PRESENT FUTURE, PRESENT PAST: MASS CASUALTY INCIDENT PREPAREDNESS IN THE RESEARCH TRIANGLE REGION OF NORTH CAROLINA

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ABSTRACT

Courtney Canter: Present Future, Present Past: Mass Casualty Incident Preparedness in the
Research Triangle Region of North Carolina
(Under the direction of Jocelyn L. Chua)

In this thesis, I draw on exploratory research conducted in the fall of 2018 to explore questions
concerning the logics of mass casualty incident (MCI) preparedness operating in medical
institutions and local governments within the Research Triangle region of North Carolina.
Interviews with emergency management administrators, emergency medicine physicians, and
first responders revealed that the unique forms of coordinated preparation and response that
MCIs require, refashions personal and institutional relationships into capacity building resources
that work across time and space. Drawing on social science literature on preparedness and
infrastructure, this analysis will show that whether it be through time, space or both, the network
of relationships developed through the work of MCI preparedness serves diverse roles and
functions: as pathways and grounds for the movement of people, objects, and knowledge. These
relationships and the resources they move collectively constitute an infrastructure of MCI
preparedness.

Dedicated to my family, Misha, and Lance.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ACS   American College of Surgeons

CCTA   Complex coordinated terrorist attack

CHS   Columbine High School

CMS   Center for Medicare and Medicaid Services

ED   Emergency Department

EMS   Emergency Medical Services

EMT   Emergency Medicine Technician

FEMA   Federal Emergency Management Agency

IARD   Immediate Action Rapid Deployment

ICS   Incident Command System

MCI   Mass casualty incident

MD   Medical Doctor

MSDHS   Marjory Stoneman Douglas High School

NC   North Carolina

NIMS   National Incident Management System

OEMS   Office of Emergency Medical Services

RAC   Regional Advisory Committee

US   United States

WHO   World Health Organization

CHAPTER 1: INTRODUCTION

In early 2018, a few weeks before a gunman shot and killed 17 people at Marjory Stoneman Douglas High School (MSDHS) in Parkland, Florida, the school's administrators, teachers, and staff met with the Broward County Sheriff's Office for their annual system-wide intruder and active-shooter training (Daly 2018). This training was passed along to MSDHS students who had, for years, regularly participated in lockdown and active shooter drills. Just twelve miles east of MSDHS, in Pompano Beach, Broward Health North Hospital had been practicing their version of an active shooter drill—one that focused on treating a multitude of trauma patients from a mass casualty incident (Herrera and Blaskey 2018). Broward Health Systems considered themselves lucky for having been prepared to handle the numerous wounded and bleeding MSDHS students and teachers that came through their doors. They attributed their preparedness to "ramped up" mass casualty incident drills and lessons learned in the wake of similar incidents, such as the Las Vegas concert shooting in October 2017, when a gunman took 58 lives and injured hundreds more (Herrera and Blaskey 2018; Chivers, Gibbons-Neff, and Goldman 2017).

The shooting at MSDHS in 2018 was the deadliest high school shooting in US history. Authorities contribute the deadliness, at least in part, to the perpetrator's knowledge of lockdown drill procedures (Daly 2018). The routinely-rehearsed safety strategies that often keep students locked in their classrooms were thwarted when the perpetrator pulled a fire alarm, flooded the hallways with students, and gunned them down. Just three weeks later, in direct response to the MSDHS shooting, a number of new school safety measures became Florida law, including

mandatory active shooter drills. Despite the circumstances of the MSDHS shooting, all Florida schools are now required to hold one active shooter drill for every fire drill.[1]

Mass casualty incident (MCI) preparedness, often a component of larger emergency preparedness systems, is a miscellany of institutional policies and practices aimed at mitigating the challenging and potentially devastating effects of MCIs. Whether they be natural disasters such as wildfires or man-made catastrophes such as mass shootings, MCIs strain emergency management and response systems in ways that day-to-day emergencies do not and, require special forms of preparation. But what does it mean to prepare for the unpredictable? How do institutions prepare for events whose probability, circumstances, and lethality cannot be foretold? What rationalities inform preparedness practices and policies, like those developed in Florida last year? How are these rationalities formed and developed? And how do they operate across the landscape of MCI preparedness?

In this thesis, I will draw on exploratory research I conducted in 2018 to explore questions concerning the logics of MCI preparedness operating in medical institutions and local governments within the Research Triangle region of North Carolina. The interviews I conducted with emergency management administrators, emergency medicine physicians, and first responders revealed a convoluted terrain of MCI preparedness, the logics of which roamed freely throughout. Whether it be across geographic boundaries, hierarchical scales of governance, or laterally between institutions, the logics of MCI preparedness were in movement and these logics had needs: resources. As a state leader in emergency preparedness, the Triangle is also a leader in MCI preparedness and thus, is a rich site for a study of MCI preparedness and the particular resources it demands. However, within the context of MCI preparedness, a "resource" comes to mean many different things. There were resources that could be budgeted for and purchased, and

there were resources that operated through a different form of currency. As resources, relationships couldn't be bought or sold; instead, they had to be cultivated.

The response to the MCI at MSDHS in February of 2018 was, like in most places in the country, a combination of emergency medical services (EMS), firefighters, police officers and sheriff's deputies from multiple counties and agencies. Like the response to the 2012 mass shooting at a movie theater in Aurora, Colorado (Illescas, Osher, and Brown 2016), the potential for a chaotic and uncoordinated response scene, that costs victim's lives, was high. While many have criticized the police officers who arrived at MSDHS in the middle of an active shooting but failed to intervene and stop the assailant, leading to the firing of some of these officers (Mazzei 2018), many have also praised other first responders on the scene that day for saving the life of every victim under their care (Amato 2018). First responders located closest to MSDHS, Coral Springs-Parkland Fire Department and EMS, attribute their success to interagency MCI training. MCI training had given them the practical tools they needed to succeed—protocols, equipment guidelines, communication standards—but when it was time to put those tools to work, something else became equally as valuable. The EMS medical director for Coral Springs-Parkland pointed to interagency training as enabling "better camaraderie" among fire, police, and EMS (Amato 2018); and when asked what were some of the most significant lessons learned at MSDHS that day, the EMS division chief made the message clear—"I think it all comes down to that relationship and the training" (Amato 2018).

In this thesis, I argue that as a unique form of preparedness, MCI preparedness demands unique resources. No single agency has the capacity to adequately respond to an MCI on their own, thus placing MCI preparedness outside the capabilities and, therefore, logics of day-to-day emergency preparedness efforts. The unique forms of coordinated preparation for and response

to MCIs refashion personal and institutional relationships into capacity building resources that work across time and space. In this analysis, I will show that, whether it be through time, space or both, the network of relationships developed through the work of MCI preparedness serves diverse roles and functions: as pathways and grounds for the movement of people, objects, and knowledge.

This analysis will draw on social science approaches to the study of preparedness, resource production, and infrastructure development to argue that the relationship pathways produced through MCI preparedness, as well as the materials they transport, collectively constitute an infrastructure of MCI preparedness that both informs and is informed by the logics of MCI preparedness. This ethnographic engagement with the logics and infrastructure of MCI preparedness opens up the anthropology of preparedness. Through a deep engagement with a particular form of preparedness that has yet to be critically analyzed, this analysis takes a ground-level look at preparedness logics. This analysis also provides inroads for deeper explorations of MCI preparedness efforts that are institutionally-specific as well as moving across institutions, such as the growing appearance of first responder and tourniquet use training across public schools in the US.

This thesis begins with a description of my research methods, followed by an in-depth description of my research focus and my research site. These logistical components of my thesis offer important background information that will enable a more robust appreciation for my intervention into both the anthropology of preparedness and the anthropology of infrastructure. These grounding efforts will also help establish the language used to describe various systems of emergency preparedness. Emergency-related terms are used loosely throughout the emergency profession as well as among emergency professionals. However, here it is important to address

and precisely define terminology and its use in this analysis. Efforts to clarify terminology will be made throughout.

CHAPTER 2: METHODS

Throughout the fall of 2018, I conducted ethnographic fieldwork alongside emergency professionals to examine the motivations and logics of MCI preparedness operating in medical institutions and local governments within the Research Triangle region of North Carolina. This work began in September and concluded in December of 2018 and was comprised of ten interviews with emergency management administrators, emergency care providers, and first responders. These emergency professionals worked for a variety of institutions, including academic hospitals, Level 1 Trauma Centers, county EMS and fire services, and county emergency management divisions. Through in-depth, semi-structured interviews, informants were asked to discuss their specific experiences with MCI preparedness as well as to situate these MCI preparedness efforts within their overall professional responsibilities. In the course of one interview, an informant provided me with a detailed discussion of their institutional MCI preparedness protocol while also walking me through the various hospital locations that were described in the plan. Apart from than this MCI protocol walk-through, all of the interviews were conducted in a private setting and lasted between one and two hours, each. With the consent of each informant, interviews were audio recorded for the purposes of transcription and were deleted once the transcription process was completed. The interviews were analyzed collectively, with emerging themes used to inform this analysis.

CHAPTER 3: THE MASS CASUALTY INCIDENT

The World Health Organization (WHO) defines a mass casualty incident (MCI) as "an event which generates more patients at one time than locally available resources can manage using routine procedures. It requires exceptional emergency arrangements and additional or extraordinary assistance."[2] This WHO MCI interpretation is widely accepted and broadly reproduced among emergency management professionals across the globe, including those in the United States (US). Despite the suggestive appellation, the mass casualty designation is not numeric. Rather, it is descriptive. It indicates a convergence between people and place: the number of "patients generated" and the "locally available resources" responding to their needs. Thus, an MCI in one place is not necessarily a MCI in another place. Instead, response capacity determines usage of the term. It assumes locally available resources are overwhelmed, remediation of which "requires exceptional emergency arrangements and additional or extraordinary assistance."[2] What exactly are locally available resources? What are exceptional emergency arrangements? And how is additional or extraordinary assistance achieved? What might a focus on resource capacity reveal about the logics of MCI preparedness? How might MCI preparedness relate to emergency preparedness in general?

From the national-level to the local community, MCI response specifically and emergency response generally are deemed a multi-institutional responsibility (FEMA 2018). Given that within nearly every level of governance (federal, state, local) institutional arrangements vary widely, the landscape of MCI and emergency response is difficult to navigate. This is particularly challenging at the local level (i.e. town, city or county), where multi-

institutional resource capacity may include any combination of municipal administrators, communications and transportation offices, police, fire, emergency medical services (EMS), public safety departments, search and rescue teams, and community-specific entities, among others. Thus, not surprisingly, what comes to define "locally available resources" in any one local setting is highly context-specific. MCI preparedness requires local institutions and individuals to come together in ways that day-to-day emergency preparedness does not. Thus, the location of MCI preparedness is the setting of a unique conjuncture among people, places, and things.

In order to draw out the importance of place, the next section will provide an introduction to the landscape of emergency services in North Carolina. This discussion will highlight the unique positioning of the Research Triangle within the larger state emergency preparedness and response system. As a state leader in emergency preparedness, the Triangle is also a leader in MCI preparedness and thus is a rich area for a study of MCI preparedness and the particular resources it demands.

CHAPTER 4: THE RESEARCH TRIANGLE

In North Carolina, the Research Triangle, commonly referred to as the Triangle, is a fertile ground for studying emergency preparedness and MCI preparedness in particular. Encompassing three major cities (Raleigh, Durham, and Chapel Hill) as well as three major universities (North Carolina State University, Duke University, and the University of North Carolina at Chapel Hill), The Triangle is home to just over two million North Carolinians and represents the second largest metropolitan area in the state.[3] Beyond its sheer size, The Triangle is a particularly fertile ground for studying the landscape and inter-workings of emergency preparedness, because it is home to three of the state's six Level I Trauma Center hospitals: WakeMed Hospital in Raleigh, Duke University Hospital in Durham, and UNC Hospital in Chapel Hill. While the Trauma Center designation is officially regulated through state-level legislation, most states, including North Carolina, adopt the classification system recommended by the American College of Surgeons (ACS) in the "American College of Surgeons: Resources for Optimal Care of the Injured Patient" (ACS 2014). According to the ACS, the criteria for each level designation are primarily determined by two factors: 1) the types of resources available at the hospital; and 2) the number of patients the hospital admits yearly (ACS 2014). Here again, an emphasis on "resources" and capacity building plays a particularly important role in the way that emergency services are conceived and organized within a larger landscape of emergency care— potentially providing a window into the logics informing emergency preparedness, in general, and MCI preparedness, in particular. While the complete ACS ranking system includes five levels, North Carolina law only recognizes the first three, with Level I being the most advanced

