” Dr. Jamieson said. “The disease seems to be very similar no matter where it is” (qtd. in Tavernise, 2016a).

In the previous statements it is interesting the individual and collective identities being discussed. For one, “babies born with microcephaly” are constructed through categories of vulnerability, risk, and susceptibility thus leading to the formation of new biosocial identities (Rose & Novas, 2005). The construction of medical knowledge regarding Zika creates new ‘biosocialities’ (Rainbow, 1996) in which the production of social identity and relationships are based upon shared genetic and biological characteristics. Biosocial identities are constructed through shared meanings and relationships between individuals and

institutions. In the emergence of the Zika epidemic, we see how political, medical, and technoscientific practices have combined to place new (and developing) risks on display.

In addition to constructing the “victims of Zika”, the narrative reaffirms collective identity by describing the management of health as a national priority. Quoting a statement from the White House, Szabo (2016) notes “The president emphasized the need to accelerate research efforts to make available better diagnostic tests, to develop vaccines and therapeutics, and to ensure that all Americans have information about the Zika virus and steps they can take to better protect themselves from infection.” Not only is population health a priority, but the journalists also note that the United States is good at—or at least better than other countries—at controlling the spread of Zika. Since “the standard of living is different in the United States than in many areas where the virus has become endemic, U.S. health officials have said that widespread outbreaks are unlikely” (King, 2016). In the same vein, Tavernise & McNeil (2016) state, “The United States, like other developed countries, is good at breaking transmission of the virus.” Thus, we see an emergence of new social groupings bound by hopes, fears, and fates in which various institutions—medical and political—have been sanctioned to respond to the “problem” (Petryna, 2002, p. 14)

Like many stories of disability, the discourse is not really about expanding access to healthcare or providing treatments after birth for this is a tiny portion of institutional-/organizational-level actions reported in Zika news coverage. Instead, the ‘citizenship project’— “the ways authorities that authorities think about (some) individuals as potential citizens, and the ways they tried to act upon them” (Rose & Novas, 2005, p. 1)— underway is about preventing disability at any expense. According to Gostin, “if we have a baby born, or many babies born, with malformations that could have been prevented, it will be

unforgivable” (qtd. In Szabo, 2016). The anxiety surrounding babies born with birth defects underpin “citizenship projects” which use the cultural authority of biomedicine to coerce the bodies and behaviors of citizens through fear, moral injunctions, and direct instructions.

To that point, various institutions and organizations created new conditions under which individuals are expected to manage health and illness. In particular, discourse has constructed Zika as an external threat to be avoided *and* an embodied experience; more specifically, the fear surrounding Zika is about children with Zika and the wombs in which they reside. As noted earlier, a lot of the framing of risk related to Zika involves the management of uncertainty. Despite the lack of conclusive evidence regarding about human-to-human transmission and the effects of Zika on human health, there is no shortage of health organization-endorsed behavioral prescriptions for the individual management of Zika.

Attribution of Individual-Level Responsibility: A gendered management of health

Regulatory power is enacted through direct coercion in the form of approach- or avoidance-based instructions for self-regulation. Because the framing of Zika highlights three routes of transmission (mosquito-to-human, human-to-human (sexual), and human to human (intrauterine)), risk communication focused on various health-risk behaviors. The inductive coding process revealed three broad categories of individual-level management of health: (1) guarding one’s self against mosquito bites; (2) medically managing the Zika virus infection through consultation with health professionals, actively consuming medical knowledge, or seeking out diagnoses or vaccinations; and (3) both preventative and treatment strategies of currently- or potentially-pregnant women. Articles were also coded to identify the target(s) of each directive. This coding revealed nine primary targets of the directives, including: people in general, travelers, partners of women, couples, men, women, pregnant women, women to

become pregnant, and women of childbearing age. The most common set of instructions across all groups of individuals is the control of mosquitos or avoidance of bites (61%), despite mosquito-centered efforts being one-fifth of institutional-level actions (See Figure 4).

