Overseen And Overlooked: Knowledge Production And Care In Public Health Surveillance

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OVERSEEN AND OVERLOOKED:
Knowledge Production and Care in Public Health Surveillance

by

Krzysztof Wojciech Chwała

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OVERSEEN AND OVERLOOKED: KNOWLEDGE PRODUCTION AND CARE IN PUBLIC HEALTH SURVEILLANCE

Abstract

At the beginning of the COVID-19 pandemic, contact tracing was implemented as a public health measure to prevent the further spread of disease. In this thesis, I analyze contact tracing as a case study of public health surveillance. I argue that public health does not sufficiently study the social components and consequences of its surveillant activities, and as a result is hyperopic; it sees health-related phenomena at a distance with clarity, but has not brought its own logics under view. To remedy this, I utilize perspectives from the field of surveillance studies, which studies surveillance as social and cultural phenomena. In analyzing federal guidelines for contact tracing and statewide contact tracing interview scripts, I show how contact tracing has two primary functions, knowledge production and public assistance, and I argue that these programs in their first few months focused on the former over the latter. Through analyzing contact tracing training materials, I show how contact tracers are taught to utilize a rhetoric of care within their practice to build rapport with the public and therein to better be able to collect data. I argue that this instance of surveillance might better be understood in terms of what I call “serveillance,” replacing the root sur- (meaning “over”) with ser- (meaning “to protect” and “to order”). This brings to the forefront questions of whom and what purposes surveillance serves, and whom it protects. By bearing in mind the various social aspects of these surveillance practices, I argue that public health’s commitments to knowledge production over public assistance are made clear in times of crisis, and this transparency shows how future public health practice can be altered to better support publics.
Acknowledgements

When I volunteered as a contact tracer for the Connecticut Department of Public Health, I never would have thought I would spend much of the next year thinking about that very public health program. Thank you to Jaime Krasnitski at the Department of Public Health. As a contact tracer and then contact tracing supervisor under her leadership, our weekly conversations about how the contact tracing program could be better invigorated both a reflective and speculative perspective that gives me hope for even better public health in the future. While this thesis is critical of much of this contact tracing program, I write it in the same vein as many of our conversations—not to undermine the progress that has been made, but to identify the various gaps and harms that arose and how they may be accounted for.

Thank you to my thesis committee. Jason Schwartz not only provided generous and thorough feedback on drafts of this work, but also moral support when I felt lost and misplaced. He has served as a role model on how to be a publicly engaged scholar. Lisa Messeri introduced me to STS after I had dabbled in tangential areas for a couple years, for which I will be forever grateful. Her teaching and advising has inspired me to think deeply, critically, and generously about the roles of science and technology in society and life.

Many of the thoughts that transpire throughout these pages first arose and then were fleshed out during walks throughout New Haven and visits to its many parks. Thank you to the lilies and daises in Rainbow Park, where I first decided to write a master’s thesis. To the trees of East Rock and its sights of mesmerizing foliage that I found myself retreating to, ever more frequently. To the daffodils, crocuses, and tulips across campus and town. To the cherry blossoms in Wooster Square.

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Table of Contents

ii  Abstract

iii  Acknowledgements

iv  Contents

v  List of Figures

1  **INTRODUCTION**
   Toward 2020 Vision:
   Public Heath Surveillance Meets Surveillance Studies

24  **CHAPTER 1**
   Tracing COVID-19:
   Balancing Knowledge Production and Public Assistance

51  **CHAPTER 2**
   Conscripting Care:
   Analyzing Public Health ‘Serveillance’

70  **CONCLUSION**
   Taming Uncertainty:
   Contact Tracing, Then and Now

75  References
List of Figures

33  **Figure 1:** The ContaCT Digital Platform

47  **Figure 2:** Daily Confirmed and Probable COVID-19 Cases in Connecticut

61  **Figure 3:** An Example of Bad Contact Tracing

63  **Figure 4:** An Example of Good Contact Tracing

72  **Figure 5:** COVID-19 Cases in Connecticut by Race/Ethnicity, May 2020 - March 2021

72  **Figure 6:** Cumulative COVID-19 Cases and Deaths in Connecticut by Race/Ethnicity, May 2020 - March 2021
introduction

Toward 2020 Vision: 
Public Health Surveillance Meets Surveillance Studies

Over the summer of 2020, I volunteered as a COVID-19 contact tracer for the Connecticut Department of Public Health (DPH).\(^1\) When I joined the team in late June along with 200 other volunteers, my 8 a.m. volunteering shifts acquired a level of banality and seeming futility: I commuted from my kitchen to my bedroom desk, coffee-in-hand, and turned on my computer. I logged into a digital telephone service that allowed me to place phone calls from a DPH phone number, opened a script with which I could interview recently diagnosed COVID-19 patients, and signed in to a statewide digital database that proffered the contact information for recently diagnosed patients. I put on my headphones, cleared my throat, and dialed each patient’s phone number.

While I was trained to be agile during these phone calls—to address concerns, answer questions, and collect patients’ information—my first two weeks of contact tracing seemed

\(^1\) A note on terminology: the coronavirus disease 2019 (COVID-19) is an infectious disease caused by the virus by the name of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Prior to the current nomenclature, the virus was provisionally called the 2019 novel coronavirus (2019-nCoV). While COVID-19 and SARS-CoV-2 are distinct, COVID-19 is commonly used in popular discourse to refer to both the viral contagion and the disease. Throughout this thesis I similarly use “COVID-19” as a shorthand for both. This usage also suggests that discussions about curtailing the spread of the viral contagion are implicitly about a desire to prevent an increasing amount of suffering and death due to the disease.
almost mechanical in nature. No one answered my phone calls, giving me no reason to be agile but rather leaving me to record the same five sentences in each person’s voicemail:

   Hello, my name is Krzyś, and I’m calling on behalf of the state health department. I am trying to reach [name of case]. There is an important health matter that I need to discuss with you and would appreciate if you can return this call at your earliest convenience. You can return this phone call at [phone number].

I then made a note in the patient’s digital file that I left a voicemail and opened the next patient’s file. Repeat.

   In early July, a few weeks into volunteering, I spoke with my supervisor about my experience thus far. I don’t feel like I’m being productive or making any change, I lamented. I’m a public health student in the midst of a pandemic, and I wanted to grasp the transformative capacities of public health practice to improve populations’ health. My rote voicemail recordings left me frustrated and worried that public health in practice was vain. My supervisor was quick to point out my issue: while I volunteered in the early mornings, most successfully completed phone calls occurred later in the day.

   Determined to actually speak with COVID-19 patients, I decided to volunteer my afternoons in the following week. Within my first few attempted calls, a middle-aged woman recently diagnosed with COVID-19 picked up the phone. I shifted to the edge of my seat; I was excited to proceed past the voicemail prompt of my script and conduct a full interview. After verifying her identity and noting her mild symptoms in the database, I asked a series of questions regarding her ability to stay home. When I asked, Are you able to get food?, she paused. After a brief moment she blurted out: “I know I shouldn’t have, but I went to Burger King this morning.” Following the self-isolation instructions she had already received, she ran out of food

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2 This script and the contents of contact tracing interviews are described in full detail in the first chapter of this thesis, Tracing COVID-19.
supplies at home and resorted to visiting local fast-food restaurants for her meals. After noting her response in the system, I reliably read off my script:

Thank you for letting us know about your concerns. We will be sharing this information with a coordinator who is able to help you get the assistance that you need. In addition, if your needs are more urgent, the 2-1-1 info hotline is available 24-hours a day, 7-days a week and may be able to connect you with services sooner.

When she stopped me to ask who her information would be shared with and when she could expect to be contacted, I realized I was working at the boundaries of the capacities of official public health practice at that time: DPH would not have resource coordinators for another few weeks, and thus no one would be contacting her to provide the assistance she required to receive food. The contact tracing script and program merely alluded to the fact that public health personnel could, and perhaps should, attend to social determinants of health—a gesture I return to in the first chapter of this thesis. Stumbling, I admitted the lack of resources and tried to find a solution for her on my own. Do you have any neighbors, family members, or friends who could buy groceries for you?—No. Would you be able to place an order with a commercial grocery delivery service?—No. In the end, I urged her to utilize the 2-1-1 information hotline—a service I barely knew how to use myself—to connect with local organizations that could help so that she could stay at home and not spread the virus further. Unsure if she would call the hotline or if it would even be helpful if she did, I moved on to what is the bulk of contact tracing interviews: collecting information about everyone she had been in contact with and locations she had visited while she was contagious.

* * *
INTRODUCTION: TOWARD 2020 VISION

The COVID-19 pandemic heightened public health practice at local, national, and global scales, and contact tracing was identified as a “core disease control measure [to be] employed by local and state health department personnel.”3 Such measures, as I describe later in this introduction, have historically helped control diseases such as tuberculosis, human immunodeficiency virus (HIV), and other sexually transmitted diseases (STDs).4 These contact tracing practices were adapted for the COVID-19 context, and the Centers for Disease Control and Prevention (CDC) outlined their core functions, in part, as follows:

- Public health staff work with a patient to help them recall everyone with whom they have had close contact during the timeframe while they may have been infectious.
- Public health staff then warn these exposed individuals (contacts) of their potential exposure as rapidly and sensitively as possible.5

Testing clinics actively report positive COVID-19 cases to health departments to enable contact tracing. When potentially exposed individuals (hereon referred to as “contacts”) are contacted about their potential exposure, they are provided recommendations for quarantining at home in case they develop the disease. In this way, contact tracing is intended to break the chain of viral transmission, decrease the caseloads of hospitals and clinics treating COVID-19 patients, and prevent suffering and death due to the disease.

Put another way, contact tracing collects information about where COVID-19 had spread, and then acts on this knowledge by asking COVID-19 contacts to quarantine. This fusion of data collection and response was both practical and valuable in facing a pandemic that was not fully understood and that continued to take thousands of lives as it provided guidance to members of

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3 United States Centers for Disease Control and Prevention (US CDC), “Talking With the Patient.”
4 Armbruster and Brandeau, “Contact Tracing to Control Infectious Disease.”
5 US CDC, “Talking With the Patient.”
the public while also generating a basis for public health research to inform other responses such as vaccine rollout strategies.

My experiences working as a contact tracer reared questions that are central to this thesis. In scenarios where I felt unable to support COVID-19 cases and contacts, such as those I have described, I found myself asking: Whom does contact tracing serve, and whom does it fail to aid? I began to wonder how public health marries knowledge production with practical response measures. I quickly observed that contact tracing and public health surveillance writ large allow public health personnel to interact with the public. However, public health departments imagine their work as being at the community level, rather than the individual level, even though information is gathered by individuals. As in the case of the COVID-19 patient with unmet food needs, the two capacities of public health surveillance practices to both create knowledge and provide social support are not equally fulfilled. This is in part because the problem occurs at the individual level while public health acts at the community level—a phenomenon that science and technology studies scholar Max Liboiron calls scalar mismatch. In this thesis I therefore ask, When and how are knowledge production and public assistance in public health at odds? How is this balance experienced across different communities? And finally, How might we imagine public health surveillance otherwise to enact care?