and comprehensive and Level III being the least advanced among those recognized. It should be noted that many hospitals in North Carolina, and across the country, do not meet the Level III criteria and thus, have no Trauma Center ranking. Thus, the Level 3 category should not be interpreted as representing the least advanced hospitals in the state.
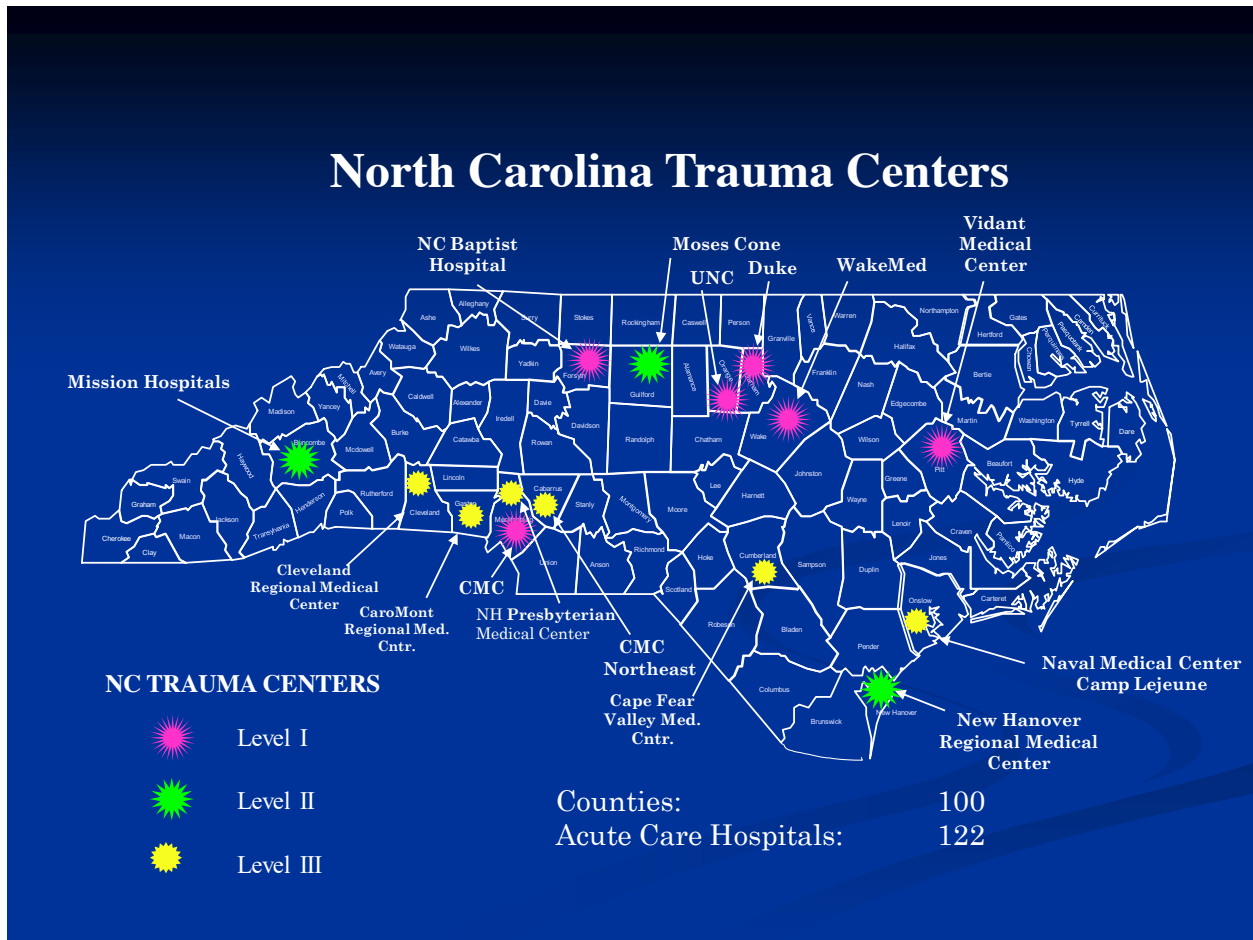
Figure 1. North Carolina Trauma Centers (OEMS 2019).

In addition to six Level 1 Trauma Centers, North Carolina currently has three Level II and six Level III Trauma Centers (Figure 1). Unlike the other Trauma Center designations, which solely refer to the in-house capacities of a hospital, the ACS calls on Level 1 Trauma Centers to move beyond the confines of their institutional walls and to care for the community at

large as leaders in prevention and community education (AMS 2014). These benchmarks become particularly important in North Carolina where Level 1 Trauma Centers are situated, and designated by law, as regional-wide emergency management leaders.
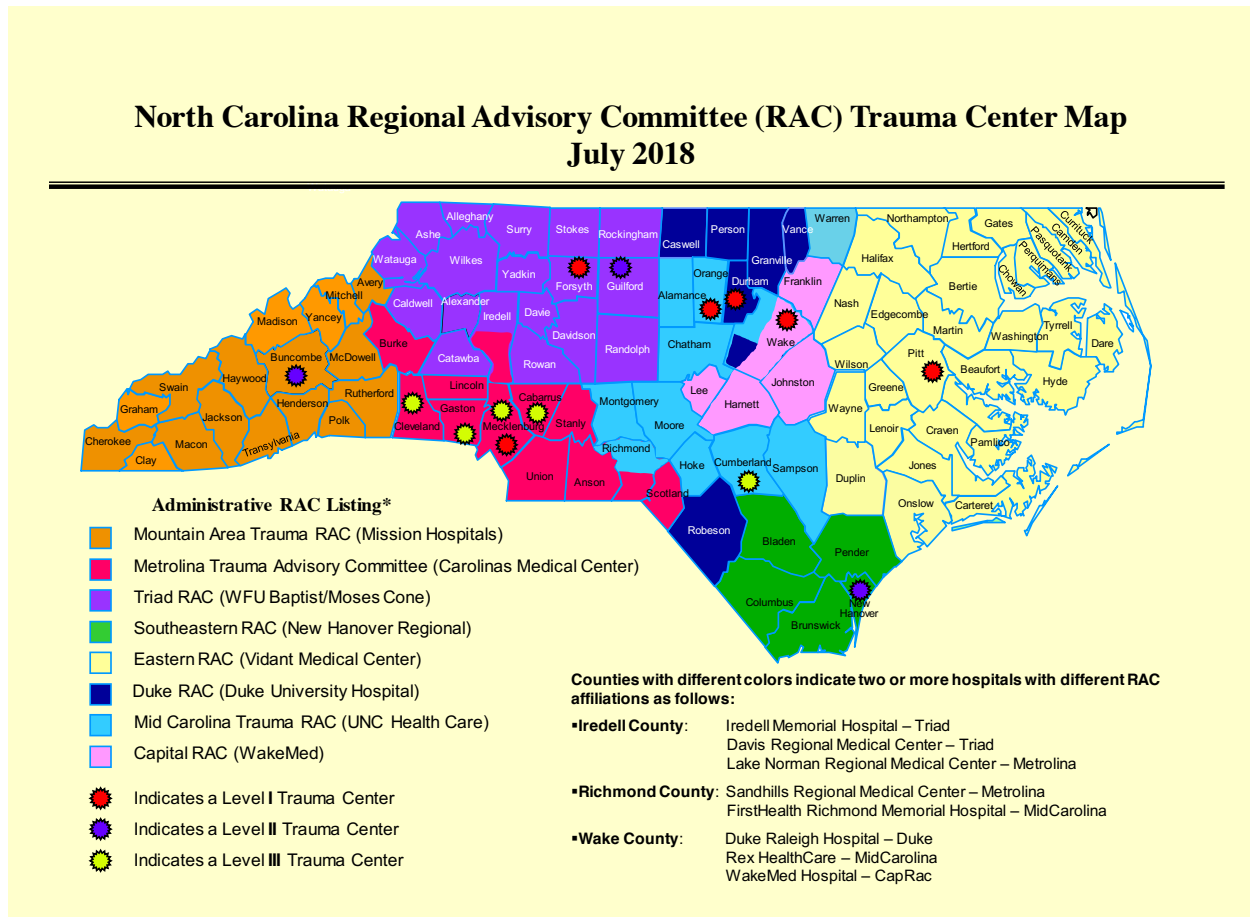
Figure 2. North Carolina Regional Advisory Committee (OEMS 2019).

The state-level authority on emergency preparedness and response is the North Carolina Office of Emergency Medical Services (NC OEMS), which is comprised of eight Regional Advisory Committees (RAC) (Figure 2), and whose general mission is "establishing and maintaining a coordinated trauma system" (OEMS 2019). All but two of the eight RACs are led by a Level I Trauma Center; this includes the Capital RAC led by WakeMed Hospital, Duke RAC led by Duke University Hospital, and Mid Carolina Trauma RAC led by UNC Hospital.

RACs are the authority on emergency planning and response in their respective regions. This means that the three major hospitals in the Triangle Region (UNC Hospital, Duke University Hospital, and WakeMed Hospital) are leading authorities in emergency planning, including MCI planning, for a significant portion of the state. Their responsibilities are vast. Beyond coordinating with other RACs, their responsibilities also include: pre-hospital care such as triage and incident site management; inter-hospital care which includes transportation coordination and medical care management; and continuous peer evaluation and ongoing development of regional performance improvement plans. RACs work on these issues through formal partnerships with interregional agencies and institutions, which often include: county and city Emergency Medical Services (EMS); community and regional hospitals; health care clinics; a variety of city and county offices and departments; police and sheriff departments; and local fire departments. Although each RAC determines its own organizational hierarchy, most divide their work among various committees, subcommittees, advisory boards, and coalitions comprised of a variety of regional partners. Though not inscribed in law, these partnerships are formal institutional relationships with collaborations made public on RAC websites, social media platforms, and press releases—like the partnership between Duke University Hospital and the Durham VA Hospital displaced on the "Duke Regional Advisory Committee Partners" webpage.[4]

NORTH CAROLINA
DEPARTMENT OF PUBLIC SAFETY

Governor
Roy Cooper

ABC Commission
James C. Gardner
Chairman

Communications
Pam Walker
Director

Human Resources
Nancy Lipscomb
Director

Secretary
Erik A. Hooks

Office of Special
Investigations
Renee Robinson
Director

Director of Special Projects
James R. Gorham

Richard Jordan
Samarcand Academy
Director

State Bureau of Investigation — Bob Schurmeir, Director
- Vacant, Deputy Director SBI
- Alcohol Law Enforcement, Mark Senter
- ISAAC, Dirk German

The Adjutant General NC National Guard — MG Gregory A. Lusk
- Deputy Adjutant General, BG James Ernst
  - Domestic Operations, BG Byrd
  - Maneuver, BG Hunt
  - Sustainment, Vacant
  - Air National Guard, BG Williams
- Director of Joint Staff, BG Hunt
- Deputy Director State Operations, Gary Allen
- Joint Force Headquarters
  - G1 - Personnel
  - G2 - Intelligence
  - G3 - Operations
  - J3 – Joint Operations
  - G4 - Logistics
  - J5 – Future Plans
  - G6 - Communications

Commissioner Adult Correction & Juvenile Justice Division — W. David Guice

Deputy Commissioner Juvenile Justice, William Lassiter
- Juvenile Facilities, Jim Speight
- Juvenile Court Services, Mike Rieder
- Juvenile Community Programs – JCPC, Cindy Porterfield
- Treatment and Intervention Services, Vacant
- Gwen Norville, Executive Officer

Deputy Commissioner Administration, Joseph H. Prater
- Correction Enterprises, Karen Brown, Director
- Staff Development & Training, Vacant, Director
- Rehabilitative Programs & Services, Nicole Sullivan, Director
- Combined Records, Angela Sintef, Director
- Central Engineering, Bill Stovall, Director
- Facility Maintenance, Jerry Carroll, Director

Deputy Commissioner Operations, Timothy D. Moose
- Prisons, George Solomon, Director
- Community Corrections, Vacant, Director
- Special Operations & Intelligence, Tony Taylor, Director
- Inmate Grievance Resolution Board, Finesse Couch, Executive Director
- Post Release Supervision & Parole Commission, Paul Butler, Jr., Chair
- Dr. Karen Steinour, Health Services Compliance Officer

Commissioner Operations Division — Gregory K. Baker
- Budget & Analysis, Darlene Langston, Director
- Controller's Office, James Cheroke, Controller
- Governor's Crime Commission, David Huffman, Executive Director
- Purchasing and Logistics, Joanne Rowland, Director
- LESS Program
- Fleet Management
- Property Management
- Internal Audit, Timothy Harrell, Director
- Governmental Affairs, Ryan Combs, Sr Legislative Liaison
- Center for Safer Schools, Kym Martin, Executive Director
- Emergency Management, Mike Sprayberry, Director
- Private Protective Services Board / Alarm System Licensing Board, Barry Echols, Director
- Information Technology, Bob Brinson, Chief Information Officer
- Infrastructure, Glenn Mack, Deputy Director
- Applications, David Keys

General Counsel — Vacant
- Legal, Joseph Dugdale, Chief Deputy
- PREA, Charlotte Jordan-Williams
- Victims Services, Janice Carmichael, Section Chief
- Victims Compensation Commission