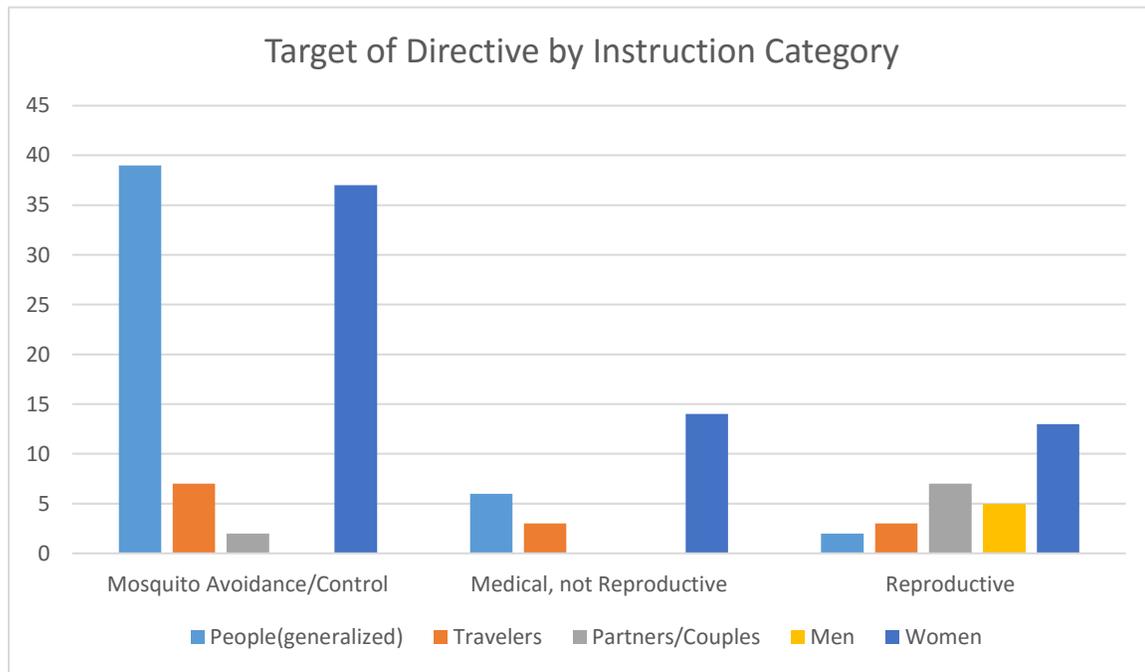


Figure 4. Target of Directive by Instruction Category.

It makes sense for mosquito-focused advice to be the most frequent because mosquito-borne transmission was by far the most common route of transmission for U.S. states and territories in both 2015 and 2016 (CDC, 2018). It is worth noting that 43% of these instructions are directed towards people (generalized) and/or travelers while women are the target of about 46% of the instructions, and less than one-fifth of these directives state what *women as women* should or should not do; rather, instructions largely target *women as maternal bodies*.

The gendered nature of each group of directives is further revealed with an analysis of each set of instructions that separates individuals into the following groups: 1.) people 2.)

Travelers; 3.) Couples or partners of women; 4.) Men; and 5.) all categorical designations for women. (Note: people and travelers are treated as categorically similar for neither denote gender nor conceptualize individuals as parts of an intimate relationship.) The most frequently cited directive for pregnant women regarding mosquito control and the avoidance of bites is to avoid or delay travel to countries where Zika virus is widely circulating (58%) rather than taking other precautions to prevent being bitten. For instructions which do to target women specifically, travel restriction comprise .02% of the directives regarding mosquito control and the avoidance of bites. Men, partners of women, and couples are largely absent from this group of preventative measures.

A similar pattern emerges when we shift our focus to directives which function to encourage the medical management of Zika. When looking at the medically-oriented set of instructions for the group as a whole, 91% of directives involve the production or consumption of medical knowledge (e.g., obtain Zika diagnoses, consult with physician before travel, and seek out information about the risks and preventative measures associated with Zika) in which the focus is on prevention through intentional interaction with biomedical organizations. While 39% of these instructions are intended for all people and/or travelers, the remaining 61% inform women what they should or should not do. Once again, the focus is largely on women as maternal bodies. The most common instructions are directed at pregnant women or those whom could become pregnant, and advise these subjects to consult with health-care providers prior to travel and obtain a diagnosis for Zika. Once again men, partners of women, and couples are excluded from this set of directives.

Analysis of the third set of directives—instructions pertaining to reproductive measures—tells a *slightly* different story. Men, partners of women, and couples are not

absent from this group of guidelines. The reproductive-related directives can be divided into two broad categories: (1) instructions for readers to either abstain or use contraception in order to prevent the transmission of Zika between people or the prevention of pregnancy or; (2) explicit warnings to postpone pregnancy altogether. Despite a more equitable distribution of directives among the groups of individuals within this frame, the ratio of women to people and travelers is 2.6:1; women to couples and partners of women is 1.8:1; and 2.6:1 for women to men. It is interesting to further tease apart the specific set of instructions within the reproductive frame in order to illuminate the ways in which the narrative surrounding Zika is largely about governing reproduction, primarily through the bodies of women, in order to achieve fetal anatomical normality.

Delaying pregnancy for a more perfect nation

Consistent with the framing of human impact, the set of reproductive-associated directives indicates that concern is not about preventing the sexual transmission of Zika to adults for the sake of preventing infection in adults; instead, the goal is to prevent infection in women and the subsequent intrauterine transmission of Zika. The proceeding discussion of the reproductive-associated directives will separate instructions which advise readers to abstain or practice safe sex and those which command subjects to delay pregnancy. Marginally less than half of the instructions command citizens to use contraception, and this directive targets all groups except partners of women and women of childbearing age. Notably, only one-fifth of women advised to use contraception are *women as women*, rather than maternal bodies. Interestingly, all categories of women are absent from the abstinence directive while couples and men are advised to withhold from sex. Taken as a whole, the framing of risk behaviors hardly advocates women-controlled safe sex *unless* it is *woman as*

mother nor does it present women outside of intimate relationships the choice of abstinence. The problem with this last point becomes apparent when we shift the focus to the second-most frequent warning: “Don’t get pregnant!”