Surveillance is commonly understood to be at the heart of public health practice. Because of this deep entrenchment, I argue that the social dimensions and implications of surveillant practices within public health are under-scrutinized. Public health is hyperopic—it observes diseases and health-related phenomena at a distance in the public but fails to clearly see its problematic internal logics. To evaluate contact tracing programs as case studies of public

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6 Liboiron, *Pollution is Colonialism*, 101.
health surveillance and to remedy this farsightedness, I turn to social and cultural studies of surveillance found in the interdisciplinary field of surveillance studies. By analyzing public health surveillance as a cultural phenomenon and performance, I argue in this thesis that public health surveillance is supported by a façade of care for individuals.

In the remainder of this introduction, I take a step back from contact tracing programs to discuss surveillance more broadly. First, I place public health surveillance within the greater landscape of contemporary surveillance practices that were prominent in the year 2020. I then outline and contrast understandings of surveillance in public health and surveillance studies, and I situate this thesis in the company of recent scholarship that bridges these two disciplines. I show how weaving these interdisciplinary insights can help remedy public health’s hyperopia, such that the field emerges out of the year 2020 closer to having 2020 vision. I then close with an overview of arguments found in subsequent chapters.

Surveillance Across Disciplines

Before describing the significance of surveillance in contemporary US society and in different disciplinary discourses, it is interesting to note the meaning of the term itself. Definitions include monitoring, supervision, close observation, and careful watching. Some definitions further include phrases such as, “especially over a suspect, prisoner, or the like,” and “especially by the police or army, because of a crime that has happened or is expected.” These meanings don’t stray far from surveillance’s etymological roots: the term comes from the French verb surveiller, literally meaning “to watch over,” and this watchfulness traces back to the Latin vigilare,

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8 These definitions are retrieved from the Webster, Merriam-Webster, Dictionary.com, and Cambridge dictionaries, respectively.
meaning “to keep watch” and is closely related to vigilance.\footnote{Marx, “Surveillance Studies,” 734.} The existence of a perceived threat to be vigilant for and the implicit power dynamic of the person(s) conducting surveillance being over the surveilled are of particular note across these understandings.

While these various definitions diverge in their implications of surveillance’s functions, they all identify different ways of seeing. As I outline in the following sections, scholars of public health and surveillance studies see surveillance differently. In the former, surveillance is a strategy and set of methodologies for data collection that enables public health action, and in the latter, surveillance is studied as an exercise of power through which data is gathered, categorized, and analyzed with particular social implications. By bringing these two ways of seeing surveillance together, I intend to import the focus on social experiences and implications of surveillance to conversations in public health. In his book, \textit{Ways of Seeing}, art critic John Berger writes, “The relation between what we see and what we know is never settled. … The way we see things is affected by what we know and what we believe.”\footnote{Berger, \textit{Ways of Seeing}, 7-8.} In this vein, my hope is that this thesis helps to disrupt uncritical understandings of public health surveillance, such that future public health surveillance systems are designed with more intentional social functions and implications.

\textit{2020: A Year of Surveillance in Review}

While this thesis analyzes one particular form of public health surveillance in the midst of the COVID-19 pandemic, this should be understood as taking place alongside, and informed by, a plethora of other surveillant activities well beyond the domain of health, with a particular focus on policing of and by law enforcement agencies in 2020. In subsequent sections of this
introduction I discuss theorizations of these various surveillant dynamics and activities, and for
now I offer an account of their experiences.

In 2020, police surveillance came to particular public attention after the murders of
Ahmaud Arbery, George Floyd, Breonna Taylor, and the history of violence and murder of
members of BIPOC communities by the carceral state. In response to the Black Lives Matter
protests that called for police abolition across the country, law enforcement agencies collected
photos of protestors that were posted on social media platforms to identify them. They also
began using drones to capture video footage of the protests, for similar purposes. The police
force occupies a powerful position in society as an entity of the US government, and thus they
have the capacity and financial support to expand their surveillance. According to the Electronic
Frontier Foundation’s *Atlas of Surveillance*, a database documenting the proliferation of police
surveillance technologies, police surveillance occurs well beyond the location of individual
officers; in New Haven County, Connecticut, for example, the police uses drones, body-worn
cameras, automated license plate readers, gunshot detection technologies, and Amazon’s home
surveillance equipment (located in civilians’ homes) to surveil the public, in vigilance of
criminality, as they define and construct it. During the Black Lives Matter protests, this meant
that the police had a virtual presence throughout neighborhoods and cities to watch and track
protestors, and furthermore informing where to physically send their personnel. Because this
police surveillance was intended to quell the protests that took issue with police over-presence in
the first place, protestors resisted these surveillance measures by making themselves

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11 Biddle, “Police Surveilled George Floyd Protests with Help From Twitter-Affiliated Startup Dataminr.”
12 Ibid.
13 Research in surveillance studies, as I review in the following pages, has shown how surveillance practices are
informed by the long history of racial formation and the policing of black life under slavery. See Simone Browne,*
*Dark Matters.*
imperceptible to the ways they were being watched. To counter facial recognition technologies that were used to identify protestors in photos and videos, they wore masks and indistinctive clothing. To counter the police tracking cell phones, many protestors did not bring their devices with them. While surveillance is often done by those in power—in this case the police—they subverted this power dynamic and surveilled the police by recording police brutality and utilizing police body-cam footage for the purpose of tracking police behaviors. While surveillance by the police was often cast negatively in popular discourse, surveillance of the police was favorable. In other words, surveillance can be either good or bad, as I discuss later with the insights of surveillance studies scholars.

Surveillant practices undertaken by both the police and protestors have been developed over the past decades. To begin, governments have created mass surveillance programs since the September 11 attacks, as revealed by Edward Snowden’s leaked NSA documents. Through mass surveillance, the government collects and analyzes data on large numbers of people, instead of focusing on individuals deemed suspicious or criminal. In a similar fashion, law enforcement agencies conduct mass surveillance through the array of aforementioned technologies. While mass surveillance is less focused on collecting information about particular individuals, it is directed toward communities, and most often BIPOC communities. The police surveillance in 2020 follows from a history of policing black people and communities. Finally, protestors’ strategies to circumvent facial recognition technologies are informed by campaigns started in

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15 The COVID-19 pandemic disparately impacted BIPOC communities, meaning they were more heavily surveilled by public health officials. I discuss this in the conclusion of this thesis, Taming Uncertainty. See also: Stokes, et al., “Coronavirus disease 2019 case surveillance—United States, January 22–May 30, 2020”
INTRODUCTION: TOWARD 2020 VISION

2017 by Amnesty International and the Surveillance Technology Oversight Project (STOP) to ban the technologies in cities across the country.17

These developments in mass surveillance indicate that the scalar shift in surveillance is recent. In the realm of public health, this means that COVID-19 contact tracing falls in line with a greater set of recent surveillant practices that observe the population writ large. And so, public health’s scalar mismatch, as mentioned previously, arises out of the historical expansions of surveillance.

Through these various instantiations of surveillance, data is collected and analyzed with technological apparatuses: cameras, algorithms, and the like. Contact tracing programs differ in that data collection occurs through a human-to-human interface between patients and contact tracers. Throughout this thesis, I analyze how this human face of surveillance distinguishes the experiences and implications public health surveillance from that of other contemporary surveillant practices.

Public Health Surveillance

According to the CDC, public health surveillance is “the ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.”18 Surveillance provides a foundation of scientific evidence off which to base public health actions and interventions.19 By emphasizing its capacity to fuel

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17 Surveillance Technology Oversight Project, “Fighting Facial Recognition: Ban the Scan.”
18 Quoted in Thacker and Berkelman, “Public Health Surveillance in the United States,” 164.
INTRODUCTION: TOWARD 2020 VISION

public health programs and decision-making processes, surveillance is portrayed as an
indispensable backbone for the discipline in its entirety.

Surveillance systems are furthermore framed as supporting what Stephen Thacker and
Ruth Berkelman define as public health’s three essential functions: assurance, assessment, and
policy development. To support this range of public health activities, surveillance takes on
varying forms in different contexts to collect the desired health-related data. In active
surveillance, public health officials regularly contact health care providers or patients themselves
to gather information about health conditions and diseases. Passive surveillance, on the other
hand, enlists clinical settings to provide regular, aggregate reports about particular health
conditions. Syndromic surveillance collects data, either actively or passively, based on clinical
symptoms rather than diagnoses, and genomic surveillance collects genetic information about
viruses and bacteria themselves, rather than any associated symptoms and/or diagnoses. The
emphasis on data collection cuts across all of these modes of surveillance.

Different surveillance methodologies require specialized officials and professionals to do
the work of surveillance and collect data. In active surveillance, for example, public health
officials are primarily responsible for outreach and data collection, whereas genomic surveillance
requires laboratory scientists to sequence bacterial and viral genomes that serve as the data.
These differences in expertise at face-value enable different data to be collected—a typical
public health official is unable to sequence a genome, for example—and they furthermore
assemble tailored arrangements and relations between public health institutions and the public.
While officials conducting active surveillance may interact directly with members of the public,
there are degrees of separation in other surveillant methodologies. In passive surveillance, for

example, clinicians and clinical administrators serve as intermediaries. While I will argue that this arrangement and extent of separation plays a crucial role in how surveillance programs are adopted and perceived by the public later in this thesis in analyzing volunteer workforce that fueled COVID-19 contact tracing, for now it suffices to note that not all public health surveillance programs are equal in their social interactions and implications.

Contact tracing, a main component of public health surveillance programs concerned with COVID-19, is a form of active surveillance. In these programs contact tracers at health departments and hospitals call COVID-19 cases—individuals diagnosed with the disease—to offer guidance on precautionary measures to keep others safe and gather information on who they have been in contact with and thus infected. They then call these identified contacts to offer guidelines on recommended quarantines and disease testing. In the midst of this surveillance, a range of health-related data is collected, including, but not limited to, temperature readings, the presence of symptoms such as coughing and loss of smell, where cases have traveled, and who they have been in contact with. The latter information collected shows that what falls under the category of “health-related” is dependent on context, as in the case of COVID-19 social interactions are “health-related” because they present a potential vector for viral spread.

The history of epidemiology and public health surveillance influence the design and focuses of contemporary programs aimed at the COVID-19 pandemic. Contact tracing dates back to the 19th century wherein English Sanitary Inspectors examined patients’ homes, looked for possible disease sources, and gathered information about contacts.21 Inspectors persuaded and bribed patients to quarantine.22 Persuasion has remained a crucial aspect of contemporary

21 Mooney, “‘A Menace to the Public Health’ — Contact Tracing and the Limits of Persuasion,” 1807.
22 Ibid.
contact tracing, and contact tracers are trained to use empathy, educational resources, and claims to moral responsibility to convince cases and contacts to self-isolate and quarantine, respectively. The historical development of epidemiology as a quantitative discipline influences the numerical nature of the data collected through contact tracing. Because epidemiological research is founded on numerical data, the surveillance program is crafted to support public health research.