State Highway Patrol — Major Charles Ward, Acting Commander
- State Highway Patrol, Vacant, Deputy Commander
- State Highway Patrol, Vacant, Lt. Colonel
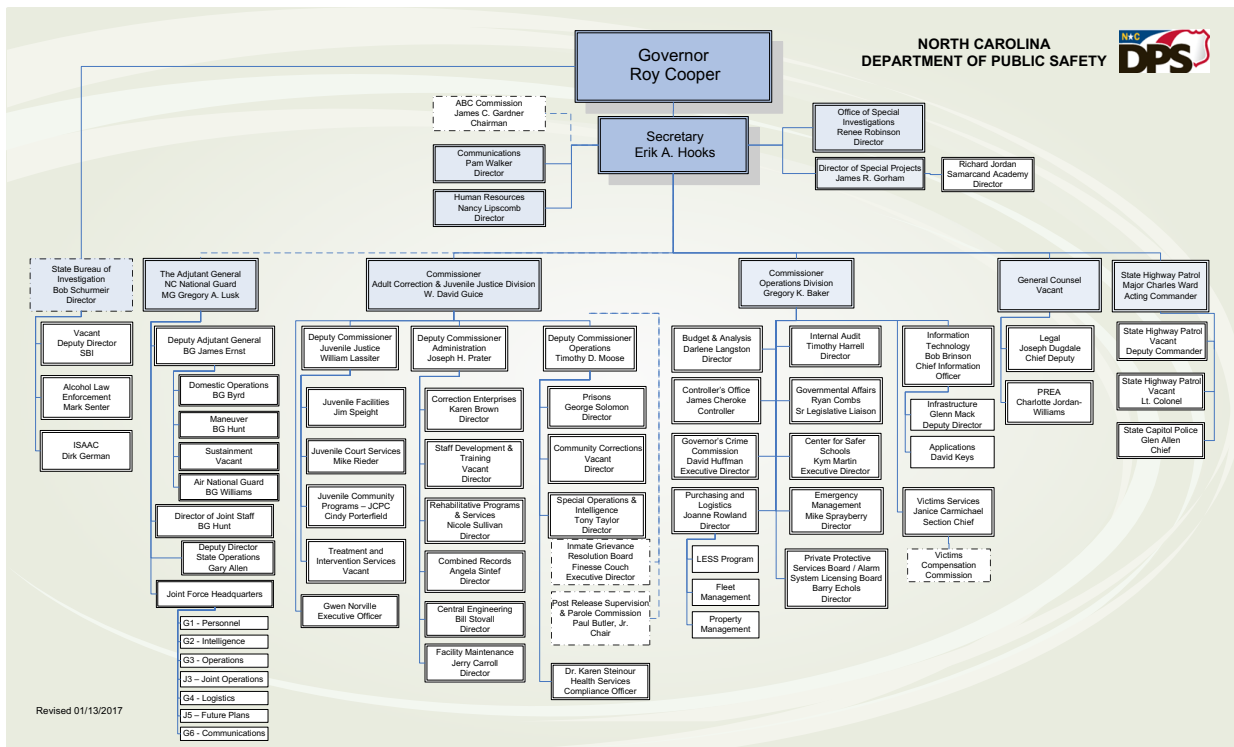- State Capitol Police, Glen Allen, Chief

Revised 01/13/2017

Figure 3. North Carolina Department of Public Safety Organizational Chart (OEMS 2019).

At the state level, emergency planning and response consists of a seemingly straight-forward hierarchy that, moving from the state level to a less clearly defined regional level, begins with the Governor and ends with the RACs, including the three in the Triangle led by UNC Hospital, Duke University Hospital, and WakeMed Hospital (Figure 3). State and regional level institutional responsibilities are either inscribed in law or developed through formal partnerships and collaborations, as is often the case with RACs. However, following the government hierarchy further down reveals something unexpected. As the level of governance becomes more localized, emergency preparedness collaborations – specifically MCI preparedness collaborations – become less formal, less explicit. No longer inscribed in law or business-like partnerships, relationships between local institutions exist more like an unspoken alliance, a kinship developed in response to the unique needs that MCIs presumably demand.

Through my exploratory research, I have come to understand these inter-institutional and inter-professional alliances as relationships vital to MCI preparedness at the local level. As a backbone of MCI preparedness, these relationships are a resource that facilitates the movement of other resources and thus, serve as an important mechanism for local capacity building. As a resource in and of themselves, inter-institutional and inter-professional relationships serve as pathways for a mutual exchange of resources: of people, objects, and knowledge. Collectively these relationships and the materials they carry are networks within the infrastructure of preparedness. This infrastructure isn't static; instead, it is constantly in motion, as a socially inflected mixture of interactions among people, places, practices, materials, and meaning.

This thesis converses with and seeks to contribute to two areas of the social science literature: preparedness and infrastructure. In the following section, I outline some of the ways MCI preparedness offers opportunities to open up methodological approaches and thus, critical understandings of both preparedness and infrastructure.

CHAPTER 5: LITERATURE REVIEW

PREPAREDNESS

From anthropology to geography to sociology, preparedness has increasingly become an object of study across the social sciences. The diverse theoretical perspectives from which preparedness has been studied, have distinguished preparedness from other forms of "anticipatory action" that also work to intervene and control indeterminate futures (Anderson 2010; Lakoff 2008; Samimian-Darash and Rotem 2018). Unlike the anticipatory actions of preemption and precaution, which seek to stop or prevent indeterminate futures from coming into existence (Anderson 2010; Lakoff 2008), preparedness presumes uncertain futures will come to pass (Lakoff 2007). Preparedness, then, is comprised of those anticipatory actions whose "sphere of operation is a series of events after a precipitating event" (Anderson 2010, 791; Lakoff 2007). These actions do not work to alter or avert future events; rather, they work to manage their consequences (Anderson 2010; Collier and Lakoff 2008; Lakoff 2007; Samimian-Darash and Rotem 2018).

Whether it be preemption, precaution, or preparedness, all forms of anticipatory action have been identified as a "paradoxical process whereby a future becomes cause and justification for some form of action in the here and now" (Anderson 2010, 778). In the face of indeterminate futures, preparedness, like other forms of anticipatory action, provides a method for mitigating the uncertainties of tomorrow, "a way of understanding and intervening in an uncertain, potentially catastrophic future" (Lakoff 2007, 248).

As a form of anticipatory action that "assumes the disruptive nature of certain events" (Lakoff 2007, 254), preparedness has been understood as a response to moments of exceptionality (Anderson 2016). In its most basic form, a moment of exception is a "discrete event that breaks with, interrupts, or overturns a supposedly stable everyday" (Anderson 2016, 469; Schmitt 2006). Exceptional moments are distinguished from the ordinary through a number of terms: disaster, catastrophe, tragedy, apocalypse, crisis, emergency. Scholars have demonstrated that these terms are imbued with particular qualities that determine their respective "conditions of possibility" (Anderson 2016; Aradau and van Munster 2012, 99; Bryant 2016; Buchanan & Denyer 2013; Kosselleck 2004, Roitman 2014; Samimian-Darash and Rotem 2018). For example, Janet Roitmant (2016, 19) describes "crisis" as a term that "evokes a moral demand for a difference between the past and the future, such that the very apprehension of history is defined by the negative occupation of an immanent world: What went wrong?" Similarly, "catastrophe" has been identified as an orientation to an unfavorable past in which "intense destruction and damage have materialized" and life has been "undone" (Anderson 2017, 470). Although both crisis and catastrophe exist in relation to the past, their unique qualities produce equally unique modes of operation. For Roitman (2016, 26-27), "crisis is not a condition to be observed (loss of meaning, alienation, faulty knowledge), it is an observation that produces meaning." Catastrophe, however, describes a state of ruins in which opportunity for intervention and management has passed. Lacking an "attribute of management (catastrophic management)" the catastrophic event is on the edge of what is governable and suggests "limits of existing forms of governance" (Anderson 2017 460; see also Aradau and van Munster 2011). Although both terms are temporally oriented toward the past, their intrinsic qualities differ so that crisis produces meaning while catastrophe challenges governance.

In recent years, social scientists from a variety of disciplines have increasingly explored the unique conditions and qualities of emergency (Adey, Anderson and Graham 2015; Anderson 2017, Lakoff 2008, Masco 2014; Samimian-Darash and Rotem 2018). The temporality of emergency has been analyzed from a number of angles. Authors have argued that emergencies are not only moments of exception to everyone, everywhere. Additionally, a life under constant threat can emerge as a protracted, lived state of emergency, as well (Simone 2004, Roitman 2014). However, for our purposes here, emergency is taken as an exceptional moment of disruption that exists outside of the ordinary: "a time outside of what is recognized and felt as everyday time" (Anderson 2016, 275). What makes the exceptional time of an emergency a unique form of disruption, is an inherent sense of urgency, whereby the "urgency of the temporary event necessitates and calls forth similarly urgent action" (Anderson 2016, 470). Geographer Ben Anderson has written extensively on the temporality of emergency events and their response, noting that "typically, an event or situation is named as an emergency if urgent, time-limited action is deemed necessary to forestall, stop or otherwise affect some kind of undesired future" (Anderson 2016, 465). Emergency produces urgency that demands action. Two assumptions are folded into the demand for action. First, it assumes a time for action: a period in which the demanded action can intervene, what Anderson calls the "hopeful time for action" (Anderson 2016, 275). Second, and more importantly, it assumes a reason for action: "central to uses of the term emergency is, then, a sense that something valued (life, health, security) is at risk and, importantly, a sense that there is a limited time within which to curtail irreparable harm or damage to whatever it is that has been valued" (Anderson 2016, 465).

Intertwining the logics of preparedness and the logics of emergency (Calhoun 2010) provides a working definition of emergency preparedness: an urgent form of anticipatory action

that seeks to manage the consequences of a presumed, yet indeterminate, future in which something of value is under immediate threat. Essentially, emergency preparedness seeks to protect something, but what? What is at risk?

These questions return us to the notion that anticipatory actions, including preparedness, are a "paradoxical process whereby a future becomes cause and justification for some form of action in the here and now" (Anderson 2010, 778). Preparedness, then, is understood as a process of making the future present (Luhmann 1998), and the literature has shown that these future-made-present efforts can be informed by engagements with a past, the present, or a future. The future formed through a prism of past possibilities which necessitate particular forms of preparation in the present, is an orientation that has been used to make sense of emergency preparedness efforts across a number of different contexts, such as natural disasters like Hurricane Katrina; biological threats like Swine Flu and its corresponding public health interventions; and domestic security efforts during the Cold War (Luhmann 1998, Lakoff 2007, Lakoff 2012, Masco 2014). The logics of emergency preparedness have also been located in "imaginary engagements with the future" (Anderson 2017; Masco 2014, 14). These imaginary engagements have been located in affective engagements with notions of post-9/11 security governance (Armitage 2002; Lakoff 2007; Masco 2014; Masco 2017) as well as through usage of practice drills and scenario enactments (Anderson 2010; De Goede 2008; Masco 2014; Samimian-Darash and Rotem 2018). Staged simulations and other preparedness practices are imaginary engagements that also work in the present as an "experience of failure" (Lakoff 2007, 266). Scholars argue that "in producing system failure, simulation exercises generate knowledge of gaps, misconnections, and unfulfilled needs. These can then be the target of intervention" (Lakoff 2007, 266).

The notion of "failure" as a productive process, whereby vulnerabilities become opportunities, is suggestive of a self-perpetuating logic of preparedness. "Security, thus, is a never-ending process: the expansion and limitations of one form of security lead to the development of new forms with their own aims and modes of operation" (Samimian-Darash and Rotem 2018,14). As "rituals that reinforce the security state" (Masco 2014), these notions of preparedness practices are extensions of the largely agreed-upon understanding of preparedness as a form of governance (Adey, Anderson and Graham 2015; Anderson 2016; De Goede 2008; Lakoff 2008; Masco 2014; Samimian-Darash and Rotem 2018). In addition, scholars have identified emergencies, specifically, as a category of uncertainty that continues to open up new forms of governance (Adey, Anderson and Graham 2015; Anderson & Adey 2012; Curley 2015; Kaufmann 2016; Samimian-Darash and Rotem 2018; Scarry 2011).

Whether it be preparedness generally or emergency preparedness specifically, methodological approaches to these issues have largely drawn on in-depth theoretical analyses, historical inquires, and literature reviews to explore questions of etymology, genealogy, and theory. This body of literature also includes a limited number of ethnographic engagements with preparedness, most of which focus on individual preparedness practices or exercises such as active shooter drills and simulation scenarios (Anderson 2017; Kauffman 2016; Samimian-Darash and Rotem 2018). While much of the literature on emergency preparedness is dedicated to issues of governance, very few of these analyses engage with the actors of governance, those individuals who perform the logics of preparedness. Within the American context, scholars do engage with individuals, however, these engagements are almost exclusively with preparedness leaders and experts in the form of journalist archives, such as news reports, interviews, press briefings and conferences, speeches, and public statements (see Masco 2014 and Lakoff 2007).

While these engagements are useful for analyzing governance structures and logics, they tell us very little about the enactment of these intentions or the potential slippages among the governance, logics and practice of emergency preparedness.

This thesis aims to address gaps in the emergency preparedness literature through a ground-level ethnographic engagement with a specific form of emergency preparedness: MCI preparedness. Anthropologist Andrew Lakoff (2007, 266) argues that vulnerabilities in preparedness systems become targets of intervention with the power to "forge new links — communicational, informational — among various agencies: local and national government, public health, law enforcement, intelligence". Similarly, the demands of MCI preparedness necessitate rearrangements in the day-to-day emergency preparedness apparatus so that new relationships, as well as new resources, are formed. Engaging directly with the individuals who work in MCI preparedness, this thesis contributes new methodological approaches to the study of preparedness logics and governance structures. Drawing on conversations and observations alongside local emergency professionals, this thesis closely examines the symbiotic and fractured logics of MCI preparedness and the infrastructures they build.