Johnson and Jelmayer (2016) report, “Some politicians and health officials have urged women to delay getting pregnant.” Readers are expected to delay pregnancy for various lengths of time—for months, years, seasons, or even indefinitely. Paraphrasing Dr. Ernesto T.A. Marques Jr.—a Brazilian vaccine researcher based at the University of Pittsburgh—McNeil (2016) states a “sophisticated approach... would be to advise women to avoid pregnancy each year from March through May, the intense mosquito season.” McNeil (2016) reports an increasing amount of support among infectious disease experts that delaying pregnancy could work. In fact, “it may be the most effective way to break the back of this global epidemic” (McNeil, 2016). Of course, the epidemic McNeil speaks of is less-than-desirable birth outcomes because delaying pregnancy in no way alters the course of Zika virus for most of the population.

Nonetheless, the most common directive for women is to delay or avoid pregnancy; women are the target of this instruction 2.7x more than all other groups combined. In ways this is not surprising for when a judge orders an individual not to procreate, women are typically the target of this court decision (Flavin, 2009). On the flip side, this command is paradoxical because it simultaneously positions all women as maternal bodies but inverts the cultural obligation to reproduce. Men, couples, and partners of women are excluded from this directive except the one instance which states “‘husbands may cooperate because they do not want disabled children” (McNeil, 2016). By placing a bulk of the responsibility for delaying or avoiding pregnancy on the shoulders of women, they disproportionately position women

as “moral pioneers” who must make “concrete and embodied decisions about the standards for entry into the human community” (Rapp, 1999, p. 3). In contrast to Rapp’s argument which primarily focuses on the ethical dilemmas one encounters following second semester antenatal screening and testing, the framing of Zika encourages women to avoid this quandary altogether because biomedical knowledge has already determined that fetuses affected by congenital Zika syndrome do not fit the standards for entry.

Issuing the command to avoid or postpone pregnancy altogether is perhaps this reason abortion was relatively absent from the articles within my sample. Prior to coding, I had expected this to be discussed quite a bit more. In fact, abortion is only mentioned in one article, and the focus of the story is reproductive rights and access to healthcare for women in Latin American countries. The individual-level reproductive “solutions” largely focus on the period before conception such that there is absolutely zero risk of having a child with congenital Zika syndrome. Of course, telling citizens to abstain or use contraception might be motivated by the desire to protect already-existing embryos and fetuses, but the framing of responsibility seems to be informed by the idea that ““We don’t know how to prevent the Zika virus, but we do know how to prevent pregnancy,” says Dr. Chris Zahn, Vice President of Practice Activities for the American Congress of Obstetricians and Gynecologists (qtd. in Sifferlin, 2016).

Now preventing pregnancy make seem like a simple solution of the surface, but what this fails to acknowledge is that 45% of pregnancies in the United States are unintended, and this number jumps to 75% for teens aged 15-19 (CDC, 2016). Furthermore, unintended pregnancy rates are highest amongst unmarried women aged 18-24, who fall below the federal poverty line. If “not getting pregnant” is the institutionally-endorsed response to the

Zika epidemic, it would seem fitting for political actions to be centered around improving the quality of, and access to, reproductive healthcare. Ironically, Congress' request for \$1.1 billion dollars in June, 2016 to battle the Zika virus included provisions which restricted funding to Planned Parenthood and spending cuts that Republicans demanded in order to offset a portion of the \$1.1 billion allocated to Zika prevention and treatment (Barnes, 2016).

Consequently, biomedical authority uses strategies and techniques to construct risk in such a way that requires active medical citizenship (Rose & Novas, 2005). Individuals are responsible for becoming informed about Zika and risk so they can shape their own life through “acts of choice.” Of course, we must note these choices are influenced by medical knowledge and reproductive technologies which construct the desired capacities and bodies of future citizens. The ableist reproductive agenda is mobilized through the antiquated assumption that healthy babies come from responsible women, such that the ideal of the “good mother” serves as a powerful tool for enforcing reproductive guidelines during pregnancy and the period prior to conception. Accordingly, blame is often woven into framing of risk prevention in pre-pregnancy health promotion materials (Waggoner, 2017). The CDC (2017b) declares Zika can be “prevented and managed with *proper care*” (italics added). Thus, the “good mother”—or good parent—is one who knows the risks and avoids risks to her child, or her future child. Consequently, intrauterine transmission of the Zika virus to a fetus is described as the product of the recklessness of its progenitor(s). Healy (2016) states, “most Zika research has chronicled damage to newborns who were inadvertently, and haphazardly, exposed to the virus...”