Just as public health surveillance programs are created to support public health functions, they are evaluated based on their ability to produce data about health conditions. Among the key attributes used to evaluate surveillance systems are: public willingness to participate, cost-effectiveness, data quality, flexibility to changing information needs, predictive value positive, representativeness, security, sensitivity, and simplicity.

Public health surveillance differs from most contemporary surveillance practices in that it focuses on health conditions, diseases, and contagions, and not people themselves. Indeed, William Foege, the epidemiologist credited with creating the strategy to eradicate smallpox, wrote, “The reason for collecting, analyzing and disseminating information on a disease is to control that disease.” Disease, however, is an embodied experience, and contagions are enmeshed in individual human biologies. Therefore, surveillance programs that focus on disease inherently involve individuals as subjects of surveillance. With this in mind, I now turn to the

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23 Ibid.; Gurley, “COVID-19 Contact Tracing.”
24 The quantitative focus in epidemiology also follows a historical trajectory of pursuing objectivity through quantification. For an account of how quantitative methods gained popularity in the development of 18th-century epidemiology in England and France, see Rusnock, *Vital Accounts*. For an analysis of the attraction and perceived prestige of quantitative fields more broadly, see the classic Porter, *Trust in Numbers*.
27 Ibid., 59.
28 While I discuss Michel Foucault’s work on panopticism in the following section, this point parallels his scholarship regarding insanity. In *Madness and Civilization*, Foucault argues that medical institutions were created in the Modern era for the purpose of confining mentally insane individuals. A diagnosis of insanity, in other words,
field of surveillance studies to outline the roles of individuals in conducting and experiencing surveillance.

**Surveillance Studies**

In this section, I provide an overview of concepts from the field of surveillance studies that relate to and overlap with the concerns of this thesis. My intention is not to provide a comprehensive sketch of the field, but rather to map its contours and to identify where public health might benefit from its insights. As an interdisciplinary field, surveillance studies pulls from and is in conversation with a number of other disciplines including sociology, cultural studies, critical theory, science and technology studies, and organization studies. The field is generally concerned with how and why populations are surveilled, and more recently also with how those populations respond to being surveilled. The majority of scholarship in this field came about after September 11, 2001 and concerns surveillant practices since.

Most accounts of the field begin with the Panopticon as a consummate model for discipline and surveillance, as it was first developed by Jeremy Bentham and then theorized and made popular by Michel Foucault. In the 18th century, Bentham created an architectural design for the Panopticon prison. The design consists of a circular building with a central watchtower.

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enrolled individuals as subjects of medical surveillance. This eerily parallels how a diagnosis of COVID-19 and/or exposure thereto bring individuals into the purview of public health surveillance (and the following confinement by way of quarantine and isolation). See: Foucault, *Madness and Civilization.*


30 I should also note that the majority of scholarship in surveillance studies is concerned with human populations. For an example of an analysis of surveillance of more-than-human worlds, see Braverman, “Zooveillance: Foucault Goes to the Zoo.”

31 Hier and Greenberg, *The Surveillance Studies Reader.* There have been more recent interventions in the field to study surveillant practices that predated September 11 and gave a trajectory for surveillant practices that came thereafter. For example, see Browne, *Dark Matters,* which is also briefly discuss in this literature review.

Prisoners’ cells span the circumference of the building, and the central tower allows a singular guard to watch all of the prisoners. It is from this all-seeing capacity of the design that Bentham created the name Panopticon. Furthermore, the inmates cannot see into the central tower, meaning they cannot know if they are being watched, or if there is even a guard to watch them in the tower. This constant feeling of being watched incentivizes inmates to not misbehave. The architectural design itself, and not a surveillor, enacts the controlling discipline of surveillance.

In the 20th century, Foucault took Bentham’s Panopticon as a metaphor for the modern disciplinary society.\(^{33}\) For Foucault, the constant and normalized state of being watched is internalized by individuals and disciplines them into docility, thereby creating social order. Foucault further analyzes discipline as arising out of a nexus of power and knowledge. He observes that through surveillance the surveillor acquires knowledge about the surveilled, and in this dynamic the surveillor has the disciplinary power to influence individuals’ behaviors, and thus also their thoughts and desires.\(^{34}\) Through the constant surveillance of the panopticon, Foucault observes that “the formation of knowledge and the increase in power regularly reinforce one another in a circular process.”\(^{35}\)

While surveillance operated as a technology of control for Bentham and Foucault, contemporary surveillance studies scholarship also analyzes how surveillance is practiced for productive purposes of garnering, among others, productivity, health, and safety. David Lyon further writes that “[s]heer social control is seldom a motivation for installing surveillance systems even though that may be an unintended or secondary consequence of their

\(^{33}\) Foucault, *Discipline and Punish*.

\(^{34}\) For Foucault, disciplinary power is not necessarily oppressive, but rather it is productive because the focus and intention of surveillance is to garner particular modes of behavior.

\(^{35}\) Foucault, *Discipline and Punish*, 224.
deployment.” In other words, surveillance studies is not concerned with new regimes of surveillance, but rather with the ubiquitous expansion of surveillance with narrow applications.

Regardless of intention, surveillance has spilled out from its original sites of operation. Gary Marx writes that surveillance is no longer just applied to individuals, and instead that surveillance is “applied categorically … to places, spaces, networks and categories of person”—a mode of surveillance he calls “new surveillance.” Marx suggests that through this categorical application of surveillance, technologically enabled with both a large scope and scale, we have become a “maximum-security society,” suggesting that society is now subjected to the intense surveillance that was once reserved to maximum-security prisons. Most notably for this thesis, in the maximum-security society everyone is “suspicious” at one time or another, and individuals might be subject to “categorical suspicion” based on their membership to certain groups.

In a common provocation to the field, Marx writes that “surveillance is neither good nor bad but context and comportment make it so.” Surveillance studies has conceptualized and theorized a vast array of surveillant practices to give nuance to discussions about their various instantiations, and I outline a selection of them here. To begin, Steve Mann has observed that not all forms of watching are top-down as is inherent in the term surveillance. To account for other dynamics such as in the case of protestors surveilling police organizations, Mann puns on the term’s French etymology to develop the term “sousveillance” (where sous- means “under” in French).

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37 Thank you, Lisa Messeri, for helping to articulate this point.
38 Marx, “What’s New About the ‘New Surveillance’?,” 8. See also: Marx, Windows into the Soul. Marx further notes that the distinction between self-surveillance and surveillance by others is blurred in “new surveillance,” with the advent of, for example, wearable tracking technologies that provide data to both the person wearing the technology and others.
39 Marx, Windows in the Soul.
40 Ibid., 284.
41 A great number of these conceptualizations utilize the root -veillance with a number of prefixes to classify categories and dynamics of surveillance. For a longer, yet still incomplete, list of conceptualizations in surveillance studies, see: Marx, “Surveillance Studies.”
French) as a way to analyze how people surveil individuals in positions of power and authority. While this can take any number of forms, it is often done by using handheld or wearable cameras.

Surveillance, as noted by Marx above, no longer emanates from a singular vantage point, leading Kevin Haggerty and Richard Ericson to conceptualize the “surveillant assemblage” as a model for understanding the convergence of once discrete surveillance systems. The surveillant assemblage sees the human body as being “broken down by being abstracted from its territorial setting” and then reassembled elsewhere “through a series of data flows.” This reassembled, decorporealized body takes the form of a “data double.” For Haggerty and Ericson, this model of surveillance casts its gaze on anyone and everyone, not being limited by a hierarchy of power that places anyone above or outside of surveillance. Furthermore, bodies are broken down into data flows for particular purposes.

Oscar Gandy coined the term “panoptic sort” to study surveillant processes that identify and classify individuals and/or groups for the purpose of “control[ing] their access to the goods and services that define life in the modern capitalist society.” For example, credit scores are used to surveil individuals’ financial activities, and as a panoptic sort, this surveillance privileges some by deeming them creditworthy, and disadvantages others. Surveillant assemblages may be at play within the panoptic sort, too. Continuing with the example of credit scores, data about individuals’ credit usage and history is collected from a variety of sources—credit cards, loans, mortgages, etc.—and these together compose an assemblage that is used to calculate a credit score. Such surveillance thus not only collects data, but also enables particular action in society.

43 Haggerty and Ericson, “The Surveillant Assemblage,” 611.
44 Gandy, The Panoptic Sort, 15.
This dyad is similar to the data collection and viral containment that compose contact tracing programs, a point I return to later in this thesis.

The outcomes of surveillance can differ for individuals and groups not only because of data collected about them through the surveillant practice as in the panoptic sort, but also because of their position in society. In this vein, Simone Browne has developed the concept of “racializing surveillance” as a “technology of social control where surveillance practices, policies, and performances concern the production of norms pertaining to race and exercise a ‘power to define what is in or out of place.’” She further writes that enactments of racializing surveillance “reify boundaries, borders, and bodies along racial lines, … where the outcome is often discriminatory treatment of those who are negatively racialized by such surveillance.” By showing how contemporary surveillance technologies are informed by long histories of racial formations and the policing of black life, Browne demonstrates that analyses of surveillance require attention to the social and political norms they have historically garnered. Furthermore, Browne contends that it is not enough to heed racializing surveillance, and that subjects of surveillance counter these practices in novel ways. Theorizing black struggles in the context of slavery and antiblack surveillance, Browne proposes the concept of “dark sousveillance.” Where Mann’s sousveillance describes surveillance from below, Browne extends and builds on the term to theorize dark sousveillance as “a site of critique … where the tools of social control … were appropriated, co-opted, repurposed, and challenged in order to facilitate survival and escape.” Surveillance, thus, is dynamic in how it is conducted, how it is experienced, and in its purpose and point of origin.

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45 Browne, *Dark Matters*, 16.
46 Ibid.
INTRODUCTION: TOWARD 2020 VISION

Studies of Public Health Surveillance

This thesis is situated at the intersections of public health and surveillance studies, a juncture that has been relatively understudied. In 2013, the journal Critical Public Health published a special issue concerned with health-related surveillance. In this collection of three research articles, authors identified that health-related surveillance can serve forces of positive social change, and that they can also militate against social justice by discriminating and marginalizing individuals and communities.\(^{48}\) The special issue analyzed how mobile health technologies operate within frameworks that privilege idealized body types, how HIV surveillance affect the identities of gay men, and how public health can be “securitized” through case study of tuberculosis screening and border control.\(^{49}\) This journal issue demonstrates that analyses of public health surveillance’s social implications are not new; however, there is still much to be studied.