INFRASTRUCTURE

The literature on preparedness has proliferated over recent decades. The study of infrastructure, however, has enjoyed a much longer history in the social sciences, producing an abundant and diverse body of literature. This review will not attempt to chart the innumerable theoretical approaches through which infrastructure has been made an object of study. Instead, I will locate some key conversations in the infrastructure literature as well as in scholarly efforts to bring preparedness and infrastructure into conversation, as a way to foreground the MCI preparedness infrastructure as a system that transcends both space and time.

Infrastructure is highly contested among social scientists (De Coss-Corzo 2016); however, anthropologist Brian Larkin (2013, 328) finds that "infrastructures are built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space." Put differently, infrastructure constructs systems of circulation (Larkin 2013; Masco 2014; Star 1999). This conceptualization of infrastructure—as a moving "system of substrates" (Star 1999, 380)—does not take infrastructure as simply a collection of material and immaterial things. Rather, infrastructure is a process.

Anthropologists have argued that "a processual view of infrastructure focuses on infrastructure's protean forms" (Anand, Gupta and Appel 2018, 409; Graham 2010; Star and Ruhleder 1996). As an "ongoing process of becoming" (Anand, Gupta and Appel 2018, 2695), infrastructures are inherently temporal. The temporal, shape-shifting nature of infrastructure, what some scholars have identified as the infrastructure of infrastructure (Carse 2014), has been interpreted in a number of ways, including as a series of phases—"design, financing, construction, completion, maintenance, repair, breakdown, obsolescence, ruin"— each imbued with their its significance but collectively constituting the "life span" of infrastructure (Anand, Gupta and Appel 2018, 409; Edwards 2003; Graham and McFarlane 2014; Gupta 2018; Mumford 2010; Star and Ruhleder 1996).

In addition, anthropologist Akhil Gupta (2018, 1677) argues that "a focus on infrastructures as emergent, always in process, always shifting, changing, decaying, being rebuilt, and being maintained… draws attention to the properties of the materials themselves and to the representational work done to and by them." Scholars have demonstrated that, as representational forms, infrastructures operate within multiple temporalities (Anand, Gupta and Appel 2018). With respect to the future, scholars have argued that infrastructure represents the

"desires, hopes, and aspirations of a society or of its leaders" (Anand, Gupta and Appel 2018, 439). Infrastructure is a promise about the future that is made in the present (Anand, Gupta and Appel 2018; Bowker 2018; Larkin 2018; Ferguson 1999; Apter 2005; Appel 2012; Harvey and Knox 2015). But promises have histories and the present materials of infrastructure are a historical formation as much as they are promises about the future (Anand, Gupta and Appel 2018; Larkin 2015).

Through the arguments I have outlined thus far, we have come to understand infrastructure as a process of forming networks that operate, physically and representationally, throughout multiple temporalities. With respect to sociality, scholars have argued that "attention to the materialities and socialities" of infrastructure demonstrates not only how systems are formed but also "how they bring other things into being and constitute social worlds" (Anand, Gupta and Appel 2018; Ferguson 2012, 559). As an entanglement of material and social relations, scholars argue that infrastructure is "a lived structure, offering the naturalized conditions of possibility for everyday life" (Masco 2014, 33).

Anthropologists have also argued that infrastructures are essentially relational (Star and Ruhleder 1996), brought into existence through the work of socially organized practices (Elyachar 2010; Ferguson 2012; Goodwin 1994; Simone 2004; Star and Ruhleder 1996). This widely agreed upon conceptualization of infrastructure demonstrates how it both shapes and is shaped by our practices, our ways of being in the world (Star 1999). Infrastructure, thus, is a continuously reflexive process whereby "infrastructures give meaning to experience, and experience gives meaning to infrastructures" (Dourish and Bell 2007, 428).

Taking materiality as "always caught up in meaning" (Anand, Gupta and Appel 2018, 574) scholars note that the materiality of infrastructure "is central to the sensory, somatic, and

affective ways in which we inhabit this world" (Anand, Gupta and Appel 2018; Mrázek 2002; Larkin 2013). Scholars have located infrastructure-building motivations outside the affective (Ferguson 1999; Apter 2005; 2012b; Harvey and Knox 2015). However, affect is particularly useful because, as scholars have demonstrated, it enables new understandings of relationships among time, space, meaning, and the materials of infrastructure to emerge (Dourish and Bell 2007; Goodwin 1994). In their analysis of "space infrastructures," anthropologists Paul Dourish and Genevieve Bell (2007, 428) note that "the experience of space, we have argued, is coextensive with the cultural practices of everyday life; those practices, in turn, provide the framework through which space is experienced and rendered locally and collectively meaningful". Here we see how infrastructure structures space into a socially significant meaning-making process. Similarly, Larkin has argued that desires and fantasy both emerge from and are folded into infrastructures (2013), which then "address the people who use them, stimulating emotions of hope and pessimism, nostalgia and desire, frustration and anger, that constitute promise (and its failure) as an emotive and political force" (Anand, Gupta and Appel 2018, 635).

Anthropologists have drawn connections among affect, infrastructure, and preparedness in a number of ways. Joseph Masco, in his historical analysis of Cold War and post-9/11 America notes that "counterterror attempts to turn feelings— the ability to be called to an image of danger and be excited by it— into a national infrastructure, a set of ideas, images, and affective intensities that can be instrumentalized" (Masco 2014, 22). Instead of discussing preparedness as a single system imbued with affect, Masco suggests multiple infrastructures are at work, stating that preparedness infrastructure refers "not only to the material structures that support social life in complex urban societies but also to the imaginative and affective contexts that enable fear to be nationalized on specific terms. Infrastructures (material, imaginative, and

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affective) reveal the priorities of a given historical moment" (Masco 2014, 28). As a socially inflected mixture of interactions among people, places, practices, materials, and meaning, the scope or reach of any one infrastructure is vast, occupying an inherently multi-positional existence across both time and space (Star 1999).

This abbreviated literature review has collectively referred to infrastructures as products, social representations infused with historical influence and future hopes. At the same time, this review has also highlighted ways in which infrastructures are actors: they structure experience and meaning-making processes so that new forms of sociality emerge. These understandings can be applied to MCI preparedness. The next section describes ethnographic encounters with emergency service professionals that reveal how the infrastructure of MCI preparedness operates locally. As history, practice, and the imaginary unite, logics of MCI preparedness emerge—a complex entanglement of objects, people, and relationships that operate across time and space. Starting from Dourish and Bell's insistence that "infrastructures give meaning to experience, and experience gives meaning to infrastructures" (2007, 428), we begin to see how local logics both inform and are informed by the infrastructure of MCI preparedness.

CHAPTER 6: MCI PREPAREDNESS IN THE RESEARCH TRIANGLE

BUILDING INFRASTRUCTURE

I: Historical Holdovers

The literature has demonstrated how preparedness increasingly became a rationality of domestic security in both Cold War and post-9/11 America. Although these critical junctures have shaped domestic security and other forms of preparedness that we live with today, they did so through distinctively different means. The future made present through Cold War preparedness had bounds. The catastrophic nature of nuclear destruction and the enemy who would bring it into existence were both known, and informed Cold War preparedness in the 1950s.

The 9/11 terrorist attacks, however, dissolved Cold War boundaries of risk and catastrophe. Americans were blindsided by what remains, worldwide, the deadliest terrorist attack in modern history. In his analysis of post-9/11 conceptualizations of threat, Masco notes that the "failure to prevent the suicide hijackers in 2001 created a reverberating anxiety not only about the attacks but also about the concept of national security itself" (2014, 6). As such, "the objects, logics, and consequences of defense have significantly changed with the shift from the twentieth century's nuclear "balance of terror" to the twenty-first century's "War on Terror"" (Masco 2014, 8). Failure to predict 9/11 brought not only new but also limitless conceptualizations of threat. What other catastrophes had the nation, thus far, failed to predict? Unlike Cold War imaginaries, the future could no longer be destroyed in only one way. Rather, an infinite number of dark imaginaries entered the realm of possibility, sentiments that

reverberated through my conversations with emergency managers and emergency care providers. Masco's assertion that "the failure to protect US citizens and cities from violence, haunts U.S. security culture today, creating the constant drive for new technical capacities" (Masco 2014, 8), applies not only to the logics of domestic security, but to the logics of MCI preparedness as well.

Every informant to whom I spoke with mentioned the 9/11 terrorist attacks, often tying lessons learned in the wake of 9/11 with cornerstones of contemporary MCI preparedness. Roughly half of my informants were actively working in an emergency services profession when 9/11 occurred. The context of MCI preparedness, pre- and post-9/11 were described as "like night and day." One physician, a leader in emergency preparedness, described "disaster preparedness", before 9/11:

> In 2001, disaster preparedness for hospitals was in a nascent state. It was not really well-described or defined and everybody sort of made up what they thought needed to be done. It was all about mostly internal disasters. There's a water main rupture. Now we don't have water. What do we do? The power breaker blew and the generator didn't start. What do we do? So, it was all about that. We had mass casualty drills because that was the other piece but it was mostly about, what if a bus overturns on the interstate and we get six patients? That was the thing that, if we're going to plan for something, it should be something like that. That was everybody's vision, what if the water goes out? What if the power goes out? So we felt pretty good. We felt like, you know, we can do that. Bring it.

Prior to 9/11, hospital preparedness efforts largely made the future present through the prism of past possibilities (Lakoff 2008; Luhmann 1998: Masco 2014). Power outages, water main ruptures, and bus accidents were events of the past that occupied a space of "presentness" in preparedness efforts (Adey, Anderson and Graham 2015; Bryant 2016, 19). Anticipatory action took a retrospective approach whereby disruptive past events molded present day preparedness (Adey, Anderson and Graham 2015; Buchanan & Denyer 2013, Bryant 2016; Roitman 2014), an approach that scholars call "crisis talk" (Buchanan & Denyer 2013; Roitman 2014; Samimian-Darash and Rotem 2018, 2). History provided a limited number of future possibilities that

necessitated a limited number of preparedness efforts in the present. However, as previously

mentioned, the events of 9/11 refashioned these preparedness logics, as well as the physician

remarked:

> Then 9/11 happened and the world blew up. I mean literally and figuratively. Suddenly, being prepared for a disaster wasn't about seeing six bus accident patients. It was about seeing 500 people. What if bad people dropped anthrax on a coliseum? What if they blew up a basketball stadium during a game? Everybody's imaginations went nuts.

The events of 9/11 disrupted imaginaries of MCI preparedness. Suddenly, new

conceptualizations of who or what might be a threat and who or what could be at risk demanded

a reconfiguration of MCI preparedness (Samimian-Darash and Rotem 2018). These "imaginary

engagements with the future" produced an "ever-expanding field of potentials, possibilities, and

fears" not only for domestic security but for emergency preparedness professionals as well

(Masco 2014, 14). Future catastrophe was no longer exclusively formed through a prism of past

possibilities and crisis talk (Buchanan & Denyer 2013; Bryant 2016; Luhmann 1998; Roitman

2014); it was also formed through expanding imaginaries. In the period following 9/11, as new

threats and risks were unveiled, MCI professionals had to simultaneously recognize, understand,

and prepare for futurities, that involved unfamiliar territory. "None of this had been in anybody's

vocabulary. Nobody said these words or thought about these things." An expanding lexicon of

threat emerged. "We had to educate ourselves. What did it mean to have a radiation event?

What's the difference between a dirty bomb and a nuclear power plant explosion?… What if it

was a chemical weapons attack?…how do you secure the building if you're worried about people

with smallpox trying to get in the building?… It was 24/7 developing plans… The learning curve

was unbelievable."

Under these new logics of preparedness, each emergency event after 9/11 struck the

nerves of security culture as not only a threat of the past but a threat of the future as well.

Although pandemics such as SARS in 2003 and Ebola in 2013 were not new phenomena, they too were now framed under the logic of MCI preparedness, echoing their adoption into a larger, evolving identification of state-based "security threats" (Lakoff 2007), as one disaster management leader explained:

> Then SARS happened and people started going, "Oh it's not just planes into buildings or anthrax or radiation. Now we have to think about pandemics that are not bad people doing things to our country but bad diseases that are coming here"…So that was another learning curve. Like crap, it's even bigger than people flying planes into buildings. My God. When does it stop? [laughs].

When does it stop? As Masco asks, "For when can the future ever be perfectly secured?" (2014, 14).

The paradox of "the American tendency to believe that existential dangers can be deterred endlessly" is reflected in the current (in)secure security state that is both infinitely prepared and never perfectly secured (Masco 2017, 73). Rationalities of preparedness produce a future that is both idealized and unobtainable. Such longing for an unobtainable ideal has, like domestic security policy, infused MCI preparedness practices. Post-9/11 insecurities serve the present as historical holdovers, embedded within a logic of the hopeful-impossible future made actionable in the present (Anderson 2009; Anderson 2016; Brunsson 2006; Sweeny, Carol and Shepperd 2006; Thedvall 2017), expressed through aspirations to "develop a protocol book that can deal with any patient environment" because "you have to be ready for all of it" as one physician stated. Here we can see how the affect of insecurity has morphed into a logic of action. Masco notes, "American insecurity may derive from many sources, but it can be affectively channeled to enable a state project with specific logics and coordinates" (Masco 2014, 2). Building on scholarly connections between affect and action, I take insecurity affect to be the essence of MCI preparedness. This affect produces longing for a future state of MCI

preparedness that can never be achieved (Gusterson 2008, Sweeny, Carroll and Shepperd 2006), a logic that also maintains institutional power to "focus social energies, unlock resources, and build things" (Masco 2006, 7).