Defining the Enemy in a War to be Won: The Metaphorical Framing of Conflict and Strategic Responses

It is necessary to pay attention to the relationships between language use, policy, and public understanding of Zika virus. Since national and international policies regarding the spread of bacterial and viral organisms “have often been shaped by militaristic metaphors of “biosecurity” and warfare” (Nerlich, Wallis, & Larson, 2005, p. 244), it is important to see the ways in which militaristic metaphors help frame the risks and responses reported in Zika virus news coverage. Notably, there is little agreement about what constitutes a threat to biosecurity (Lakoff & Collier, 2008). Nonetheless, emerging diseases gain media attention and spur political responses. Moreover, in the context of rapid globalization viral and bacterial agents pose threats internationally, it becomes important for nations to have effective biosecurity protections and interventions in place

For this frame I (a) coded articles for references to combat-related terminology; and (b) coded to identify the opponent of each militaristic statement. Sentences were binary coded to identify whether the primary opponents within the metaphorical framing of Zika are mosquitos—as transmitters of disease— or Zika virus disease itself. While deductive codes were formed, further inspection of the articles generated additional codes such that the primary the key terms and phrases include: attack, battle, burned its way, combat, contain, control, creep, fight, invade, kill, lose, plow, spread, war, etc.

On one hand, mosquitos pose a threat because of their potential to spread disease within the global community. (Tavernise & McNeil (2016) report, “among the most urgent needs, experts [W.H.O. members] said, were aggressive efforts to control the populations of mosquitoes that spread Zika and know no boundaries.” In an L.A. Times article,

Karlamangla (2016) depicts *Aedes* mosquitos as threatening for they are unusually aggressive: “They can't be easily swatted away and readily follow people into buildings or cars.”

Nevertheless, metaphorical statements that described a “war against Zika” were 1.6 times more common than the description of “fighting mosquitos”. In these cases, the virus itself is that which needs to be contained or combatted. McDonnell (2016), uses the same language as Margaret Chan, WHO’s director-general, to report that “the WHO declared a threat of “alarming proportions,” warning that the Zika virus was “spreading explosively” across the Americas and could infect as many as 4 million people.” The threat of Zika crossing borders is similarly seen when Lawrence Gostin, director of the O'Neill Institute for National and Global Health Law at Georgetown University in Washington, predicts, Zika “will certainly come to the United States, and I think it will come fairly rapidly” (qtd. in Szabo, 2016). Overall, journalists draw upon militaristic metaphors of warfare and biosecurity in regards to disease more often than invasive species: “Puerto Rico’s battle with Zika is giving local and U.S. health authorities a rare chance to better understand the disease as it makes its relentless march across the Americas” (McKay, CDC Issues Warning on Zika Virus, 2016a).

In constructing the ways we think about and understand Zika, metaphors also inform strategic responses to the mosquito-borne virus. This point becomes clearer when institutional/organizational-level actions pertaining to mosquito control are decoupled from biomedical solutions which focus on the bodies and/or behaviors of people. Roughly one-fifth of the organizational actions or strategies focus on the management of mosquitos, whereas 78% emphasize the need to understand, monitor, manage, or treat the virus in individuals or populations (See Figure 5).