Since the publication of the special issue, many studies of public health surveillance have been authored or co-authored by Martin French, one of the special issue’s editors and a professor of sociology at Concordia University. His and his co-authors’ body of scholarship has covered the imbrication of war-time logics with the development of public health surveillance, informatic practices—the material practices of working with data—in public health, and how pandemics are detected through public health intelligence.\(^{50}\)

\(^{48}\) French and Smith, “Health’ surveillance,” 383.
\(^{50}\) French, “Woven in War-Time Fabrics”; French, “Gaps in the Gaze”; French and Mykhalovsky, “Public health intelligence and the detection of potential pandemics.”
The COVID-19 pandemic has spurred new scholarship in this area. Early in the pandemic, French and Torin Monahan published an editorial in *Surveillance & Society*, the premier surveillance studies journal, indicating that surveillance studies can help us think critically about the crises at hand and our responses to them. In this “rapid-response editorial”, they identify that surveillance activities created categories of suspected, probable, and confirmed COVID-19 cases, but that there is a “mess of complex social reality” that surveillance studies could attend to. I write this thesis partly in response to their stated “need to … see how the surveillance of COVID-19 is actually happening in practice.”

In particular, there has been a burgeoning number of studies at the intersections of these two fields analyzing digital contact tracing efforts, such as those via Bluetooth, GPS, and cellular technologies. Many of these technologies are being used by governments because they have identified manual contact tracing—the subject of this thesis—to be too slow. Scholars have raised ethical questions regarding these technologies, namely if they should be used if they are not accessible to the entire population. French and a number of his co-authors have raised concerns with these technologies empowering corporate entities, such as Palantir Technologies, to conduct public health practice, and in so doing de-centering the power of public health authorities. I do not focus on digital contact tracing in this thesis, and instead analyze manual efforts that undergird and exist alongside these technological efforts. Nevertheless, just as these methods of contact tracing work in tandem, I envision this thesis as being complementary to

52 Parker et al., “Ethics of instantaneous contact tracing using mobile phone apps in the control of the COVID-19 pandemic.”
53 Ibid.
54 French, et al., “Corporate contact tracing as a pandemic response.”
these other studies, as they all take up public health’s power and authority while interacting with the public.

**Overseen and Overlooked:**
**Diagnosing Public Health’s Hyperopia**

This thesis analyzes the dual role of COVID-19 contact tracing to produce knowledge about the pandemic and to provide assistance to the public in the form of education and social support. During the first few months of the pandemic, these programs were successful in the former but failed in the latter. I argue that in identifying the pandemic as a public health concern, public health responses over-focused on knowledge production and overlooked the responses themselves as potential points of concern. In other words, public health focused on observing the pandemic at a distance as it was emerging in society, and did not reflexively observe their own responses. Public health was hyperopic. Reaching back to surveillance’s literal meaning of observing over, I analyze the various modalities of these observations. Public health departments oversaw how the pandemic spread, and it overly saw the pandemic at the level of the virus while overlooking the pandemic’s social impacts at the human level.

Because surveillance studies is attuned to the social impacts of surveillant practices, its various insights can remedy public health’s hyperopia. I critique public health’s surveillance practices as matters of concern. In a Latourian mode of critique, I assemble perspectives from interdisciplinary fields of study in an effort to show how surveillance can be improved for the future. In so doing, this thesis, situated within public health, grapples with its situated

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55 Regarding critique, Bruno Latour writes: “The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rugs from under the feet of naïve believers, but the one who offers the participants arenas in which to gather,” (246). It is in this sense that I assemble studies in public health and surveillance studies in this common arena that is this thesis. See: Latour, “Why has critique run out of steam?” I am also reminded of Katherine McKittrick’s call to read outside ourselves and our disciplines to similarly assemble a variety of
INTRODUCTION: TOWARD 2020 VISION

knowledge and its limitations thus far that stem from not thoroughly considering the social implications of its surveillance practices. In taking up this situated knowledge, this thesis aims to produce what historian of science Donna Haraway describes as “a more adequate, richer, better account of a world, in order to live in it well and in critical, reflexive relation to our own as well as others' practices of domination and the unequal parts of privilege and oppression that make up all positions.”

Thesis Overview

With the eruption of the COVID-19 pandemic, public health departments across the country needed to quickly mobilize to address these new health threats and concerns. Throughout this thesis, I analyze how public health responded to the pandemic with contact tracing in the first few months of the pandemic. I argue that this period of the pandemic as a moment of crisis and uncertainty reveals public health’s core commitments, norms, and assumptions, and therefore analyzing public health efforts from this time gives purchase to critically reflect on the state of the field and discipline more broadly.

In the first chapter, Tracing COVID-19, I show how COVID-19 contact tracing was an evolving practice. I analyze CDC guidelines and CT DPH interview scripts to determine how contact tracing balances its functions for knowledge production and public assistance. Furthermore, I track the development of Connecticut’s contact tracing program to relate how public health’s commitments and consequences developed. I argue that in the first few months of perspectives. She writes: “What if we read outside ourselves not for ourselves but to actively unknow ourselves, to unhinge, and thus come to know each other, intellectually, inside and outside the academy, as collaborators of collective and generous and capacious stories?” (16). Throughout this thesis, I call on public health to reorient its gaze and change its practices, changes that require unknowing parts of its disciplinary norms. For more, see: McKittrick, Dear Science.

INTRODUCTION: TOWARD 2020 VISION

the pandemic, public health departments disproportionately focused on data collection in contact tracing over public assistance. Surveillance was enacted with a future orientation to help prevent the spread of the disease to more people, over helping those who were already sick to stay safe.

In the second chapter, Conscripting Care, I argue that contact tracers are trained to perform care toward the individual cases and contacts they interview, but that this care is in reality for data collection. By analyzing contact tracing training materials, I examine how a rhetoric of care is conscripted and grafted onto the interview scripts of the first chapter. Contact tracing programs, as instances of public health surveillance, were in large part enacted by volunteers in Connecticut, complicating surveillance’s typical top-down power arrangement. Furthermore, these programs are explicitly described as protecting and caring for the public. Following these distinctions, I propose analyzing these programs through what I call serveillance. By replacing the root sur- (meaning “over”) with the root ser- (meaning “to protect” and “to order”), I shift the focus of analysis to include questions of what counts as protection in public health surveillance, and who and/or what does surveillance protect. Furthermore, my term serveillance includes the word serve, which I use to reflect: who and/or what does public health surveillance serve? Throughout this chapter, I argue that while public health performs protection and care for the entire public, it predominantly serves privileged segments of the population.

In concluding this thesis, I consider how analyzing early responses to the pandemic provides insights for how to improve public health practice in the future. I also identify further areas in need of study, namely how contact tracing was experienced by BIPOC communities.
At the end of April 2020, a week before Connecticut’s statewide contact tracing program was launched, Governor Ned Lamont described the importance of contact tracing for “being able to operate our lives safely” in a daily news briefing. He said, “[Contact tracing] sounds a little like Big Brother, … but this is a tried-and-true method of limiting an infectious spread. That’s the most effective thing we can do.”

Kristen Soto, an epidemiologist and syndromic surveillance coordinator at the Connecticut Department of Public Health (DPH), then explained how contact tracing supplements other preventative public health measures, such as suspending in-person functions. Following these public health recommendations alone would not sufficiently curtail the pandemic’s spread, she explained, as asymptomatic cases continue to pose the risk of spreading the virus to their close contacts. Through contact tracing, asymptomatic cases and their contacts can be identified and provided with guidelines for testing and self-isolation or quarantine, thus preventing further spread. She concluded her brief presentation telling the press

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that “for contact tracing to really work, we need the support of you and the public to help in this endeavor.”

During this press conference, Lamont and Soto anticipated concerns regarding the efficacy and public support of COVID-19 contact tracing. However, by identifying it as the “most effective” available measure, they sought to galvanize the public into backing the program. In this chapter, I analyze how contact tracing helped define the pandemic when little was known about how it spread and who was affected most severely. More specifically, I examine how the logics and practices of contact tracing influenced not only experiences of the program, but also the knowledge produced through them. I argue that uncertainty about how the virus spread and who had contracted it created fertile grounds for the development of contact tracing programs. This surveillance mechanism not only gathered information to help extinguish this uncertainty, but also provided an abundance of touchpoints among the government, public health departments, and the public, cultivating some public support and solidarity for countering the pandemic.

To uncover these components and mechanisms of contact tracing programs, I track the development of Connecticut’s statewide program. By closely reading federal and state guidelines for contact tracing work, I discern the program’s objective functions. I begin my analysis with a discussion of CDC documents that frame contact tracing as an elicitation technique. I then briefly consider how DPH collaborated with Microsoft to develop a statewide digital surveillance platform that allows for DPH and local health departments to share information and collaborate while contact tracing. Finally, I provide a close reading of Connecticut’s contact tracing call scripts and their updates between June and August of 2020 to show how the statewide program refined its data collection procedures and evolved to include wraparound social services. Neither
COVID-19, as it was understood, nor contact tracing, as it was practiced, remained fixed, and analyzing these developments enriches our comprehension of how the pandemic was understood.

CDC Guidance

As discussed in the introduction, contact tracing methods and programs have a century-long history in preventing the spread of contagious infections. It has been used at various scales to control measles, HIV, Ebola, tuberculosis, and other infectious diseases. The emergence of the COVID-19 pandemic created an impetus for contact tracing across the country, and although the virus moved across state and regional boundaries, these programs were developed in parallel at different scales: within local health departments, state health departments, and nationally at the CDC. To provide uniformity across these programs and better enable their collaborations, the CDC published guidelines for creating contact tracing programs and for how tracing work should be conducted. In this section, I analyze these guidelines and guidebooks with an eye toward the implicit goals and assumptions built into this surveillance practice. I argue that the CDC’s focus on knowledge production regarding the novel coronavirus allows for a disregard of human well-being.

Thus far, in line with popular discourse, I have used contact tracing as a shorthand for the pandemic response programs that, according to the CDC, are composed of two parts: case investigation and contact tracing. Case investigation involves identifying and investigating patients with COVID-19 diagnoses to discern disease etiology and offer support for patients. Contact tracing, on the other hand, encompasses the “subsequent identification, monitoring, and

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58 CDC, “Interim Guidance on Developing a COVID-19 Case Investigation and Contact Tracing Plan.” Throughout the remainder of this thesis, I follow colloquial terminology and use “contact tracing” as a shorthand for both activities of case investigation and contact tracing.
support of [patients’] contacts who have been exposed to, and possibly infected with, the virus.”

These two activities are conducted in tandem during a phone call, as discussed in the next section, and employing a synecdoche by labelling these programs in their entirety as contact tracing suggests this activity’s dominance within this dyad.

Contact tracing’s prominence over case investigation also denotes a focus on gathering information about the viral spread over that of individuals’ experiences of the disease, which creates a skewed understanding of the pandemic. Historically, public health surveillance has distinguished the surveillance of disease from the surveillance of individuals. The subject of surveillance is thus the viral agent, the ontological enemy to the public’s health. Viral contagions, however, cannot be detached from and known without their hosts; they are made visible via measuring and surveilling the body—by checking for symptoms, or conducting a viral test. This focus on virus and disease that does not take its embodiment into account foments a limited, primarily biological, understanding of the virus. This comes with its harms. For example, this biological focus can preclude social and structural determinants of health that shape individuals’ and communities’ vulnerabilities to the contagion and their experiences of disease.