The continuous state of improvement that defines MCI preparedness brings people, objects, and knowledge together in ways that produce a distinct and sometimes paradoxical infrastructure. This infrastructure works across time and space as emergency professionals rely on present-day relationships between individuals and institutions to learn from the past as well as plan for the future. Attention to these relationships reveals the ways in which "affects, materialities and epistemic objects circulate within networks of governance, change as they are encountered, and get incorporated into anticipatory action" (Anderson 2010, 787).

II: Resource/Relationship

> "It's very easy, and can be done in emergency management, as long as your basic plans are in place. It's very easy to sit back and say, 'Yep. Plans are good. Everything's fine. We're good with status quo.' I hope we never get that way because there's so much that can be learned. There are so many things that we can do so differently."
> – County Emergency Management Administrator

Living in a never-ending state of improvement requires work to locate opportunities for improvement (Lakoff 2007; Masco 2014; Samimian-Darash and Rotem 2018). Failures work to "generate knowledge of gaps, misconnections, and unfulfilled needs" (Lakoff 2007, 266). As scholars have observed, "making infrastructural vulnerabilities visible" provides a method for "designating priorities and allocating resources in a preparedness system" (Lakoff 2007, 266). Informants often discussed the importance of practicing their plans, reflecting on those rehearsals, and in the wake of an actual MCI, developing "after-action reports" in order to produce "actionable items" to further modify preparedness efforts. "We do follow the [Department of] Homeland Security 'exercise and evaluation program'. Where you write a plan.

You get all the necessary things to be able to make that plan functional. You train on it. You correct along the way. You exercise it. And then you go back and fix what went wrong." These statements resonate with scholarly investigations into the role of rehearsing and reflecting on preparedness, following both simulated scenarios and actual events. Current literature has primarily drawn on preparedness practices, such as active shooter simulations, to demonstrate how failure serves as a strategy for making the future actionable and thus, continuously legitimizing both the existence and growth of preparedness governance (Adey, Anderson and Graham 2015; Anderson 2010; Aradau and van Munster 2012; Curley 2015; Dillion 2007; Kaufmann 2016; Lakoff 2007; Masco 2014; Scarry 2011). However, little research has evaluated the role of ground-level relationships -- individual and institutional -- in emergency preparedness efforts.

In our interviews, informants frequently emphasized the importance of relationships to achieving successful MCI preparedness, because, as one county emergency management administrator noted, "most of this kind of work is built on relationships." In fact, the value of relationships was the most prevalent theme across my interviews and several informants, particularly emergency managers, believed it to be the foundation of MCI preparedness. Relationships were a resource in and of themselves. They also served as pathways for the movement of other resources and their absence could amount to a roadblock. When reflecting on their relationship with state emergency managers, this county emergency manger put it this way:

> We will scratch every back that we possibly can. Because there is going to come a point in time where we have to call in the cavalry and we want them to think 'Man, they've helped us out so many times. There's no question. We have to go help.' As opposed to, 'Ugh, them?' You know, because its a choice. When the callout is made, its completely your choice whether or not you want to go help or not. There is no mandate that says you have to go. So we like to keep those relationships solid, definitely.

Here, we can see how relationships are operationalized to maximize the odds of future reciprocity. In their 2018 Annual Report, the North Carolina Emergency Management Office claims to provide "continuous and consistent response to disasters" which "enable response to real emergencies and disaster when they occur anywhere in the state."[5] However, as the quote above shows, state support may not be as straightforward as they claim. The emergency manager continued to discuss their relationship with the state, I felt as though they thought their comments to me could make their way back to the state. "We know that within emergency management in North Carolina, some people need to be fostering a relationship with the state. But they don't. I just hope you hear pretty loud and clear that here, we think having those good relationships [with the state] are going to make or break us."

At the local level, intra-institutional relationships often operated through one or a few individuals. For one emergency manager the potential for institutional relationships to collapse in the wake of their retirement was concerning. "I worry about that a lot. If we're talking about water, I know who to call. If were talking about power, I know who to call. I'm not confident that they do." As a pillar of MCI preparedness infrastructure, local-level relationships not only work between local counties as first responders in Orange County frequently respond to calls in Durham County and vice versa. They also operate globally. Through international conferences, federally-sponsored training programs, and multi-state debriefing calls, emergency managers and other preparedness professionals establish and maintain connections with counterparts across the US and the globe.

Institutions geographically close to one another find trainings a valuable method for building relationships. Like the anecdote from the introduction, many informants highlighted the notion that "there's a value for our people to see each other," beyond the tactical skills being

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taught and practiced. After spending five days with dozens of local stakeholders at an out-of-state federally-sponsored emergency preparedness retreat, county managers found the bonding experience as important as the "gaps" they collectively worked to identify. "You see the faces that were up there [at the retreat] and we can have conversations that are a heck of a lot easier. When you sit down across the table…you know them as a person. And not just as a person at work…We reinforced some relationships we had. We developed some new relationships. It was a great, great benefit."

Trainings enabled institutions to build relationships with geographically-close partners alongside whom they would likely be respond to MCIs. These relationships were important resources for building future capacity, resources with the potential to unlock additional resources in the future. National and international relationships, however, provided another highly valued resource: knowledge. As emergency care physicians, first responders, and emergency preparedness managers form relationships with their national and internationally placed counterparts, new opportunities expand current knowledge of the "fields of practice within which professionalized knowledges more or less circulate" (Adey, Anderson and Graham 2015, 13-14; Aradau 2015; Collier and Lakoff 2008; Cooper 2008; Cooper 2015; Opitz and Tellman 2015).

> We're on the horn pretty quickly after an incident occurs somewhere else. After the church shooting down in Texas, our Sheriff's office liaison called us and said "Hey, there is an FBI debrief. It's happening on this conference call, this date at this time. Do you guys want in?" And we're like "YES!" Because we want to get all of that raw information very quickly. To be able to ask, "What worked really well for you? What didn't work well for you?" The more progressive emergency management programs will write a formal report. But those formal reports go to attorneys, throughout the agencies, to redact anything that they don't want in it. And that's usually the information we really want to have. So we will reach out very quickly and try to get some of those snippets. In Washington state, when their Amtrak train took its initial run and flipped over the side of the bridge on a major corridor. We were on the horn with their public information officer saying, "Can you please let us know if you're going to do any after actions? Will you let us listen in on your conference calls?" Because that's the best way for us to learn what's working and what's not working. Its that initial raw reaction. For the Texas FBI call, it

was our Sheriff's office that knew about it. How they found out about it, I don't know. But it's that day-to-day relationship building that we're doing that has the Sheriff's office clue in and think "Hey, you know emergency management might be interested in hearing what's going on with this."

This informant spoke passionately about the importance of obtaining an "initial raw reaction" from agencies in the midst of managing an MCI, suggesting that the legally risky information redacted by lawyers held untold secrets to MCI preparedness success. "It's about being interested in doing the right thing. Finding a way to reach out to somebody. We didn't have the Washington State Police in our back pocket. It was direct messaging on Twitter…it really was a direct message over Twitter and it became this conversation. A phone conversation back and forth, with an exchange of information." Building and utilizing these relationships provided opportunity to gain "hands-on" knowledge without having to get your hands dirty.

International conferences serve as another venue for obtaining hands-free, hands-on knowledge. Given the differences between domestic and international terrorist attacks in recent years, international conferences are an opportunity to learn how to prepare for particular types of events that have never occurred on US soil, such as a complex coordinated terrorist attack (CCTA). The Department of Homeland Security defines a CCTA as "acts of terrorism that involve synchronized and independent team(s) at multiple locations, sequentially or in close succession, initiated with little or no warning, and employing one or more weapon systems: firearms, explosives, fire as a weapon, and other nontraditional attack methodologies that are intended to result in large numbers of casualties."[6] One county administrator reflected on a 2018 international CCTA conference in San Francisco, California, which included presentations by the London Fire Brigade, the London Metropolitan Police and the Israeli Defense Force: "With the CCTAs, so much of it is born out of what has happened overseas. Having those folks come in and there are so many conferences that go on. The local emergency managers that were there.

The local [first] responders that were there. They'll come out and talk about what happened. A lot of times that you listen to them…you're just eyes wide open. Saying to yourself 'I never would've thought about that."

Relationships, whether they be local, state, national, or international, are the backbone of MCI preparedness infrastructures. They are resources and they create routes for the movement of other resources: the people, objects, and knowledge of MCI preparedness. My ethnographic engagements with emergency response and management professionals revealed slippages within these resources and logics of MCI preparedness. Operating through sometimes dissonant and sometimes harmonious frames of references, emergency preparedness professionals expressed both congruent and conflicting futurities. Just below the surface of these imaginaries were (mis)aligned rationalities, systems of authority, boundaries of benevolence, and affective limitations of MCI preparedness. These (mis)aligned imaginaries produced alliances and tensions, as well as moments of hope and uncertainty.

(MIS)ALIGNED IMAGINARIES

I: Economies and Temporalities

While the elaborated landscape of emergency preparedness, management, and response in North Carolina is, as we have seen, largely built and maintained through relationships, it also produces multiple, often overlapping, zones of governance. These redundancies produce conflicting claims to authority, the intensity of which is heightened in the face of emergency events that span vast geographical areas of the state. This is particularly so in the Triangle, where three closely located and highly-competitive academic hospitals also serve as state-designated leaders in all things emergency.

Scheduling interviews with emergency preparedness professionals was challenging in fall of 2018, when North Carolina was hit by two Category 4 hurricanes back-to-back. Hurricane Florence and Hurricane Michael came less than a month apart, both of which prompted North Carolina Governor Roy Cooper to declare a state of emergency. Due to its extremely slow track, Hurricane Florence dropped record level amounts of water on North Carolina. Elizabethtown received more than 35 inches of rainfall, making Hurricane Florence the wettest hurricane on record (WRAL 2018). Hurricane Florence prompted Governor Cooper to declare mandatory evacuations along North Carolina's coastline. With widespread flooding and power outages, the state's emergency services were stretched thin. The evacuation mandate further complicated these efforts, as more than 100 patients hospitalized along the coastline, many of whom were in critical condition and requiring highly specialized care, now required evacuation. With state capabilities dwindling, NC OEMS looked to their regional emergency preparedness leaders for additional resources—a common occurrence in the face of large statewide disasters such as hurricanes. However, alongside requests for helicopters and swift water rescue teams, state OEMS also asked for assistance with leadership, turning to the Triangle, and one particular institution, for help. When asked if they had ever organized a statewide effort; "It was the first time for our hospital. The state of North Carolina OEMS asked us to coordinate the placement of evacuating patients out of the coast. It's the first time that we've really ever done a mass evacuation off the coastline. I think early on the state recognized that their assets were going to be pulled in multiple directions; therefore they weren't going to have that kind of control or that manpower to coordinate this the way they thought they would have."

Regional coordination and cooperation is fairly straightforward when it involves increasing capacity. Contributing emergency personnel and equipment was framed by several

informants as "what we do," suggesting a moral economy at work. These sentiments were ubiquitous among my informants—echoing geographer Ben Anderson's assessment that emergencies produce "new spatial and temporal arrangements" that demand "a responsibility to protect and an imperative to act" (Anderson 2016, 271). "I don't know what other people do. I don't know what happens in other places. But here in North Carolina, people help other people. It's what we do." However, the state's request for help with evacuation leadership revealed the political challenges that can emerge from a system of overlapping authorities and redundancies. With so many "experts" in one place, who gets to call the shots? Hurricane Florence evacuation challenged the altruistic spirit of emergency management, as institutions which were typically leaders themselves had to rework their imaginaries and "take a back seat". Institutional resistance to being led by a neighboring competitor was suggestive of a political economy working beneath the surface of MCI preparedness. Those leading the hurricane efforts described it this way: "There's a lot of questions. 'Why are they managing this? Why are they running this? Why isn't the state running this? Like something just doesn't feel right that their institution is the one who's coordinating these calls.'" Going on to describe the difficulty of coordinating the efforts of multiple highly competitive institutions, with one at the head, this hospital administrator said:

> We started those calls at 9 o'clock in the morning. At 3 o'clock, I think we might've had five or ten patients placed. So then we received this really concerning call from the state, saying "Look, if you guys can't place these at your next call, we're going to just stick them on ambulances and send them because they have to get out of the coastline". So we sent that message out [to the other institutions] and we said "Guys, look, this is why we're doing it. Because the state is just going to put these people on ambulances and send them. We're going to get you know that ECMO patient that's going to show up at a regional center that can't take them and now we're going to have to do this again". So once we did that, in the next call we placed like 99 patients in 20 minutes. I think it was just that like kick in the butt. Then every call after that was just streamlined and very directed and ready to go.

These findings reveal the political arrangements enveloped within individual and institutional imaginaries as "the visualization of some futures and not others, entails profoundly political work that enables and constrains political decision-making in the present" (De Goede 2008, 171). A political economy of MCI preparedness has the power to both divide and align individual and institutional notions of benevolence. These rearrangements of moral economies, in response to political economies, highlight the fluid-nature of MCI preparedness logics. Here, I am not referring to fluidity in the way most of my informants did: as an ongoing project of self-improvement to ensure your "plans don't just sit on a shelf and collect dust." Rather, I am referring to the limits of MCI preparedness logics; how the boundaries of preparedness logics emerge and submerge, institutionally or otherwise, in response to power structures, systems of authority and other political arrangements.