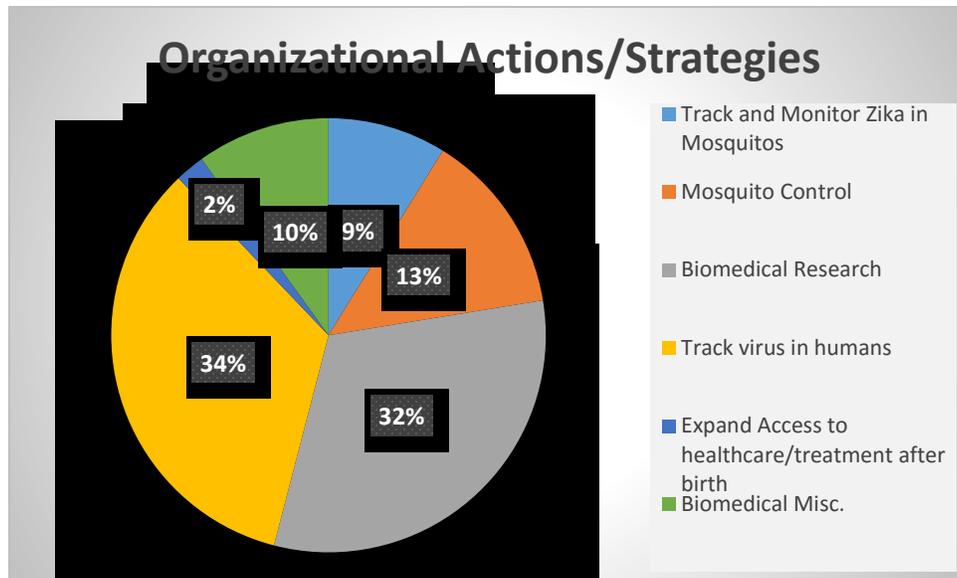


Figure 5. Organizational Actions/Strategies

In part, this can be explained by the fact that articles repeatedly note a relatively low risk of U.S. mainland homegrown outbreak. However, mosquito-borne transmission remained the most common route of infection for the United States and U.S. territories for 2015 and 2016 (CDC, 2018). With mosquitos as the primary vector for Zika, one might expect news coverage to provide rich accounts of governments issuing insect repellent, organizations helping to remove standing water, or other efforts to control mosquitos. This is not the case. My findings regarding institutional/organizational responses reflect the CDC’s own proclamation of what they are doing to help. The CDC lists five strategies under the title of “CDC in action”, none of which include efforts to actually control mosquitos (CDC, 2017a). The bulk of institutional and organizational responses fall into one of two categories: research and surveillance. This is significant because articles were sampled from a moment in time when governments and health organizations were trying to make sense of the virus themselves. Internationally, governments, scientists, and health professionals raced to investigate the Zika virus; these efforts gained a new sense of urgency in the wake of reports

that linked the virus to microcephaly. A barrage of questions emerged: What are the symptoms of Zika? How is Zika similar to or different from other types of infections? How are people diagnosed? Treated? Is there a causal link between Zika and microcephaly; Zika and other birth defects; Zika and Guillain–Barré syndrome? How does Zika cross the placental barrier? At what stage in pregnancy is Zika infection most dangerous for the fetus? What is the geographical distribution of mosquitos who carry Zika? What are the best interventions? And on and on and on. It can be easy to see how grappling with these types of questions because even more complicated once it was discovered that Zika can likely be transmitted sexually. Dr. Kathleen Berkowitz, an obstetrician who practices in Los Angeles and Orange counties, describes some of the uncertainty, “This isn't behaving like most of the viruses we know about... We don't know the attack rate, we don't know the susceptible period, we don't know how long it's going to take before you'll be able to see the effects of the viral infection, on and off an ultrasound” (qtd. in Karlamangla, 2016).

A tension between the known and unknown is a common theme throughout the entire sample, with different sources reporting varying degrees of new findings and uncertainty. Reports of new findings *barely* outpaced explicit mentioning of uncertainty. Nonetheless, both frames function as mechanisms of biopower by contributing to the narrative that Zika is scary. On one hand, it is the lack of information that induces angst. As former CDC employee and professor of public health and pediatrics at New York Medical College, Robert Amler states, “There is uncertainty here, and uncertainty, of course, always leads to concern and anxiety...” (qtd. in Karlamangla, 2016). However, new information does not alleviate this psychological distress because “Most of what we've learned is not reassuring,” said Dr. Anne Schuchat, the principal deputy director of the Centers for Disease Control and

Prevention. ‘Everything we look at with this virus seems to be a bit scarier than we initially thought’” (qtd. in Korte, 2016). Notably, the fear of the unknown and the fear of risk serve as powerful tools of coercion in the framing of public health crises.

Consistent with the biomedical framework (Clarke et al., 2003), much (one-third) of the organization-/institutional-level responses involve the production of medical knowledge, such as requesting funding to research multiple aspects of the virus including: its effects in adults, the effects on fetal development, transmission routes, vaccine development, and therapeutic interventions. The findings from these research efforts serve to construct the threat Zika poses to health; and in addition to tracking the geographic distribution of *Aedes* mosquitos, it identifies specific risk factors. Considering risk and surveillance are co-constitutive (Clarke, Shim, Mamo, Fosket, & Fishman, 2003), it is not surprising that an additional one-third of institutional/organizational responses include an expansion of resources for disease diagnoses and monitoring the movement and behaviors of “at risk” populations. The discourse surrounding Zika bifurcates risk into factors which predispose any individual to Zika virus infection; or risk factors which would expose a developing fetus to Zika virus infection. As consequence, three bodies become the primary subjects of intense scrutiny: first, medical professionals ramp up efforts to detect the virus in people in general; it also becomes particularly important to detect the virus in women— especially women as maternal bodies; lastly, there is increased surveillance of not only Zika, but also birth defects, in fetal and infantile bodies.

CHAPTER 5

CONCLUSION

In this study, I sought out to understand the biomedicalized risks and responses that are reported in American print media early in the emergence of the Zika virus epidemic. It is important to pay attention to the framing of public health crises because news media play an important role in communicating risk. Importantly, the framing of risks not only directs individuals' attention and concern towards certain contexts, it also persuades them to modify their behavior in order to reduce risks. I selected seven frames from previous-frame related research: conflict, uncertainty & new evidence, metaphors, impact on human health, organizational strategy/action, attribution of individual-level responsibility, and morality.