Furthermore, through this logic marginalized patients are reduced to vectors of

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59 Ibid.
61 According to Martin French, emerging infectious diseases generate militarized public health surveillance configurations that are concerned with eliminating viral enemies. Global surveillance programs were developed during the Cold War, and this included public health surveillance programs. As a result, war-time logics have been imbricated with the development of public health surveillance, ultimately portraying viral contagions in militaristic terms of enemies. See French, “Woven of War-Time Fabrics: The Globalization of Public Health Surveillance.”
62 For a further discussion of the dangers of precluding social and ecological factors, see Krieger, “The Making of Public Health Data: Paradigms, Politics, and Policy.” For an example of a social epidemiological approach that actively takes up these factors, see Nancy Krieger’s theory of ecosocial disease distribution: Krieger, “Theories for social epidemiology in the 21st Century: An Ecosocial Perspective.”
In accordance with this focus on surveilling the virus and its locations, the CDC outlines the goal of each contact tracing interview as “collect[ing] critical information about a person (patient) diagnosed with COVID-19 and potentially exposed contacts, while providing support, referrals, and answers to questions that the patient may have.”64 This stated intention raises a notable point: this “critical information” is identificatory as to locate where the virus may have spread. This statement also shows that the CDC presents data collection and social support as being equal goals, but as I will soon show, this social support in practice became secondary. Furthermore, the goal of each individual interview is distinct from the summation of all these interviews that is the contact tracing program writ large: each interview’s main goal is to gather information whereas the entire program’s goal, as referenced by Soto in this chapter’s introduction, is to break the chain of viral transmission. Put another way, individual contact tracing interviews serve the purpose of knowledge production, and their sum enables broader public health response measures.

The CDC interview guidelines also frame surveillance as a social process. They state: “Developing trust and a warm, empathetic rapport while maintaining a professional relationship with the patient is key to providing the most effective support and collecting the most accurate information.”65 This emphasis on rapport, which plays a prominent role in contact tracers’ training that I discuss in the next chapter, stems from the virus only being able to be tracked by

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65 Ibid.
engaging with the infected patients, who may be hesitant or unwilling to share information. Indeed, as they write, the “interview process should be more than just checking off boxes on a case report form.”\textsuperscript{66} Retrieving information from the patient therefore requires engaged dialogue. In other words, this data does not simply exist “in the wild” and ready to be gathered, but rather it is constructed via this discursive, social process.\textsuperscript{67} To the same effect, the guidelines themselves are titled “Talking with the Patient” as opposed to “Interviewing the Patient,” indicating the sociality of this surveillance.

By identifying the benefits of building rapport as enabling the provision of support and data collection, the CDC signals its importance for both components, case investigation and contact tracing, of the interview. The sequence of stated benefits—better support, then better data collection—however, is reversed from the goals to “collect critical information … while providing support” which indicates that a greater portion of these benefits ideally exists for the patient receiving support. These guidelines portray contact tracing programs in their ideal form, signifying that ideally robust support systems are available to patients. As I have mentioned, however, contact tracers were often unequipped to provide resources to patients, meaning that the benefits predominantly resided in supporting thorough data collection. This recurring reference to the need for supporting patients thus demonstrates that the CDC identified contact tracing’s capacity to champion public assistance and delegates this responsibility to state and local health departments.

To help prime each interview, the guidelines provide a set of principles for contact tracers to follow that evoke dialogue between them and the patient. These include: “Create a judgement-

\textsuperscript{66} Ibid.
\textsuperscript{67} Lisa Gitelman and Virginia Jackson remind us that there is no such thing as “raw data”—that effort needs to be concentrated to collect data, including a decision of what to collect (and what not to collect) and who to (not) collect from. See Gitelman and Jackson, “Introduction” in \textit{“Raw Data” Is an Oxymoron}. 

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Each of these principles is intended to help create a comfortable space for the patient to share their experiences and “story,” and the contact tracer is urged to view each patient individually. These principles also discipline the surveillant gaze by having the contact tracer reflect on how they enact surveillance and from what positionality. The parenthetical mention of cultural humility, for example, impels contact tracers to continuously reflect on their own biases and how they creep into their work. According to Katherine Yeager and Susan Bauer-Wu, the process of self-reflection in cultural humility helps “build honest and trustworthy relationships” that prioritize understanding individual patients’ situations, as opposed to other dominant frameworks for addressing bias in medical settings such as cultural competency that focus on classifying patients into cultural “groups” to determine how to tailor care. This call for continuous reflection also serves the purpose of refining each contact tracer’s data collection strategies, inspiring more thorough collection in the future.

In addition to advising contact tracers to be mindful about their positionality with patients, they also remind tracers to intentionally shape the content of each interview, declaring in boldface that "Language is important." They further write: “If supportive statements and genuine concern are combined with active listening and open-ended questions, powerful information can be gathered to interrupt the spread of the virus. Asking open-ended questions prompts a dialogue and elicits more detailed information.”

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69 See Yeager and Bauer-Wu, “Cultural humility: Essential foundation for clinical researchers.”  
70 CDC, “Talking with the Patient,” 4.  
71 Ibid, emphasis mine.
regarding positionality are concerned with each interview writ large, the focus on language for the explicit purpose of better data collection shows that the contact tracing venture is primarily concerned with knowledge production. The power of this information rests in a future temporality of preventing others from becoming infected. While the surveillant relationship establishes the contact tracer as being in a position of power, the patient holds this “powerful” and desired information, and this power is why interview are refined to suit each individual patient as much as possible. Once this data is divulged, however, patients have a less powerful position with which to ask for and/or demand resources. Because receiving resources takes more time and a different network and set of expertise than collecting data within the interview, the emphasis on knowledge production enables a disregard for social well-being when resource retrieval requires additional effort.

The CDC makes note of its own language usage in these guidelines to address public perceptions of contact tracing and surveillance more broadly. For example, regarding the case investigation portion of each contact tracing interview, the CDC remarks in a footnote that “[i]nvestigation in this context refers to a public health/infectious disease investigation and should in no way be interpreted as a criminal investigation.” Recalling that dictionary definitions detail surveillance as being conducted on criminal suspects or spies, this distinction shows that the CDC recognizes surveillant activities as not always perceived as “good” by the public. By building rapport and attempting to evoke comfort, trust, and confidence during interviews, contact tracers are thus not only building a relationship with patients within the scope of the interview, but also developing a positive public perception of the contact tracing program more generally. Framing these efforts in part as public relations work helps reveal the extractive

72 CDC, “Interim Guidance on Developing a COVID-19 Case Investigation and Contact Tracing Plan.”
ONE: TRACING COVID-19

logics of contact tracing programs and public health surveillance more broadly. That is, every component of planning COVID-19 contact tracing programs at the federal level is in service to refining and improving data collection strategies.73

ContaCT: Connecticut’s Online COVID-19 Surveillance Platform

The COVID-19 pandemic required public health personnel to work remotely in accordance with state lockdown requirements, and as a result epidemiologists and contact tracers needed an online system to enable their collaboration. In April 2020, Connecticut DPH hired Microsoft to develop an online contact tracing system called ContaCT, which was then rolled out a month later. By logging into the system, local and statewide contact tracers accessed a database of all individuals who received a positive test for COVID-19 and their reported contacts. Each individual in the database has a profile with their personal information including their name, phone number, date of birth, and positive test date (see Figure 1). As will be discussed in the next section, contact tracers log information about the individual, their symptoms, and their potential exposures to this digital profile. This system notably created uniformity for what information was gathered by contact tracers working for different health departments by utilizing a common schema, and such uniformity is at odds with the CDC’s guidance to “talk with” patients rather than interview them.

This online system not only allows for contact tracers to work collaboratively, but it also connects various components of the public health infrastructure. For example, testing centers report positive cases to health departments, which introduces individuals into the database. DPH

73 In the next chapter, I take this line of analysis even further to show how care is conscripted into contact tracing. This care, I will argue, is presented as being for individuals, but in practice is for the production of knowledge.
ONE: TRACING COVID-19

Figure 1 The ContaCT Platform

These screenshots are of the developer model of the ContaCT platform, in its May 2020 iteration. The first screenshot shows the database of COVID-19 cases, listed by default in alphabetical order. While contact tracing, tracers double-click on a name in the database to open the case’s profile, shown in the second screenshot. Through the contact tracing interview, this profile is filled out, as are additional pages within the profile to note symptoms, patient needs, and potential exposures. As the ContaCT platform was developed, more questions were added to each of the sections of the profile above. (Screenshots by author.)
then runs these entries through its preexisting Connecticut Electronic Disease Surveillance System (CTEDSS), which tracks reportable diseases, emergency illnesses, and health conditions. CTEDSS assigns individuals unique ID numbers and stores personal information such as phone numbers and addresses, and matches in this system populate information into the ContaCT system.\textsuperscript{74} If an individual is not in the system and/or their phone number is not on file with DPH, public health officials use government records to locate potential phone numbers for contact tracers to attempt calling the individuals with.

While contact tracing appears as a singular surveillant practice, the underlying ContaCT system shows its connections to other surveillance systems. This networked procurement of information might be productively understood in terms of Kevin Haggerty and Richard Ericson’s \textit{surveillant assemblage}. As a model for understanding the convergence of once discrete surveillance systems, the surveillant assemblage sees the human body as being “broken down by being abstracted from its territorial setting” and then reassembled elsewhere “through a series of data flows.”\textsuperscript{75} This reassembled, decorporealized body—in this case, materializing in each ContaCT profile—takes the form of a “data double.” For Haggerty and Ericson, this model of surveillance casts its gaze on anyone and everyone, not being limited by a hierarchy of power that places anyone above or outside of surveillance. Within this context, individuals may come under the purview of the surveillance apparatus by their own choice in being tested for COVID-19, and also if anyone diagnosed with COVID-19 identified them as potentially being exposed to the virus, bringing the entire population under the surveillant gaze. Furthermore, bodies are

\textsuperscript{74} CT DPH uses CTEDSS IDs, as opposed to other unique identifiers such as social security numbers, to ease anxiety in the community about privacy. These CTEDSS IDs are solely used within public health programs in the state. That being said, however, once an individual enters the CTEDSS system, they remain there and can enter new surveillance programs such as ContaCT without their prior knowledge.