Authority plays a role in MCI planning and response efforts. Well established regional relationships, pathways on which resources typically flowed quite freely, were impeded. Political economies surfaced and served as roadblocks that halted the flow of resources. Even though these relationships were well established, systems of authority remade them and their moral economies as well. These revelations were surprised me. I expected hesitations and apprehensions to emerge. However, I presumed they would come in response to something else entirely: money. I consistently probed my informants about institutional budget concerns, expecting to find someone willing to discuss the financial burden of "scratching every back that we possibly can". However, I found conflicting perspectives. For hospitals and emergency preparedness administrators, budgets were of little concern, framed as an after-thought to their duty to help others in the emergency community: "It did hurt us to send people to that mobile hospital, for sure because we had to pay people extra to be out there so it did cost us. And there

was no additional remuneration for that work. But we didn't think about that." Perhaps, as one informant suggested, budgets weren't of concern for particular informants, because it wasn't a scarce resource. "In emergency medicine, we're not going to go under for having to back fill those shifts. Yes, it hurt our budget but we're not going to go under for that so we didn't think about it. We just said 'yea, we're gonna do this.'"

These lackadaisical attitudes toward money among Triangle area hospitals and local emergency preparedness administrators were not, however, aligned with the financial concerns of first responders. First responders, too, share the moral impetus to, in moments of need, throw budget concerns to the side and help communities in need, as indicated by a first responder: "when the hurricane comes, we're going. Whether or not we get paid for it, we'll work that out later." Historically, first responder budgets are tight and wages are low. On average, paramedics and firefighters in North Carolina make between $30,000 and $35,000 a year, around $10,000 less than the average North Carolinian (Kiersz 2018). Tight budgets and low incomes have produced national shortages in first responder professions (i.e. fire, EMS, police). But not all tight budgets are created equal. Differences in local government wealth can draw first responders away from the areas most in need. Both within and outside the Triangle, wealthier towns and cities have drawn firefighters to stations with bigger budgets and higher wages. One chief told me: "We have some salary comparison issues we need to deal with. We don't have the money they have. They've decided to pay firefighters in the mid-$40,000s to start which is creating a nightmare here. They [fire fighters] are not looking long-term. Young fire fighters are not looking at benefits. Anywhere they go they're going to get health insurance so they're looking at the paycheck."

In addition to longer response times, employee shortages equate to fewer day-to-day resources, producing an increased need for support from neighboring cities and towns that are also suffering from a shortage of first responders, emphasizing the conjuncture among people, objects, and places in MCI preparedness. The majority of the first responders' services are organized by county, city, or town. Contracts known as "Mutual Aid Agreements" enable first responders to work across geographical boundaries to both provide assistance and receive assistance from any neighboring institution they have a mutual aid agreement with. Mutual aid agreements are required by the state of North Carolina in order for first responders from one county to work in another county that doesn't employ them. These agreements are crucial for day-to-day functioning across the Triangle, where, as in the rest of the nation, there is a shortage of first responders.

Mutual aid agreements are highly valued in the emergency preparedness community, with all but one informant mentioning the importance of these contracts toward capacity building. Mutual aid agreements are contracts, legally-authorized forms of emergency assistance, that enable institutions to work across socially-contrived geographical boundaries. Thus, they serve not only as a vital component of daily emergency response efforts, but also as an implicit baseline for MCI preparedness capacity-building as well. An MCI, by definition, requires more resources and a greater response capacity than day-to-day emergency services, the response to which is accomplished through mutual aid agreements. This need for resources and for building capacity is central to the logics of MCI preparedness. However, day-to-day emergency service in the Triangle stands in a paradoxical relation with these logics, as one first responder said: "I'll be honest, on any given day you're gonna hear on the radio a unit in our county responding in that county for a medical emergency or vice versa…that's actually very common." Living this reality

on a daily basis, first responders were acutely aware that local realities conflicted with MCI imaginaries. "While it sounds good on paper part of the problem is that all of our systems are quite busy. If we're already busy and already have all of our units on calls at any given time, and then there were to be a big event, its a problem. Part of the problem is, if during a big event, another county asks for additional units and all of your units are on calls, you may not be able to contribute as much. From a logistics standpoint most of our EMS systems are running pretty tight when it comes to resources."

Despite efforts to bring all the right voices to the MCI preparedness table, underlying paradoxes or what one informant described as "disconnects" – like the issue of first-responder capacity building—lingered beneath the surface of MCI preparedness practices. These "disconnects" were the products of disparate futures or misaligned imaginaries. There was not one future field of action, but several. As the future was made present, multiple futures and temporalities emerged, and first responders questioned the capacity assumptions built into these futures as they conflicted with their day-to-day work in emergency preparedness.

The temporality of an imagined MCI produces a need for particular forms of preparation in the present (Lakoff 2008; Masco 2014). The scene of MCIs, the specific locations where they occur, can produce many different temporalities. Slow moving hurricanes operate on a different temporality than mass shootings. Despite familiarity with these realities, much MCI preparedness is imagined as a single temporality, one that enables an elaborated logic of preparedness to unfold. This temporality requires particular forms of preparedness in the present, evidenced through institutional concern for obtaining particular resources that speak to particular imaginaries.

The acquisition and use of particular material resources, and the tools of MCI response that differed from the day-to-day tools of emergency care, were a particular point of tension among informants, a "disconnect" between emergency management professionals and emergency care providers (i.e. physicians and first responders). Emergency management professionals were heavily invested in methodical MCI scene management, including the use of specific tools intended to organize on-site triage procedures. These tools included color-coded triage cards or tags which are used to assign a trauma level to each patient (i.e. red, yellow, green) so that red patients are prioritized, receiving the most care on-site, are the first transported to the hospital, and are distributed equally among area hospitals instead of overloading one facility. In explaining MCI scene management, emergency managers saw triage tags as an integral piece of the management puzzle—describing a seamless process that began with triage tagging and ended with a perfect distribution of critical patients across the three Triangle area trauma centers. "The main reason for that is, well hopefully patient accountability, and then also to make sure that you don't move the disaster from the scene to the front door of the hospital. You're actually kind of peppering people where they actually can receive care so that's part of the biggest impetus of the plan." Thus, for emergency managers, equal distribution of trauma patients is the imagined future around which the logics of preparedness are built.

Emergency care providers, first responders and emergency medicine physicians alike took issue with these futures. Their temporalities were built on different logics.

> Triage cards are not cheap. They're expensive. They're very detailed and every disaster that's ever happened, they've never been utilized. So you spent all this money on this card and it was a useless expenditure. The problem is time. If you have 50 patients, are you gonna say, "What's your name? What's your date of birth? Tell me about what medical problems you have. What medications do you have?" No. It's "He's sick. He's not. Let's get him first, him second." I don't need to spend that much time on one patient. I'm not gonna fill out a card if it takes me six minutes to fill out the card. What I really need to know is who's sick and who's not. Who needs to go right away and who doesn't…And

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then the problem is you spend all this time training on using the card and then you'll never use it. Would that time have been better spent teaching how to put on a tourniquet? Probably.

Like this first responder, a physician also found little use for a system designed around triage tags.

> They are silly. They don't get used in a real MCI. In a smaller more controlled kind of thing, sure they get used. But if you listen to anybody talk about most of the big major mass casualty incidents everyone says we didn't use them. No one showed up with a triage tag. They weren't used…a lot of them have a lot of space for writing things on them. You can flip it over. The smart triage tag goes in this little pouch so you have to pull the thing out of the pouch. You have to fold it over to the color they are and then you have to put it back in the pouch. If you've got 50 people that are dying around you, you're not going to fumble around with that. I don't think there's a reason for triage tags, especially in the hospital.

Clearly, emergency care providers were attuned to different concerns than emergency managers. Administrators imagined futures that were controlled and balanced while practitioners imagined themselves in a "reality" of the past. One emergency medicine physician put it this way:

> I think the people who come up with these systems and try to say, "Look how neat. Look how nice it is." It really isn't practical. The approach that needs to be taken is the more practical approach of what's actually going to happen. How things are actually going to flow. What people are actually going to do, and then work your management system around what's going to happen and how you can make that flow happen better. I think this is probably the biggest disconnect.

First responders too shared the sentiment of this physician; "I think probably one of the biggest challenges to preparing for a MCI, is that a lot of people don't take into account the practicality of what's going to happen and what will actually be implemented."

II: Communication, Command, Control

Visions of future MCIs, their temporalities and needs, not only informed resource acquisition and usage. These futures are the centerpiece around which MCI preparedness logics are built, however (mis)aligned these futures and logics may be. Arguably the most widely discussed and agreed upon topic among my informants were Incident Command Systems (ICS).

Following 9/11, the Department of Homeland Security established the National Incident

Management System (NIMS), which "provides a consistent template enabling Federal, State,

tribal, and local governments, the private sector, and nongovernmental organizations to work

together to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents

regardless of cause, size, location, or complexity" (FEMA 2011). A component of NIMS is ICS,

a training program that used all levels of governance, described by FEMA as "a standardized

approach to the command, control, and coordination of on-scene incident management that

provides a common hierarchy within which personnel from multiple organizations can be

effective" (FEMA 2011). ICS courses for emergency service professionals are a condition of

federal emergency preparedness grants and other funding opportunities; thus, all of my

informants had undergone ICS training, as one first responder explained:

> These are federal courses that were designed after 9/11, when they realize that there wasn't a clear infrastructure for dealing with all these different agencies that come together. They realized that you need a unifying system for hierarchy…It's a very clearly defined role. The federal government developed this free training program which you can complete online. Everywhere across the country that's what we all follow. Every first responder, anywhere in the country, takes the same online courses.

The enthusiastic sentiments of this first responder were echoed throughout my interviews.

Within the context of MCI preparedness ICS, and the coordination and communication

flows that it is designed to enable, were highly valued among emergency personnel. With dozens

of trainings, each several days in length, ICS training and implementation is a big task;

consistently identified as both an asset and vulnerability among emergency services. One local

professional with decades of emergency management experience identified ICS as the most

important component of incident management. "In my experience, the biggest lessons learned

are almost exclusively around the failure to implement a stable incident command system. To

make sure fire and EMS aren't getting in the way of law enforcement and what they need to do, or vice a versa."

Within the context of MCI preparedness, informants consistently acknowledged ICS as a foundation for successful management and response efforts as well. "We've been on enough MCI calls to know that the first thing that's going to break down is going to be that command and folks not understanding what each other is doing and making those siloed decisions without the big picture." Unlike the use of triage tags, physicians, first responders, and emergency management professionals, collectively, clung to ICS as a valuable method for making the unknown future more manageable. As federally served logics of preparedness designed to tackle all "incidents regardless of cause, size, location, or complexity" (FEMA 2011), these sensibilities are tendrils of a "history of preparedness as a rationality of domestic security" (Lakoff 2007, 247), in which present preparedness efforts seek to bring the all the unknown possibilities of the future under a ubiquitous, one-size-fits-all, form of control.

As these quotes have highlighted, emergency professionals often attribute past failures, moments of self-identified inadequate response to an MCI, as breakdowns in communications systems, such as this first responder reflecting on the 2012 movie theater mass shooting in Aurora, Colorado. "If you're ever bored, listen to the response to the movie theater shooting in Colorado. You can hear it on youtube. It's really fascinating. Listen to the police response. And then the fire and EMS response. Nobody is on the same page. Every mass casualty is almost always a communication problem. So thats really the only thing you have to work on."

The idealization of perfected communication structures is implicit within MCI preparedness efforts across all institutions. As a condition of federal funds toward local government preparedness efforts, ICS is a pillar of MCI preparedness infrastructure, an often

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taken-for-granted one at that (Star 1999). These command structure logics operate in a future in which seamless, elaborate, routinized forms of hierarchy can and do exist, despite its inherent contradictions with the temporalities of "reality". Although triage cards located the logics of preparedness in both fantasy and "reality," ICS and standardized communication structures did not. Among emergency professionals, future imaginaries very much aligned, but informants were not totally blind to the rub of these realities.

> Most MCIs pop up out of nowhere. If it's a big MCI, that command component where you have a bunch of command structures where you can go up and request resources is not there. Your MCI response is typically hinging around your you've got right at that moment. From the hospital standpoint, whoever is in the hospital when the event happens… backup surgeons, your backup ER docs, they're not going to be here for hours. Because, if it's local, they're probably not going to be able to get through the traffic. You've got what you've got here…all the disaster plans that say "the emergency response team will meet here and the incident command team will meet here and they will brief together here", that plan's all well and good but what if none of those people can make it to the hospital. I think a lot of plans they kind of go about establishing this chain of command but that chain of command isn't going to be functional for hours… The ability to coordinate will take, at best, hours to put together…you're on your own for a while. I think planning for that is challenging.

The challenge of diversifying preparedness efforts, as this physician notes, addresses the issue of the one-temporality-minded logics inherent in many MCI preparedness efforts. Informants offered up ways to mediate these difficulties: "I think setting in place plans that can just start at the snap of a finger and function, without command staff here, I think is huge. Then also having the ability to get your command staff here and plan for those [MCIs] that we have time to get ready for…The approach is slightly different but you have to be ready for all of it."