Paired content and discourse analyses of media frames of the selected articles from print news coverage early in the emergence of the Zika virus epidemic provide a snapshot of biomedicalization and reproductive governance at a very specific sociohistorical moment. The ways in which biomedicine is intimately bound to modern notions of citizenship and identity not only permeate the stories journalists tell, but inform and organize the discourse in order to provide a coherent narrative about the threat Zika poses, individual responsibility in managing risks, and institutional strategies in response to the epidemic.

It was of paramount importance to delineate the largest threat(s) posed by Zika reported in print news media, for this portion of the human impact frame informs readers *why Zika even matters, why they should care*. Journalists' mentioning of the effects of Zika virus infection on human health were grouped dichotomously by stages of lifespan development; noting the ways which Zika affects people in general or describing the way maternal Zika infection interacts with fetal development. Within my sample, the majority of descriptions

which note an impact on human health focus on the bodies of offspring. Moreover, the language used to describe infection in adults is in stark contrast to that which describes infection in utero. Whereas Zika infection in adults is characterized as mild and tolerable, fetal or embryonic infection is described as physically disastrous and emotionally distressing for families. Notably, the framing of Zika-related congenital malformations is hinged upon assumptions about the quality of a life worth living and desired bodies and capacities of citizens. Additionally, journalists call attention to the economic toll of undesirable birth outcomes.

In reporting information regarding risk, journalists conceptualize risk groups as “victims” of the Zika virus. Distinct from analyses which grouped stated effects on human health by stages of lifespan development, identifying risk groups was done through locating the subjects within statements of victimhood. Statements of victimhood—identified through various key terms— not only classify those at risk, but describe these subjects as helpless, worthy/in need of protections. Out of 162 statements, four primary risk groups emerge: people in general, travelers, women, and offspring. Distinct from the other frame noting the impact on human health, offspring are only about one-fifth of the subjects identified most at risk or in need of protection. It is worth noting that journalists describe this subject as a baby, newborn, infant, or child significantly more often than characterizing it as a fetus or embryo.

Although women are just as likely to be considered at risk as travelers and people combined, they are twice as likely to be described as victims of a Zika virus infection than fetal or juvenile subjects, and more than four times as likely as men, families, couples, and partners of women combined. Language used in the framing of risk suggests that women as maternal bodies are especially at risk of Zika virus infection, indicating that the maternal

body serves as a proxy for the developing fetus. Additionally, the journalists paint congenital Zika syndrome as something to be feared, but women are the group reported to be most afraid. Men are absent from the framing of emotional concern related to the well-being of children. Overall, journalists frame Zika as a story about current or future fetal development and the maternal (or potentially maternal) bodies in which this process takes place.

Journalists rely upon a metaphorical framing of conflict when reporting risks and responses related to the Zika virus. Statements of warfare and biosecurity—identified through key terms—were grouped dichotomously such that the primary opponents within the metaphorical framing of Zika were either mosquitos or the Zika virus itself. While journalists did describe a battle against mosquitos, a “war against Zika” was evoked 1.6x more often. The metaphorical framing of conflict is important because constructing the ways we think about and understand Zika also informs the strategic responses to managing the epidemic. Whereas one-fifth of the reported strategic responses focus on the mosquito control, the remaining 78% emphasize the need to understand, monitor, manage, or treat the virus in individuals or populations.

The majority of organizational responses fall into one of two categories: research and surveillance. This is significant because articles were sampled from a time during which much was unknown and new information consistently emerged, a time during which many claims-makers were trying to construct meaning in regards to the risks associated with Zika. Journalists reported information which fell into one of two poles: unknown and known. In my sample, reports of new findings barely outnumbered the explicit mentioning of uncertainty. However, both of these frames operate as tools of biopower by contributing to narrative that Zika is scary. Therefore, uncertainty incites anxiety, but the flood of new

information creates “facts” which do not present good prospects. In sum, institutional actions/ strategies overwhelmingly involve the production of medical knowledge which serve to identify risk factors, thus constructing risk groups.

Through this analysis, we see how categories of vulnerability, risk, and susceptibility forms new biosocial identities. In particular, journalists report on the biomedically-ascribed identities of babies born with Zika-related birth defects. Moral evaluations about the quality of a life worth living underpin the construction of “children with microcephaly”. Due to cultural understandings which posit disability in terms of lack of fit or imperfection, journalists reinforce compulsory able-bodiedness (McRuer, 2006) by framing Zika as an issue which calls for government and biomedical intervention. Importantly, the ability to manage the spread of the virus provides the opportunity to display national wealth and power to the international community. As such, protecting citizens—especially mothers and children—shows national commitment to the health of its citizens.