\textsuperscript{75} Haggerty and Ericson, “The Surveillant Assemblage,” 611.
broken down into data flows for particular purposes. In the context of COVID-19 contact tracing, the surveillant assemblage is useful for analyzing what is and is not featured in the data double for the purpose of containing the viral spread. For example, each case’s location, age, and language preference are recorded, whereas other variables such as their race, ethnicity, and occupations are not, indicating which variables DPH was interested in and thus collected.76

The ContaCT platform is not only a tool in this surveillance practice, but it also helps shape how surveillance is conducted. As a digital artifact, it has politics.77 In theorizing how technologies have politics, Langdon Winner has demonstrated that they “can embody specific forms of power and authority” and “are political phenomena in their own right.”78 Both of these qualities are clear in this platform; by presenting an array of individuals who are diagnosed with COVID-19 (and their personal information), the platform embodies the authority of overseeing the population in the state. This power also comes with being part of the surveillant assemblage, as any state resident whose name is put into the platform not only becomes a digital entry in the database but also their other personal information, such as their address and birthdate, is gathered and made available to contact tracers. The platform is also political in its own right. Perhaps most clearly and simply, the platform determines the order in which cases are contacted (this was by default done alphabetically). When workloads were greater than contact tracers could handle, this meant that individuals were not contacted in a timely fashion simply by virtue of their last

76 The decision regarding what data and specifically what variables to collect is a difficult one. On one hand, not collecting data about, for example, cases’ and contacts’ race and ethnicity can prevent the state from not only realizing where and with whom they are systematically working and collecting information from, but can also prevent them from generating specialized programs to provide care to groups that need it. On the other hand, however, collecting such identifying information can be seen as being too intrusive. This is all to say that there is no “correct” way to craft these contact tracing programs, but that the social contexts and implications of both the pandemic and surveillance must be thoroughly examined when making these decisions. I return to some of these questions regarding racial and ethnic data and the experiences of public health surveillance in BIPOC communities in this thesis’ conclusion, Taming Uncertainty.

77 Winner, “Do Artefacts Have Politics?”

78 Ibid, 121 and 123, respectively.
name. Both the platform and contact tracing practice were iteratively developed, and even further they coproduced one another as tracers identified issues with both the platform and the contact tracing program more broadly. Therefore, when discussing the contact tracing program, it is essential to bear in mind its technological and infrastructural underpinnings.

Contact Tracing Call Scripts

In June 2020, Connecticut’s DPH onboarded 100 volunteers to serve as contact tracers across the state. While the content and implications of their training is discussed in the next section this chapter, I now turn to the scripts that statewide volunteer contact tracers used between June and August of 2020. During these three months, DPH released updated scripts to its volunteers on a biweekly basis. By following these updates, I present how DPH refined its data collection techniques in response to understandings of the virus, societal trends, and the time of year (namely the start of the 2020-21 academic year). I begin with an overview of the contact tracing interview, and then analyze how the script was updated.

The Interview

The ContaCT system organizes entries by their classification as either a COVID-19 case or exposed contact, and by separating cases and contacts that were identified over 24 hours previously from those that were identified within the past day. The prioritization is as follows: (1) cases existing over 24 hours, (2) contacts existing over 24 hours, (3) new cases, (4) new contacts, and (5) daily active monitoring for cases and contacts. CT DPH has variations of scripts to interview cases and contacts who have potentially been exposed, as well as for interviewing

79 For more on coproduction, see Jasanoff, *States of Knowledge.*
the next of kin if the patient has passed away. In what follows, I detail the script for interviewing cases, as this is the script that includes all different components of confirming personal information, inquiring about symptoms and unmet needs, and collecting information about contacts. All the other scripts include a subset of these sections and use similar if not the same language, and I note where greater deviations occur. I quote the script at length in italics, and provide my own interspersed commentary and analysis throughout this narration of the script.

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As described in the introduction of this thesis, each contact tracer signs onto the digital ContaCT platform and opens the topmost case profile (see Figure 1). The tracer assigns themselves to the case, which leaves a digital footprint to show who attempted and/or completed interviewing the case. The tracer then calls the case using an online telephone service such that the phone call is placed from a phone number identifiable as CT DPH.

The phone call begins with the contact tracer identifying themself to the case:

Hello, my name is [first name] and I’m calling on behalf of the state health department. May I speak with [name of case]?

The contact tracer then verifies the case’s date of birth to ensure they are speaking with the correct individual, and proceeds to discuss the case’s positive test result. They ask the patient:

I’m calling about your coronavirus test. Have you been told your results?

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80 If the case is under the age of 18, the contact tracer is instructed to speak with the case’s parent or guardian. They are then instructed to ask the guardian: “Hello, may I have your name? May we have your permission to speak with [case’s name] directly? You are welcome to stay on the phone during the interview if you wish.” The guardian’s name is noted in the ContaCT platform as a comment in the case’s profile for future contact tracers’ reference.

81 When interviewing exposed contacts, the tracer is instructed to notify them as follows: “I’m working with [local health department/state health department] and I am calling to let you know that you have been identified as someone who was exposed to a person diagnosed with COVID-19.”
If the answer is no, they are instructed to say:

*I am sorry to hear that. I am calling to let you know that a positive test result was reported to the State Health Department. We would recommend that you follow up with your medical provider if you have any medical questions about this diagnosis.*

This response to a case not knowing their test status immediately redirects any potential questions the case may have to other entities. By stating that a positive test result “was reported,” the contact tracer illuminates that the contact tracing call is part of the surveillant assemblage discussed above. In so doing, the case\(^2\) is reminded that the contact tracer only knows about the test’s result, and not about how it was determined. By recommending that cases follow up with medical providers with medical questions, the tracer not only redirects questions from the get-go, but also outlines the scope of their expertise—while they are set up as an authority figure on the pandemic, they are not an authority on the disease itself. In other words, they identify the distinction between public health and medicine.

Tracers then describe the benefits and purposes of the call:\(^3\)

*I am calling to see how you are and to help keep you, your family and your community safe. We are following up with people who test positive for COVID-19 in order to see how you are feeling, to*

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\(^2\) Here, I refer to the patient as a “case,” utilizing the language of contact tracing to demonstrate the affective components of this rhetoric and to show how these individuals are further depersonalized.

\(^3\) When interviewing an exposed contact, the benefits and purposes of the call take a more educational and prescriptive approach. The script instructs tracers to say:

*The health department is following up with all people who are identified as contacts of a person who tested positive for COVID-19. We want to check in with you to see how you are feeling and make sure that you have all of the resources that you need to safely stay at home while you might become contagious or become sick.

As someone who has been identified as a contact of a person who tested positive for COVID-19, the recommendation is that you stay home until 14 days after you were exposed which was [MM/DD/YYYY] and maintain a social distance of at least 6 feet from others at all times. We also recommend that you get tested for COVID-19, even if you are not having symptoms because people who do not have symptoms may still spread their infection to others. Even if you test negative for COVID-19 you should still stay home for the full 14 days after your last known exposure. This is because even if you test negative for COVID-19 during this time, it is possible that you were tested too early in your infection and you could test positive later. Whether you are tested or not, you should self-monitor for symptoms such as shortness of breath and check your temperature twice a day. If you develop symptoms of COVID-19, you should be tested.*
understand more about your illness, and make sure that you have
the resources that you need to safely stay at home while you are
sick or contagious. We will also be asking about people you may
have spent time with so that they can receive appropriate care.

All the information you provide to us will remain confidential and
helps to prevent the spread of COVID-19.

This call should take about 20 minutes. Is now a good time to talk?
Are you in a comfortable space to talk?

These benefits are immediately explained in terms of safety, a note that tracers are trained
to repeat throughout the interview when interviewees appear hesitant to provide information—I
return to this detail at length in the next chapter. Outlining the call prepares interviewees for
what kind of information they will be asked to divulge, and tracers invoke their positionality to
provide assistance and care as a way to dissolve any tension and/or anxiety during the phone call,
especially if the case did not know of their positive status before the call.

The tracer then verifies the “basic information” of the case’s profile. This consists of: the
spelling of the case’s name, their preferred language, their email address, their phone number,
and the date the case started experiencing symptoms, or their test date if they were
asymptomatic. Of particular note here is that the case is asked about their preferred language
well into the interview, and after the discussion of their positive test result and the benefits of
contact tracing. In practice, contact tracers recognized when cases struggled with engaging in the
interview in English and utilized a live translation service. The fact that the script only asks
about this need later into the script, however, demonstrates that it was written with the
assumption that cases speak English. Furthermore, the digital ContaCT platform shapes this
timing and collection of questions. Each case profile on the platform has a section labeled as
“Basic Info” that is marked off in its own box and which includes all of these questions. By
putting these all together in the script, the tracer’s workflow is supposedly made more seamless as they can sequentially fill out each of these entries (see Figure 1).

After verifying this information, cases are asked for permission for the contact tracing platform to check in with them daily to monitor their symptoms. If they consent, the contact tracer says:

*Great thank you. We can sign you up to receive a daily email or text with a link to our website to complete this information online. Would you prefer contact by text or email? If you prefer, you can opt out of electronic messages to receive a daily call from us.*

Cases are encouraged to sign up for electronic monitoring, as evidenced by them being asked for their preference between text messaging and email before even offering the option of receiving a daily phone call. In my own work as a contact tracer, I never had a case indicate their preference to receive a phone call, and most often cases would state their preference for either receiving a text message or email before I even reached the part of the paragraph offering a phone call. This structuring of the script is significant because a daily phone call would create consistent work for contact tracers, and especially in the beginning of the program when the contact tracing workforce was limited, actively dissuading cases from signing up from these calls helped manage the work amount.

The interview then proceeds to asking about the patient’s symptoms. The contact tracer begins by asking an open-ended, *How are your symptoms today?* The case is then asked to compare these symptoms—whether they feel better, worse, or the same—as the previous day. Next, the case is asked about a series of symptoms: their temperature reading, pulse oximeter reading (if they own an oximeter)\(^4\), and whether or not they are experiencing a cough or

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\(^4\) In August 2020, Amy Moran-Thomas, an anthropologist at MIT wrote about the expansive use of pulse oximeters due to the COVID-19 pandemic, and that the oximeter gives biased results for people with darker skin because of the underlying light-based technologies the device relies on. This essay then prompted a medical study published in...
shortness of breath. As I discuss in a subsequent section, this list of checked symptoms evolved over the course of the pandemic.

The contact tracer is then instructed to inquire about the patient having any unmet needs. They are instructed to ask:

Now, I’m going to ask you a few questions that may affect your ability to stay at home while recovering as recommended. Please let me know if any of these could affect your ability to stay home.

Difficulty isolating in current housing?
Need to care for children, elderly, or disabled?
Ability to see doctor or other health services?
Ability to get food?
Do you feel safe in your home?

Only after asking all of these questions, the tracer is directed to say the following if the case responded “yes to any [of the] above”:

Thank you for letting us know about your concerns. We will be sharing this information with a coordinator who is able to help you get the assistance that you need. In addition, if your needs are more urgent, the 2-1-1 info hotline is available 24-hours a day, 7 days a week and may be able to connect with services sooner. If you’re concerned for your safety, please dial 9-1-1.

I discuss the usage of the 2-1-1 information hotline in a subsequent, but for now I want to note the confusion that often arose out of these questions’ wording. In the ContaCT platform, each of these questions is listed with a selection of a yes or no answer, where a “yes” indicates that the patient has that unmet need, with the exception of asking about the patient’s safety in their home. These questions are worded in many ways, however. For example, the first question is “Difficulty isolating in current housing?” and the later question “Ability to get food?” does not
follow the same format (which would read, “Difficulty getting food?”). This section therefore
requires extra vigilance on the part of the contact tracer to ensure that they receive clear answers
such that they can (attempt to) connect them with resources if necessary.