III: Affect and Engagement

As previously mentioned, the notion of an unobtainable yet constantly longed-for state of preparedness, in which the future would be perfectly secured, were the precipitants of post-9/11 insecurities (Masco 2017). As a form of authority, we have already seen how post-911 security

logics serve as "domestic affective recruitments" that normalize threat, "allowing new forms of governance to be pursued as a necessary counterformation" (Masco 2014, 7). We have also already seen how these logics operated beyond the sphere of national security, manifesting in emergency preparedness logics as a paradoxical desire to be "ready for it all." However, my ethnographic engagements challenged the uniformity of these rationalities, revealing how shifting tides of affect work to remake the logics of what it means to be "ready for it all."

Objections to the uniformity of preparedness logics have already been explored within the context of emergency preparedness. This work largely centers around the temporal dimensions of emergency preparedness governance, arguing that multiple temporalities of governance are distributed among the various techniques and technologies of preparedness (Adey, Anderson and Graham 2015; Collier and Lakoff 2008; Cooper 2008; Cooper 2015; Opitz and Tellman 2015). These large-scale notions were reflected in the local-scale logics of MCI preparedness, evidence by the previously mentioned misaligned imaginaries regarding MCI scene management, the use of triage tags and incident command systems.

While the exploration of the distributed temporalities of emergency preparedness governance have been well explored across a number of contexts (Adey, Anderson and Graham 2015; De Goede and Simon 2015; Cooper year, Opitz and Tellmann 2015), little to no work has sought to address additional breaks in the presumed uniformity of preparedness logics. My ethnographic engagements with local-scale forms of governance brought some of these unexplored fractures to light.

Affect has been recognized as a channel through which state projects and logics, such as emergency preparedness, come into being (Masco 2014). Following Ben Anderson's notion of emergency governances as "forms of authority and expertise that enable certain futures to

appear, gain and retain presence" (Anderson 2010, 787), I argue for "leveling-down" these analyses, applying Masco's work in affect and Anderson's work on authority to local-level MCI preparedness practices. Just as preparedness governance exists as one form of state governance among many others, individual institutional governances in the MCI preparedness apparatus exist among many others as well. Each of these authorities enables "certain futures to appear, gain and retain presence," producing substantive breaks in the logics of MCI preparedness. As affect and authority guide the imaginaries and actions of local institutions, these fractures emerge as challenges to the hope for cohesive collaboration—challenging Limor Samimian-Darash and Nir Rotem claims that emergency preparedness "calls for continuity and collaboration among intervention participants and continuing intervention" (Samimian-Darash and Rotem 2018, 15).

Joseph Masco, through historical analysis of Cold War and post-9/11 domestic insecurities, notes that because the intensities of national security affect "decay over time," they "require cultural work" to be maintained (Masco 2014, 21-22). Similar impediments infuse MCI preparedness practice because, as one first responder put it, "all of these things are dependent on memory." The challenges of this decay were expressed widely by my informants, including this emergency medicine physician:

> The further it [the MCI] gets from current time, the less enthused or excited or engaged people are. We reached a point where the leadership no longer felt like they needed to be trained annually because it no longer seemed like an imminent threat. Although they were still supportive of the things we wanted to do, now there was a 'do we really need to do all that? Because that seems like the Cadillac version to us. Couldn't we just go with the Ford Fusion version. It still goes somewhere. It still does things. But maybe it doesn't have heated seats.' So we did that. We scaled it back a little bit because it wasn't so vivid in people's memory anymore.

This quote shows how "claims of emergency" become entangled with affects of urgency (Scarry 2011, 7). The affects of any one moment in time produce what one first responder described as the emergency preparedness "flavor of the month."

Memory boosts and losses compounded the historical precedents of waxing and waning physician engagement, described as "the big Achilles heel of emergency preparedness." Many informants spoke candidly about the challenges of collaborating with physicians, with a particular focus on surgeons, noting narrow windows of opportunity to engage affectively with surgeons. One physician stated that "everyone accuses emergency physicians of having ADHD and that's likely probably true but it's much more worse for the surgeons because their attention span is about three days." These sentiments were echoed by an emergency medicine physician:

> Las Vegas got a lot of surgeons' attention. I'm not sure why that got more attention than Pulse Night Club, but it did….The surgeons were like, "What would we do if we got all those people?" I said, "I don't know what we would do but we should talk about what we would do and how we would figure that out"… We all said "Ok, let's set up a meeting and talk about it." And then they don't come. They don't engage. They don't participate…I'ts been a recurring problem for us in emergency preparedness.

This historical lack of engagement, and inability to build needed relationships, not only challenges local communities' abilities to build MCI preparedness but can also threaten to tear them down, as evidenced by this emergency manager:

> Years ago we had a big local incident and every surgeon employed by the hospital showed up at the emergency room.…There were so many people in there [emergency room] I couldn't move. And none of the surgeons were doing anything. None of them knew what to do. None of them understood the disaster system or how it was set up or what they were supposed to do. It was a nightmare. It was a complete nightmare. And surgeons don't respond very well when you ask the hospital police to remove them from the emergency room. It doesn't work very well for building long-term relationships.

Here we see how the absence of working relationships not only affected response efforts during an MCI but threatened future efforts as well. Emergency managers expressed a weariness about these precedents, an uncertainty that compounded an already uncertain future.

> I love physicians. But physicians are a pain in the butt and surgeons are at the top. We're going to have a mass shooting and they're not going to have someone to operate on within the next five minutes. So they're going to say 'Oh, let me go see that patient up in 2E really quick. That way I can just check on their progress.' Then, all of the sudden

they're gone whenever we send a patient to their [operating room] OR. That's the way it's going to be. That's one of my biggest concerns.

Given widespread consensus that, for trauma patients, "the fix is in the hospital," loss or absence of engagement with surgeons is another paradox operating within the MCI preparedness apparatus. Across the board, informants consistently pointed to reducing hospital transport times as the best method to improve patient outcomes. Triage tags and ICS are designed to prioritize the movement of the sickest trauma patients because their best chance of survival lies in the hospital—not in the emergency room but in the OR. In addition, when handling multiple critically ill trauma patients, emergency physicians look to surgical expertise to guide their own MCI response practices. "I would say that the process for a lot of these traumas is trying to determine who needs emergent surgery and who doesn't…We rely on our trauma surgery colleagues to be able to be the ones to do that triage."

Being well acquainted with these challenges, MCI preparedness professionals approach the issue from a position of legitimizing their efforts in the minds of physicians or "creating affectively imbued representations that move and mobilize" (Anderson 2010, 785). One hospital administrator explained: "You need to put the bait in the water, so to speak, so that way they're interested. Then when they're ready to jump on board, you need to set that hook really quickly because they jump off the bandwagon just as fast as they jump on it." Aiding these efforts are compulsory policies, like those of CMS, which mandate physician participation as a condition of federal funding. Emergency managers also turn to previous successful and unsuccessful collaborations with physicians as opportunities to provide proof that "early engagement of physician leadership is key for the success of emergency preparedness programs." When asked how hospitals work to mitigate these issues, the administrator stated that "it's supporting them as much as we possibly can. To show that, yes, there really is a need for this. And then to give

examples of when things went really well because everybody was talking together. Then to give the examples of things that went horribly wrong because nobody was talking to each other. But it's a battle every day."

With respect to physician engagement, emergency managers generally found "breaking down barriers" difficult due to the political economies and systems of authority that are inherent to the world of medicine. They've taken to working around those issues by appealing to those systems of authority.

> I'll be honest. I love physicians to death. But they don't want to listen to anybody who's not a physician. If you don't have an MD behind your name, they really don't care what you have to say. So we brought a physician onto our team. She is an attending. She is a medical director. So she is able to actually take this information and say [to the other physicians] "Hey, look. Here's our plan. You guys need to read this plan. Because this is what's gonna tell you what you need to do, based on the role that you're in. And no you're not going to freelance on your own. There are documented, written ways to make sure that we know that were doing this adequately. Here is that plan on how to do it." If I walk into a room and say that, they're going to laugh at me and tell me to…[laughs] But with her going in and doing it, they actually are a little more accepting.

The continued hope and attempts to build relationships with physicians returns us, again, to questions of resources and relationships. Such extensive investments in relationship-building is another testament to the invaluable nature of these resources, relationships, as a vital component of MCI preparedness logics and infrastructure.

CHAPTER 7: MCI PREPAREDNESS PROBLEMS: MASS SHOOTINGS

As the previous sections have demonstrated, emergency professionals in the Research Triangle expressed a number of hopes and desires as well as concerns and moments of uncertainty when discussing MCI preparedness. Although MCIs come in many forms, the historically-engrained and explicitly-stated desire to prepare for all "incidents regardless of cause, size, location, or complexity" (FEMA 2011), often folds the logics of MCI preparedness in on themselves and MCIs lose form. Instead of preparing for a flood or a building collapse, preparedness efforts were responding to a MCI. Mass shootings, however, garnered special attention. They produced a heightened sense of uneasiness in administrators and emergency care providers alike. These anxieties are reflected in the growing number of preparedness efforts specifically developed to address mass shootings. The anxiety over mass shootings operated with its own realm of uncertainty, above and beyond the concerns of other MCI preparedness efforts. Elaborated efforts also reflect the challenges of preparing for mass shootings. It became evident to me that mass shootings were unknown futures that were difficult to bring into the present, challenging MCI preparedness logics in a variety of ways.

For local emergency management administrators, a mass school shooting was an authority issue, they build on previous examples of the political challenges that emerge from a system of overlapping authorities and redundancies, as this county emergency management administrator explained:

> What's going to be our challenge…is what happens when there's a school shooting. Whose umbrella does this fall under? Is it going to be the county school system that takes

the lead? Is it going to be the Sheriff's office that takes the lead? Is it going to be the police that takes the lead? And who will fall under that umbrella with them?

Like hospital evacuations, schools were opaque zones of authority where the chain of command was yet to be determined. However, schools also raised the question of inclusion, evidenced by this administrator's question: "Who will fall under that umbrella?" Here, there is a doubling of uncertainty as administrators worried about authority as well as their position within the MCI response apparatus overall. Such questions would require "political maneuvering to figure out where we can meet and work together." The issue of inclusion was just the opposite for EMS, as this paramedic explains:

> Right now we're doing all this training for all these horrific shootings. Unfortunately, I don't think its an EMS problem…Its a police issue, for the [initial] response. They're [the police] going to tell us when it's safe and we're going to grab them [patients] and go to the hospital. We put our focus on the wrong things…because if it's a mass shooting, we don't do anything until law enforcement tells us it's safe to come in. And of course their idea of 'safe to come in' is different from ours because they have bullet-proof vests and guns. We're not supposed to be in danger.

Unlike emergency administrators, who were concerned they would be left out of MCI management, EMS felt their inclusion was not only unwarranted, but also potentially dangerous. When asked about active shooter drills, the same paramedic said: "It's a police thing. It's not us. It's an active shooter. We are taught day one in EMT school—'scene safety, BSI!' Put on the proper equipment and be safe. We don't have the stuff to go in there and deal with it. We have folks that have tactical EMS training and even then, they give them a bullet-proof vest but they don't have anything to shoot back with. Which is probably a good thing." As this medic notes, EMS personnel are taught to first ensure a scene is safe before administering aid, notifying others once the scene is safe by yelling "scene safety, BSI,"—body, substance, isolation. This paramedic suggests that there is a rub between the logics of MCI preparedness and the logics of

EMS practice. Despite the likelihood that police and EMS would be working an MCI side-by-side, he characterized it as simply "a police issue."

Emergency medicine physicians also expressed concerns over mass shootings. Recall the emergency medicine physician who struggled to keep surgeons engaged with MCI preparedness efforts following the 2017 mass shooting in Las Vegas. Physician engagement was a concern for many of my informants, but not necessarily the most pressing. When asked directly about mass shootings, many stated that they simply didn't know what the solutions were, including this emergency medicine physician: "Mass shootings are super hard. When the Pulse night club thing happened, it was like 'what would we do if we got all those people?' And truthfully the answer is, I don't know. I don't think anybody knows what you would do if you got all those people."

Compared to other preparedness efforts, mass shootings were especially challenging for these emergency preparedness professionals. Although previous mass shootings and the "lessons learned" from them were brought up time and again, future mass shootings continue to be "super hard" to bring into the present and make actionable. Geographer Ben Anderson notes that "common to all forms of anticipatory action is a seemingly paradoxical process whereby a future becomes cause and justification for some form of action in the here and now" (Anderson 2010, 778). However, mass shootings push back against this notion, challenging the logics of MCI preparedness in ways that other MCIs do not.

Although they are difficult to hold onto, MCI preparedness professionals continue to work to bring future mass shootings into the present, primarily through two methods of preparedness: 1) active shooter drills and 2) civic education. Every participant discussed either one or both of these preparedness tactics, albeit in quite different ways. Active shooter drills have only in recent decades become commonplace methods of preparedness. Although mass

school shootings had taken place prior to the Columbine High School (CHS) shooting in 1999, this event has been recognized as a touchstone in mass shooting preparedness history (Sanchez 2018). Like the post-9/11 shake-up in emergency preparedness logics, the CHS shooting forever altered the course of active shooter preparedness, so that now first responders often refer to the lessons learned in the wake of the CHS shooting as "post-Columbine" (Sanchez 2018).