In turn, individuals are expected to show their commitment to the nation by managing their own health. In addition to fear and morality, biopower is achieved through organization-endorsed behavioral prescriptions. Journalists discuss three broad instruction categories for the individual management of health: 1) guarding one’s self against mosquito bites; (2) medically managing the Zika virus infection through consultation with health professionals, actively consuming medical knowledge, or seeking out diagnoses or vaccinations; and (3) both preventative and treatment strategies of currently- or potentially-pregnant women. The most common set of instructions across all groups of individuals is the control of mosquitos or avoidance of bite. This set of directives primarily targets people in general, travelers, and various categories of women.

Women are the primary target of medically-oriented and reproductive instructions, and the majority of these directives are concerned with what women as maternal bodies should or should not do. The most common reproductive-associated directive for women is to explicitly delay pregnancy. Telling women to postpone pregnancy, without significantly increasing access to reproductive healthcare is a relatively futile proscription because many of the pregnancies in the United States are unintended. The narrative surrounding Zika presents an interesting intersection between disability rights, reproductive rights, and reproductive justice. Whereas reproductive rights generally emphasize a woman's legal right to choose regarding reproductive health services, reproductive justice notes that social identity categories—such as race, class, gender, and sexuality—disproportionately grant access to healthcare. Despite the level of access to resources, women are expected to heed the warning lest they irresponsibly contract Zika and transmit it to a developing fetus.

The cultural tropes of “a healthy baby comes from a healthy mother” and “healthy children make a healthy nation” powerfully shape the motivation to govern reproduction. Just as children are judged and nurtured with the future adult in mind, fetuses are evaluated and protected with the future child in mind. Accordingly, the emergence of childhood as a life stage and the shift in evaluations of a child's worth resulted in the child's value transformed from an economic to a sentimental one.

However, as reflected in this analysis, not all children are valued equally given that biomedicalization does not construct all bodies as worthy of existence or medical treatment. Cultural stereotypes about what constitutes a normally developing body—which are grounded in values of individualism, high-tech medicine, and self-improvement—lead to a medical model of disability which locates problems in the bodies of individuals rather than

the social situation. This radically affects the subjective experience of pregnancy and the “choices” with which parents must grapple. It is important to examine the context in which these choices are being made reproductive discourses are embedded within long-standing citizenship projects which link “conceptions to beliefs about the biological existence of human beings, as individuals, as families and lineages, as communities, as populations and race, and as a species” (Rose & Novas, 2005, p. 2)

Therefore, it is not enough to draw attention to the issues of reproductive choice and justice because another point of contention with the command to avoid pregnancy altogether, issued from political elites and experts from health organizations, is that the instruction is embedded within an ideological framework of compulsory able-bodiedness. Relying on a medical model of disability—which characterizes the birth defects associated with intrauterine transmission of Zika as “tragic”, “heartbreaking”, and “burdensome”—largely closes the doors to conversations which allow the voices of “sufferers” to be heard. Additionally, the command to “Delay pregnancy” suggests that babies born with microcephaly and other birth defects are not worthy of support. It also advocates the assumption that parents are not prepared, or would not want to, parent a child with a disability. An alternative narrative would demand policies that allow parents the means and opportunities to birth and raise children, despite the perceived shortcomings of their bodies and capacities.

Limitations and Future Research

This study has some limitations which must be discussed. For one, the sample size of fifty newspaper articles is very small. However, I must note that the purpose of this study was not to make a nationally representative argument, but rather to capture national-level

discourse. In order to strengthen this aspect of the study, it would be interesting to sample articles from additional newspapers. Secondly, there are inherent flaws with discourse and content analysis, particularly regarding the researcher's interpretation of the text.

Noteworthy, this is a limit to a lot of qualitative research for it is impossible for one to be purely objective. However, since the social world is largely a place of shared meaning, it is important to analyze discursive practices which shape our understanding of social reality (intersubjectivity). In order to partially overcome this obstacle, I used codes from previous frame-related research. For future research, it would be useful to have multiple coders in order to substantiate my findings through inter-rater reliability. Going forward, I will conduct an interrater reliability test, such as Cohen's Kappa, to measure agreement for categorical terms.