The interview then moves to its final section, the contact tracing portion to “elicit all
major activities and potential close contacts from the case” during which they may have been
infectious. They tell the patient:

*I am going to ask you to tell me about people you have spent time
with, events you attended, and places you visited while you were
contagious. Your name will not be mentioned in any way when we
talk with anyone you identify. All of the information you provide to
us will remain confidential and will help to prevent the spread of
COVID-19.*

*Now I’m going to ask you to think back over each day while you’ve
been sick (and for 2 days before you felt sick) to remember what
you did each day. We are interested in people you were within 6
feet of for 15 or more minutes regardless of whether you were
wearing a mask. This includes people who live with you.*

*As I go through this, if you’re having a hard time remembering,
sometimes it helps to look back at a calendar, or on your phone for
messages sent on each day, or even at your credit card or store
receipts. I am happy to give you time to look at other information
to be sure that you are able to give me the most complete
information as possible. The most important thing is to provide the
most detailed and accurate information as possible.*

The contact tracer works backwards, starting with two days before the case first felt sick
(or two days before their test date if they were asymptomatic). Each day is reviewed, and the
contact tracer collects as much information as possible about potentially exposed contacts
(including their name, any available portions of their address such as the town, phone number,
email, and date of birth). The contact tracer also records information about the time and place of
events and locations the case visited during this infectious period.
I now turn to the various ways in which this script and the contact tracing program more broadly developed in the first three months of its existence.

_ContaCT System Updates_

In early instantiations of the ContaCT system, when contact tracers edited a case’s profile, whether to indicate that they unsuccessfully attempted to call or that they completed a full interview, the case disappeared from the workflow for 24 hours. The system interpreted any edits as completing an interview, and removed the case from view as to prevent redundant phone calls by contact tracers. The implications of this systematic error were grave: successful phone calls were less frequent in the early mornings, and therefore contact tracers quickly cycled through lists of cases throughout the state because they only needed to record a short voicemail message. As a result, any unsuccessful attempts to reach a case in the morning would preclude contact tracers from trying to reach the same case throughout the day. Because contact tracers were instructed to leave a voicemail message with a callback number, the onus for providing DPH with information fell on each individual case. The responsibility was fully dissolved in cases where contact tracers were unable to leave a voicemail, be it because the mailbox was full or not set up. This error also delayed knowledge production about the pandemic during the first few weeks of the program because a minimal amount of information was collected. This system’s design flaw also reveals that the system’s developers first assumed that phone calls would have a 100% success rate—instead, there was a 10% success rate in the first week. In other words, the developers did not take into account the complex social reality of the lived

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pandemic that prevented some cases from being immediately available to public health personnel.

After identifying this issue, a new variable was introduced to all profiles to indicate whether the case was being monitored or was unreachable. With these changes, the successful case attempt rate rose to 96% by the fifth week of the contact tracing program. After recognizing that cases did not pick up phone calls for a variety of reasons, this variable was updated to include more options such as indicating that a call was attempted. By the end of August, each profile included a call log, marking the time, success, and output of every call to the case.

Engaging (Anticipated) Hotspots

During the first few months of the pandemic, individuals living in congregate settings—most notably nursing homes—were identified as being at greater risk to contracting and suffering severely from the virus. Because contact tracing programs were not fully developed, these living settings created their own mechanisms for tracking the viral spread and early contact tracing scripts had tracers not interview these residents. In August 2020 with the start of a new academic year approaching, especially for the multiple universities in the state that bring students from across the region and country to dense campuses, DPH recognized that this congregate living environment would produce a greater amount of interactions among residents and university staff. As a result, the script was updated to ask not only about the case’s symptoms and potential exposures, but also about the location of their residence on campus, their extracurricular

86 Ibid.
activities, their collegiate affiliations, and their volunteering and work on campus as to provide universities with further information about where the virus may have spread.

In contrast to DPH not taking into account the social realities that prevented some cases from answering phone calls from contact tracers in the initial development of the ContaCT program, the anticipation of viral spread on college campuses by August reflects the growing understanding of how COVID-19 spread and how living conditions impacted the pandemic. With growing epidemiological certainty about the pandemic, the contact tracing program evolved to provide tailored guidance for these varying social settings.

Addressing Language Barriers

While the original script prompted contact tracers to ask what cases’ preferred language was, they had no resources to conduct the interview or to provide any resources in that language. This meant that non-English speakers were not interviewed if their contact tracer did not happen to speak their preferred language. This additionally meant that the knowledge produced about the pandemic in these first few weeks of the program was about the pandemic, as it was experienced and spread in English-speaking communities. At the end of June 2020, DPH partnered with a live translation telephone service that allowed contact tracers to conference call cases with a translator on the line. This way the contact tracer could engage with the case, albeit with help, or even leave a voicemail in a foreign language. Furthermore, a drop-down menu with cases’ preferred languages was added to the ContaCT platform, enabling future contact between contact tracers and cases to immediately occur in the preferred language. After identifying a concentration of unsurpassed language barriers in Latinx communities across the state, DPH onboarded Spanish-speaking contact tracers during the last week of July 2020 to specifically
work with these communities, and the telephone translation service remained available for all contact tracers for assistance with other languages or if there was a surge of Spanish-speaking cases.

Addressing Unmet Needs

Up until late August 2020, cases and contacts who experienced unmet needs regarding food security, caring for themselves and others, and self-isolation were directed to contact 2-1-1, the information hotline, for assistance. If they were in danger in their home, they were directed to call 911. Furthermore, contact tracers did not receive any guidance as to how the information hotline could help cases or what kind of resources it could provide.

The 2-1-1 information hotline is run by the Connecticut Association of United Ways, a nonprofit organization. In April 2020, they established the Connecticut United Ways COVID-19 Response Fund, and by mid-May they reported that over 1,000 households had benefitted from the Fund (see table). While the hotline evidently supported households during the pandemic, it is unknown how many of these were referred by the contact tracing program. Because contact tracers themselves did not receive any training or information about how resources are available to cases in need, they were less able to present using the hotline as a viable option for receiving support. Furthermore, this lack of scaffolding shows that DPH handed off the task of providing for unmet needs to other entities. While DPH’s workload intensity increased dramatically with the emergence of the pandemic (see Figure 2), this delegation nevertheless shows that either DPH was less prepared to provide assistance broadly than United Ways or that this assistance was not a high priority.

In August, DPH hired community resource coordinators, and if any cases indicated that they had concerns about being able to self-isolate, they were asked if they consented to sharing their information with the coordinator.

<table>
<thead>
<tr>
<th>Category</th>
<th>Category Frequency</th>
<th>Total Transactions</th>
<th>Total Amount of Category</th>
<th>Total Amount as a % of all purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pets</td>
<td>11</td>
<td>14</td>
<td>$597.80</td>
<td>1%</td>
</tr>
<tr>
<td>Amazon</td>
<td>131</td>
<td>133</td>
<td>$3,335.80</td>
<td>4%</td>
</tr>
<tr>
<td>Transportation</td>
<td>94</td>
<td>224</td>
<td>$5,880.27</td>
<td>8%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>152</td>
<td>292</td>
<td>$8,888.14</td>
<td>12%</td>
</tr>
<tr>
<td>Bill Payments/Utilities</td>
<td>36</td>
<td>101</td>
<td>$10,916.01</td>
<td>14%</td>
</tr>
<tr>
<td>Household Supplies</td>
<td>197</td>
<td>479</td>
<td>21,556.81</td>
<td>28%</td>
</tr>
<tr>
<td>Food</td>
<td>368</td>
<td>737</td>
<td>$24,858.09</td>
<td>33%</td>
</tr>
</tbody>
</table>

Figure 2: Daily Confirmed and Probable COVID-19 Cases in Connecticut
The above graph shows the daily number of new confirmed and probable COVID-19 cases in the state of Connecticut. The contact tracing program began during the first peak in the graph, meaning that the program not only had to trace COVID-19 for what was then an unprecedented number of individuals, but also that there was a growing backlog. As the summer progressed, there was a decreasing number of COVID-19 cases, which coincides with the contact tracing program’s further development to include social services and supports. (Source: CT Data Collaborative)

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88 Ibid.
ONE: TRACING COVID-19

Responding to Growing Understanding of Virus

In the early months of the pandemic, little was known about the symptoms and effects of COVID-19, other than it being a respiratory disease. As this clinical knowledge expanded, the patient assessment within the contact tracing interview was broadened from just the presence of a fever, cough, and/or shortness of breath to include fatigue, aches, headaches, loss of taste and smell, sore throat, congestion, nausea, vomiting, and diarrhea.

Conclusion

Throughout the federal guidelines for contact tracing and statewide programs, public health surveillance in the midst of the COVID-19 pandemic balanced knowledge production with its capacity for public assistance. During the first two months of Connecticut’s contact tracing program, this balance tipped almost entirely toward knowledge production and merely nodded toward fulfilling public assistance. As a result, it delegated the labor of assistance to nonprofit organizations throughout the state. Although contact tracing did not provide this public assistance, it explicitly asked cases about unmet social needs that they faced, which in itself is significant as it shows that the pandemic was understood as having social dimensions. That is, the contact tracing program recognized that in order to follow public health guidelines, and thereby to stay safe during the pandemic, a minimal degree of social economic resources was necessary. While the perception and lack of care in public health surveillance is taken up more fully in the next chapter, this gesture towards social determinants of health is merely a gesture because of the hyper focus on knowledge production. Public health’s hyperopia is at play, providing a blurry and incomplete image of the social determinants of health alongside a crisp understanding of how to refine information elicitation.
This public health surveillance might productively be understood through Oscar Gandy’s conceptualization of the “panoptic sort.” Gandy developed the concept to study surveillant practices that identify and classify individuals for the purpose of “control[ing] their access to the goods and services that define life in the modern capitalist society.”\textsuperscript{89} In the contact tracing program, contact tracers identified and labelled which cases did and did not require additional social supports—supports, such as goods such as food and services such as home utilities, that would enable them to live safely in isolation as to infect others in society. While the contact tracing program was not intended to \textit{control} patients’ access to these supports, it did serve a referral pathway to receive them in early instantiations of the program. Because connecting patients with these resources through the 2-1-1 information hotline was an underemphasized component of contact tracing work, needs were made visible but not necessarily fulfilled. Although the contact tracing programs sort patients based on their need status, by not acting on this information, it not only fails those patients but also the public writ large because these individuals are more likely to need to break isolation recommendations to acquire daily necessary resources.

While contact tracing sorts the population into various categories of COVID-19 status (diagnosed, exposed, or neither), this propels public health response that is future oriented. That is, contact tracing is primarily concerned with preventing the future transmission of the disease. This also means that public health is concerned with preventing the healthy population becoming sick, and not as clearly with supporting populations that are currently suffering due to the disease. Surveillance must therefore be understood as operating in multiple temporalities:

\textsuperscript{89} Gandy, \textit{The Panoptic Sort}, 15.
collecting data in the present, and projecting care—the focus of the following chapter—into the future.