At the time, the CHS shooting was the deadliest high school shooting in US history and it remained so for nearly twenty years, until the MSDHS shooting in 2018. Apart from being the two most deadly high school shootings in US history, these two events share other resemblences as well. The response to both of these school shootings was considered inadequate at the time and public backlash, in both cases, resulted in lost jobs and lawsuits. After the MSDHS shooting, comparisons of the two shootings circulated in the press with widespread claims that lessons learned from Columbine were not used at MSDHS and if they had been, more people might have been saved (Mazzei 2018).

During the CHS shooting in 1999, active shooting went on for about 45 minutes, at the end of which both assailants took their own lives. Although police arrived at CHS just 3 minutes after the shooting started, they waited for SWAT police to arrive and enter the building, as was customary at the time. SWAT teams arrived on scene around the same time that the shooting ended. However, due to police miscommunication, more than an hour passed before SWAT teams entered the school. At this point, more than two hours had passed since the shooting began. Having discovered a number of pipe bombs in the school parking lot and surrounding areas, SWAT teams feared there were more bombs in the school. Moving through the school with caution, it took the SWAT police more than two hours to fully evacuate the building, with the last survivors evacuated more than three hours after the shootings ended. Throughout the

active shooting, there were moments when the assailants and police exchanged fire so police were treating the event as a hostage situation, the traditional response to which was to "surround the building, set up a perimeter, and contain the damage" (Mazzei 2018). SWAT police not only moved slowly and cautiously through the building; they also prevented paramedics from entering for nearly two hours, even after knowing the shooters were dead, decisions that contributed to the death of at least one critically-injured victim, if not others.

In the wake of the CHS shooting, mass shooting preparedness and response was greatly altered. Like the shooting at MSDHS, public backlash against the police was huge. Lawsuits were filed and the family of the critically-injured man who died was awarded $1.5 million in damages, alongside many other families who not only sued the police but the parents of the assailants as well (Janofsky 2001). In response to these events and their aftermaths, police tactics changed drastically. The focus completely shifted from containment to confrontation. In what is known as Immediate Action Rapid Deployment (IARD), a team of four officers, or as many as are available, assemble in a diamond formation and move directly toward the sound of gunfire to "neutralize the shooter as quickly as possible" and "at all costs" (Mazzei 2018). Following CHS, this tactic was widely adopted among law enforcement across the county and has, after two decades, become the only acceptable mode of response to an active shooter situation, a protocol that officers failed to follow during the MSDHS shooting (Mazzei 2018).

In addition to the development of IARD, the CHS shooting has been identified as the catalyst for the now widespread use of active shooter drills. In fact, every informant I interviewed mentioned participating in active shooter or similar mass shooting drills. Active shooter drills most frequently occur within individual institutions or "internally," typically once a month or every other month. External drills, those between multiple institutions within the same

county or region, are much less frequent, occurring two to three times a year. Locally, active shooter drills have been carried out in a variety of locations including a recent drill staged at a local mall, as discussed by this emergency services administrator: "Recently there was an active shooter drill at Southpoint Mall…It was mostly a police drill, for the logistics, but I believe EMS may have sent one or two units…One of my medical directors was there to kind of get experience. To see what it's like to run a active shooter drill in a big mall."

Despite numerous mass shooting response evaluations, and even the previously mentioned paramedic who claimed that "every mass casualty is almost always a communication problem," EMS staff still find active shooter drills to be "the biggest waste of time." This notion was supported by the small number of EMS who participated in the active shooter drill at Southpoint Mall. With indoor and outdoor shopping areas as well as a cinema, Southpoint Mall is one of the largest malls in the Triangle region. More importantly, Southpoint Mall is located along the southwest edge of Durham County, less than 10 miles from Wake, Chatham, and Orange County. Although the medical director mentioned is employed by a different county than the police who participated in the drill, they would likely both respond to an incident at Southpoint Mall. However, the medical director attended the drill as a spectator to learn "what it's like to run an active shooter drill in a big mall," not as a participant in the system but as a student who will teach the same type of drill somewhere else.

As a way of making the future present, active shooter drills were recognized as serving other purposes as well. A local paramedic described these drills as a "feel good about myself" moment for emergency services personnel, because "even if we don't get trained on it, it's going to happen. We just all want to be part of something." The "part of something" notion is a gesture to the desire for action, the desire to make uncertain futures known. Anderson notes that active

shooter drills are meant to serve "as a means of knowing futures that 'could' or 'might' happen, the scenarios render the future geographies of infrastructure actionable" (Anderson 2010, 785), despite how unpredictable those futures might be.

I close this section by discussing a newly developed method for making the future actionable that is currently flourishing in MCI preparedness (Anderson 2010): civic education. In an attempt to be resilient in the face of mass shootings (Samimian-Darash and Rotem 2018, 14), MCI preparedness efforts have turned to the public as a resource in need of cultivation. Civic education initiatives work to recruit the public as actors in the MCI preparedness apparatus by teaching them basic first responder skills, like how to apply pressure to uncontrolled bleeding, tie a tourniquet, and pack a wound (ACS 2016). Programs such as "Stop the Bleed" and "Until Help Arrives," teach potential mass shooting bystanders how to be more than just victims, as this emergency management administrator explains:

> Until Help Arrives, it's a little bit of a paradigm change. Typically when people observe or are part of an incident they wait for first responders to arrive. And typically, when they get there, first responders will say 'I'm here. Step back.' Right now we're trying to change that paradigm so that if I'm a first responder and I need your help and I might say 'Do this.' We're asking civilians to get involved which is a really different thing than they're used to hearing. But it's also a different thing for first responders too. But we believe, especially in this new day and age with everything were experiencing, we need that sort of force multiplier. We want the public to know that we want them to work with us.

Here, the paradigm change comes not only in the attempt to indoctrinate civilians with MCI preparedness logics, "You Are The Help Until Help Arrives" (FEMA 2019), but also around questions of expertise and authority as some first responders feel hesitant about asking the public to act as "immediate responders" (FEMA 2019). When asked about mass shootings, a paramedic with decades of experience stated: "It's the general public that needs to be trained. Which is really an unfortunate thing. I hate we have to waste our time doing that. I want to train high

school folks to go out and train other people. It's insane that we even have to do that. It's absolutely insane."

The logics of MCI preparedness have been challenged by mass shootings. In an effort to push back, these logics are moving into new spaces, such as schools, and creating new resources, such as students. In doing so, the infrastructure of MCI preparedness continues to grow, enabling work to be done in the present. However, as the literature and this ethnography have shown, these infrastructures will *talk back* to the logics of MCI preparedness, as they mutually construct one another. What might these new resources have to say?

CHAPTER 8: CONCLUSION

Figure 4. Chapel Hill Magazine January/February 2019 Edition (Stringer 2019).

In the January/February 2019 edition of Chapel Hill Magazine, nestled between a feature titled "comfort meals that get you through the winter" and "Child's Play: Four fun activities for kids," is a two and a half page spread about "Stop the Bleed" (Stringer 2019). The feature is titled "Course of Action", with the words "Course" and "Action" marked in black and the "of" in red (Figure 4). With advertisements for wedding venues and hair salons on either side, the pages blend in with the rest of the issue. You could easily flip right by the article without anything about it catching your eye—I certainly did. The feature begins with the story of a local resident

who experienced an active shooter situation while visiting the Norfolk Yacht and Country Club in 2014 in Norfolk, Virginia (Stringer 2019). Although no one was hurt in the incident, the local resident felt compelled to take one of the free Stop the Bleed courses now being taught monthly at the UNC Hospitals Hillsborough Campus (Stringer 2019). Several times throughout the article as well as in the list of highlighted features at the beginning of the magazine, Stop the Bleed is quoted as being "as essential as CPR" (Stringer 2019).

If we stop for a moment and consider the claim that Stop the Bleed is "as essential as CPR" as well as the presence of this article in a free local magazine, we can see how the logics of MCI preparedness are increasingly taking on new domains. This article circles back to where we began. In my introduction, I asked: What does it mean to prepare for the unpredictable? How do institutions prepare for events whose probability, circumstances and lethality cannot be foretold? What rationalities inform preparedness practices and policies? How are these rationalities formed and developed? And how do they operate across the landscape of MCI preparedness? Ground-level engagements with local emergency preparedness professionals has not only helped to answer these questions, but has also brought valuable new insights to the study of preparedness overall.

Historical analyses on preparedness are often informed by national and international movements, policy development, and the events that influence government decision-making. While these methods are useful for evaluating government systems, they often flatten the logics of preparedness into an even landscape. My discussions with emergency professionals, however, revealed that the logics of MCI preparedness looked less like the plain of a valley and more like the rocky terrain of a mountain. They did not work on everyone the same way. There were slippages, disconnects, (mis)aligned imaginaries and temporalities. Futures were imagined

differently but imagined no less. These imaginaries were both a commitment to total preparedness and "the constant failure to achieve it," an "unending bureaucratic circuit" whereby hope for a state of preparedness that can never be obtained further legitimizes preparedness efforts in the present (Masco 2014, 19).

Anthropologists such as Joseph Masco and Andrew Lakoff have written extensively on the history of domestic security and preparedness in the United States, and their findings were reflected in discussions of pre- and post-9/11 emergency preparedness logics. The post-9/11 insecurity affect that informs "the American tendency to believe that existential dangers can be deterred endlessly" (Masco 2017, 73), is the essence of MCI preparedness. As the bedrock to MCI preparedness logics, the belief that dangers can be deterred endlessly has power: the power to "focus social energies, unlock resources, and build things" (Masco 2006).

Given that MCIs by definition overwhelm locally available resources, the logics of MCI preparedness are largely centered around building capacity and growing infrastructure, so one can be "ready for it all." However, as we saw, MCI preparedness demands different resources beyond those of day-to-day emergency preparedness efforts. These demands refashion individual and institutional relationships so that they become pathways for the movement of people, objects, and knowledge. Essentially, relationships are resources that move other resources and build infrastructure. But not all relationships are made equal, and hospitals continue to struggle with issues around physician engagement. Memories, affect, attention, and engagement simultaneously fade, while the pervasiveness of particular MCIs, such as mass shootings, risk meeting Masco's observation that "specific forms of threat can become normalized, a background condition of everyday life" (Masco 2014, 21).

The relationships built through day-to-day emergency work are arguably the most highly valued assets of the MCI preparedness infrastructure. These logics largely rest on a hope for reciprocity: the notion that scratching backs in the present will ease future efforts to "call in the cavalry". Reciprocity logics also informed the movement of knowledge across the MCI preparedness apparatus, whereby first-hand experience became second-hand knowledge that administrators were desperate to obtain. With respect to first-hand experience, every informant was directly asked if they had ever responded to or managed an MCI. A few did have the experience but the vast majority did not. While one or two said it directly, "No, I've never worked an MCI", most said it indirectly by immediately moving to a story about an MCI drill they had participated in. This emergency medicine physician said it best: "I have limited experience personally being involved. But I have done a lot of reading and stuff to mentally prepare my mind."

Mentally preparing the mind—reading, planning, engaging, enacting, practicing: means for making the future present. The future made present is actionable, regardless of how unpredictable that future may be. Despite the difficulties in making them present, the particularly strong affective response that mass shootings evoke makes inaction simply unthinkable. Instead, emergency professionals and civilians alike feel the call to action that preparedness demands, the call to "be a part of something".

As the logics of MCI preparedness continue to expand into new domains, further investigation into these movements is greatly needed. Stop the Bleed has continued to evolve so that it is not only focused on the general public but on specific publics as well, such as schools. Schools across the US are increasingly adding programs like Stop the Bleed, among many others, to their yearly curriculum; and some states, including North Carolina, have proposed

legislation to make Stop the Bleed a condition of graduation (Hui 2018). Mass school shootings and the efforts being taken to prepare for them have received little attention in the literature. Consequently, ethnographic approaches to the study of school shooting preparedness and the logics of MCI preparedness operating in US schools are greatly needed.

END NOTES

[1]This information is based on Florida Senate Bill 7026 which was passed in March 2018 and is also known as the Marjory Stoneman Douglas Act.

[2]The World Health Organization (WHO) defines this in their "Mass Casualty Management Systems Guide" which was found online:
https://www.who.int/hac/techguidance/MCM_guidelines_inside_final.pdf

[3]This information was obtained on the Census.gov site using the "Fact Finder" tool. The Census provides information for the Triangle region which includes Durham, Chapel Hill, and Raleigh as well as their corresponding counties and other outlying cities and towns that are included in this geographical area.

[4]This information was taken from the Duke RAC website in which they have a list of their RAC partners. This information can be found at the following website:
https://trauma.duhs.duke.edu/regional-advisory-committee/rac-partners

[5]This information was taken from the North Carolina Emergency Management Office 2018 Annual Report which was found online at the following address:
https://files.nc.gov/ncdps/documents/files/2018NCEMAnnualReport_FINAL_0.pdf

[6]This information was taken from the "Planning Considerations: Complex Coordinated Terrorist Attacks" produced by FEMA in July of 2018 and found at the following website:
https://www.fema.gov/media-library-data/1532550673102-c4846f270150682decbda99b37524ca6/Planning_Considerations-Complex_Coordinated_Terrorist_Attacks.pdf

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