APPENDIX
LIST OF RETRIEVED ARTICLES

The L.A. Times			
1.	7/18/16	A mysterious case of Zika raises new fears of person-to-person transmission	M. Healy
2.	1/26/16	First Zika virus case confirmed in L.A. County	S. Karlamangla
3.	7/15/16	A woman spread Zika virus through sex in first documented case	Associated Press
4.	7/29/16	'Zika is now here': Mosquitoes are spreading virus in U.S.	L. King
5.	5/11/16	Scientists offer first direct proof that Zika virus in Brazil causes birth defects	M. Healy
6.	2/10/16	Zika virus found in fetal brain	M. Healy
7.	2/5/16	Meet the unusually aggressive mosquitoes carrying Zika	S. Karlamangla
8.	2/11/16	Global health agency's declaration signals new phase in battle against Zika virus	P. McDonnell
9.	2/9/16	Zika virus raises more questions than answers for pregnant women	S. Karlamangla
10.	3/9/16	Could climate change be the culprit in spread of Zika virus?	C. Kraul
The New York Times			
1.	2/5/16	Growing Support Among Experts for Zika Advice to Delay Pregnancy	D. McNeil Jr.
2.	1/28/16	Zika Virus 'Spreading Explosively' in Americas, W.H.O. Says	S. Tavernise
3.	7/18/16	Zika Virus Case in Utah Baffles Health Officials	S. Tavernise
4.	7/15/16	Twist in Zika Outbreak: New York Case Shows Women Can Spread It to Men	M. Santora
5.	1/16/16	Hawaii Baby with Brain Damage Is First U.S. Case Tied to Zika Virus	D. McNeil Jr.
6.	2/8/16	Obama Asks Congress for \$1.8 Billion to Combat Zika Virus	M. Landler
7.	6/25/16	Fear of Zika Virus Is Putting a Damper on Destination Weddings	A. Cowan
8.	2/1/16	Zika Virus a Global Health Emergency, W.H.O. Says	S. Tavernise & D. McNeil Jr.
9.	1/28/16	How the Zika Virus Is Affecting Travel	S. Vora
10.	6/16/16	C.D.C. Reports 234 Pregnant Women in U.S. With Zika	S. Tavernise
USA TODAY			
1.	4/11/16	'Scarier than we initially thought': CDC sounds warning on Zika virus	G. Korte
2.	1/15/16	Five things to know about the Zika virus	L. Szabo
3.	1/27/16	Experts: USA must prepare now for Zika virus	L. Szabo

4.	7/28/16	Florida investigates 2 more suspected local Zika cases	L. Szabo
5.	5/31/16	Third baby born in U.S. with defect tied to Zika virus	S. Solis
6.	1/15/16	CDC issues travel alert on Zika virus, which is linked to birth defects	L. Szabo
7.	1/31/16	WHO to hold emergency meeting Monday on Zika virus	L. Szabo
8.	3/9/16	Study links Zika virus to brain inflammation	L. Szabo
9.	1/28/16	Zika virus not causing outbreaks in continental U.S.	L. Szabo
10.	1/28/16	WHO: Zika virus 'spreading explosively' in Americas	D. Stanglin & L. Szabo
Yahoo News			
1.	6/3/16	Billions needed to combat Zika virus, possible vaccine by September	S. Heller
2.	4/11/16	Zika virus 'scarier' than thought: US health officials	AFP
3.	4/25/16	Why the Zika virus is causing alarm	Reuters
4.	5/11/16	Zika Virus: What Symptoms Should You Look Out For?	A. Sifferlin
5.	7/18/16	Zika virus passed from Utah patient to caregiver	K. Sheridan
6.	7.7/16	CDC monitoring 320 U.S. pregnant women with Zika	Reuters
7.	4/8/16	Utah resident who had been infected with Zika dies: health officials	J. Steenhuisen
8.	5/23/16	Zika Virus Likely to Spread in U.S. 'in the Next Month or So,' Official Says	M. Chan
9.	5/25/16	Zika Virus May Be Linked to More Eye Problems in Brazilian Babies with Microcephaly	PR Newswire
10.	6/10/16	Researcher Accidentally Infects Herself with Zika Virus	R. Chan
The Wall Street Journal			
1.	1/15/16	CDC Issues Warning on Zika Virus	B. McKay
2.	6/8/16	Zika Virus Swamps Embattled Puerto Ric	B. McKay
3.	3/30/16	Zika Virus Mosquitoes May Spread Farther North Than Thought	L. Long
4.	1/5/16	Brazil Grapples with Spread of Zika Virus and Dengue Fever	R. Johnson & R. Jelmayer
5.	2/8/16	White House to Request \$1.8 Billion to Combat Zika Virus	S. Armour C. Lee
6.	7/30/16	Spread of Zika Virus in Puerto Rico Accelerates	B. McKay

7.	2/5/16	West Australian Adult Diagnosed with Zika Virus	D. Winning
8.	1/12/16	Texas Woman Diagnosed with Mosquito-Borne Zika Virus	B. McKay & R. Johnson
9.	2/26/16	Reports of Zika Cases Growing Quickly in U.S.	B. McKay
10.	3/4/16	Evidence Grows Linking Zika Virus to Birth Defect, Paralysis	B. McKay

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VITA

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Throughout graduate school, Catherine worked for the University of Missouri-Kansas City Sociology Department as a Graduate Teaching Assistant. She is currently employed by the Missouri Division of Workforce Development as a Workforce Development Specialist. Shortly after graduation, she will begin a new job as an Immigration Services Analyst for the Department of Homeland Security. In the future, Ms. Thompson hopes to find a career in health policy and research.