Following the developments in contact tracing interview scripts shows how public assistance was gradually incorporated more fully into public health surveillance practices. This thesis was inspired and fueled by instances where contact tracers were incapable of providing support to the individuals they interviewed, but this changed as time went on. By tracing these changes in the scripts, I elucidate how the balance between knowledge production and public assistance is dynamic and dependent on a variety of factors, including what we know about the pandemic in terms of its transmission mechanisms and whom it affects.
chapter two

Conscripting Care: Analyzing Public Health ‘Serveillance’

Calls for Safety and Care

“I need to make sure that you, your friends, and our community stay safe.”90

This was a refrain in a massive open online course (MOOC) developed by epidemiologists at the Johns Hopkins Bloomberg School of Public Health that all contact tracers in Connecticut were required to take as part of their training. Contact tracers are instructed to make this remark at the beginning of each interview they conduct when introducing themselves to COVID-19 cases, as noted in the previous chapter, and this training module further advises contact tracers to repeat it when cases are reluctant to share information about themselves and who they have been in contact with. This makes clear that while contact tracing scripts elucidate the focus on data collection in public health surveillance, tracers are bound to encounter obstacles that require them to go off-script to elicit the desired information. In this chapter, I analyze contact tracers’ training materials as a way to look beyond the idealized conceptualization of contact tracing as it was spelled out in the guidelines and scripts, and to

90 Gurley, “COVID-19 Contact Tracing.”
bring into view what contact tracing is like in practice. First, however, this repeated sentence warrants reflection and analysis.

The specific selection of pronouns in the sentence “I need to make sure that you, your friends, and our community stay safe,” indicate a set of relations that are part of this surveillant practice: between the contact tracer and case, the case and their friends, and both the contact tracer and case with the community writ large. Surveillance is inherently relational—it creates a relation between the surveillor and the surveilled for the purpose of data collection—and this wider set of relations, I argue, devise this instance of surveillance as participatory and even communal, rather than hierarchical over-seeing in the traditional sense.

The sentence, beginning with “I need to make sure,” establishes the contact tracer as an authoritative and supervisory figure. This request for confirmation is an informational one; that is, the contact tracer requires knowledge about the case’s behaviors to make sure they are following isolation guidelines and therefore not spreading the virus. The remainder of the predicate, “that you, your friends, and our community stay safe,” marks safety as a matter of concern and care that catalyzes and provides purpose for the surveillance. The first “you” exhibits the traditional relation between the surveillor and surveilled. In this relation, contact tracing is portrayed as being directly beneficial to the patient by keeping them safe. This patient, however, is already sick with COVID-19 and therefore any safety that stems from the contact tracing interview takes the form of resources or information about the pandemic, as expanded upon in the previous chapter. Nonetheless, the contact tracer is depicted as having the capacity to provide safety and care. The following “your friends” brings more people into the picture, and in so doing illustrates that any information shared during the contact tracing interview serves the purpose of protecting friends whom the patient presumably would not want to fall in harm’s way.
Attributing such value to this information invokes the patient’s responsibility to protect and care for their friends, and because the contact tracer is set up as an authoritative and supervisory figure, this care is best to be enacted via the contact tracer. In the final turn to “our community,” the patient and contact tracer become a collective that belongs to the same community. Their geographic positioning connects them—a perception corroborated by the fact that local volunteers composed the majority of the contact tracing workforce, as will be discussed more fully later in this chapter. Furthermore, they assume equal parts of the pronoun *our*, which abates the power differential between the two inherent in this surveillance. Closing this refrain by representing the contact tracer and patient as entering a partnership appears to reorient the surveillant gaze from a vertical top-down oversight to a horizontal and reciprocal observation among community members, and it also calls on the responsibility to care for the community.

In this chapter, I show how contact tracers are trained to utilize a rhetoric of care to build trust such that patients are more likely to offer information throughout the contact tracing interview. This training conscripts care, interweaving its affects into interview scripts and thus augmenting them. I argue that while this care is verbalized as being for people—for “you, your friends, and our community”—contact tracing ultimately *cares* for data collection, in accordance with its collection-oriented goals that were analyzed in the previous chapter. Within the surveillant gaze, care is refracted. Public health’s hyperopia in this sense not only prioritized knowledge production over public assistance, but I argue that it also distorted what was the object of public health’s care.

Throughout this chapter I analyze training materials from the aforementioned Johns Hopkins MOOC. These materials provide a view into the disjuncture between contact tracing as it was idealized and intended in guidelines and scripts and contact tracing in practice. This,
however, is not an observational or ethnographic study, and there are further differences between what contact tracers are trained to do and what they actually do that I leave for future study. Analyzing training materials, however, gives purchase to consider how contact tracers are primed to approach problems that necessitate deviating from the script, and this alone is insightful for understanding what these deviations may look like.

Public health surveillance in this case follows a traditional power arrangement with a limited number of surveillors observing a more numerous population. However, this dynamic is complicated by the fact that contact tracers were not full-time public health workers but rather part-time volunteers from the community, and it is even further convoluted through verbal appeals to communal responsibility. To help unpack these intricacies, I half-jokingly and half-seriously propose thinking of contact tracing in terms of what I call “serveillance.” I hesitate to add yet another term to the cacophony of concepts theorized in surveillance studies, but unlike other concepts that articulate particular dynamics (such as sousveillance inverting surveillance to observe individuals in power) and functions of surveillance (such as the panoptic sort classifying individuals and groups), I offer serveillance as a set of provocations for analysis.91 Because this instance of surveillance is less clearly top-down, I replace the root sur- (meaning “over”) with ser- (meaning both “to protect” and “to line up”) while keeping the stem veiller (meaning “to watch”) intact. In so doing, I intend to shift the focus of discussion away from who is surveilling and being surveilled to also ask: What counts as protection in surveillance? Who and/or what does surveillance protect? How are the subjects of surveillance lined up and prioritized for this protection? Serveillance also includes the word serve, begging the question: Who and/or what does surveillance serve? This set of questions arising out of serveillance’s orthographic

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91 For a (long, yet still incomprehensive) list of these concepts in surveillance studies, see: Marx, “Surveillance Studies.”
components therefore center both the action of surveilling/protecting and these actions’ purposes. Furthermore, surveillance and surveilllance are homophonomous, rendering this set of questions ever-present for other surveillance practices in public health and beyond.

To further analyze the ethico-political valence of asking what purposes surveillance serves and the explicit appeals to care by contact tracers, I turn to feminist ethics of care and studies of care more generally throughout this chapter. Political scientist Joan Tronto has identified five main qualities of an ethics of care: (1) care requires attentiveness to recognize others’ needs; (2) caring requires taking on the responsibility to care for another; (3) care requires competency such that the needs for care are fulfilled; (4) the caregiver must be responsive and empathetic to the care receiver, as to be concerned with and respond to vulnerability and inequality; and (5) people are suspended in plural webs of care relations and must come together and take collective responsibility. Tronto also argues that because care work is assumed to be feminine and because of associations between care and “naturalness,” care has not played a central role in moral theory.

While care work has historically been devalued and made invisible, contemporary feminist scholarship has emphasized care as an active practice that embraces interdependencies and counters hegemonic social structures and systems. For example, Maria Puig de la Bellacasa contrasts being concerned as a passive activity to caring as an active practice with attachments and commitments to those requiring care. She further writes that “caring is connected with awareness of oppression, and with commitments to neglected experiences that

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92 Tronto, *Moral Boundaries*; Tronto, *Caring Democracy*. Tronto builds on the work of Carol Gilligan who first developed the concept “ethics of care.” Gilligan argued that men and women view morality through different frameworks, and that women focus on virtues such as empathy. See: Gilligan, *In a Different Voice*.
93 Tronto, *Caring Democracy*.
94 The Care Collective, *The Care Manifesto*.
95 Puig de la Bellacasa specifically responds to and builds on Bruno Latour’s *matters of concern* by developing the concept of *matters of care*. See Puig de la Bellacasa, “Matters of care in technoscience.”
create oppositional standpoints.” 96 Care, thus, is relational; it requires people who are receiving care to share their needs and for people providing care to share their assistance. 97 Although care has productive capacities to counter oppressions, Michelle Murphy reminds us that there are “non-innocent histories in which the politics of care already circulates.” 98 In a similar vein, social scientists Aryn Martin, Natasha Myers, and Ana Viseu describe care as a “selective mode of attention” that includes some and excludes others. 99 They ask, “Who has the power to define what counts as care and how it should be administered?” 100 Throughout this chapter I heed care’s inclusionary and exclusionary logics and attend to how it is appropriated.

The following analysis begins at the national level with the Johns Hopkins MOOC, where I examine how a rhetoric of care is conscripted into contact tracing practice. This MOOC presents mock contact tracing interviews that stereotypically portray good care work as being done by women. I conclude with a discussion of the volunteer base that supported Connecticut’s contact tracing program.

Johns Hopkins University’s Online Training Course

In May 2020, the Washington Post reported that health departments would need between 15 and 30 public health officials for every 100,000 Americans under their jurisdiction to adequately enact a contact tracing program—totaling over 90,000 personnel across the country. 101 Because of the time pressure to establish these programs quickly, the Johns Hopkins

96 Ibid, 97.
97 Andersen et al., “Caring as Sharing.”
98 Murphy, “Unsettling care,” 717.
100 Ibid.
101 Guarino, “This course will train an army of contact tracers. You can take it, too”; National Association of County and City Health Officials, “Building COVID-19 Contact Tracing Capacity in Health Departments to Support Reopening American Society Safely.”
Bloomberg School of Public Health created an online training course, taught by epidemiologist Emily Gurley, on the Coursera platform to teach the fundamentals of contact tracing work. The course covers the basics of COVID-19’s symptoms and transmission, the purpose and components of contact tracing, ethical considerations in contact tracing, and effective communication strategies. Upon completion of the course, trainees receive a certificate of completion that CT DPH required to join its program. By April 2021, over one million individuals have enrolled for the online course.

In this section of this thesis, I first analyze how contact tracing work is presented to future contact tracers and trace the rhetoric of care that is apparent in these framings. I then examine a mock set of video-recorded contact tracing interviews included in the course that demonstrate how contact tracers should perform care. Together, these components of the online course show how care was grafted onto the interview scripts of the previous chapter.

**Framing Contact Tracing**

“Contact tracers are equal parts detectives, investigators, social workers, and therapists,” Gurley explains in the course to future contact tracers. While all of these occupations require working with others, each of those ensuing relations entails a different dynamic. Contact tracing then requires tracers to juggle multiple commitments—to public health, to their community, and to the individuals they speak with. Throughout this online course, contact tracing is framed as caring for each of these.

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102 Gurley, “COVID-19 Contact Tracing.”
103 Ibid.
104 Ibid.
To begin, working during a pandemic may be an exceptional occurrence, but Gurley relates contact tracing as a common public health tool. “It’s important to remember this is a common tool. It’s used every day. And it’s going to be used also to help stop the COVID-19 pandemic. … It’s used every day by public health to protect the health of the public,” she says. Describing contact tracing as a common tool has two major implications. First, it tells contact tracers that there is a precedent for their work. That when they encounter obstacles in their work, to remember that contact tracing has been successful in the past. Second, it reminds contact tracers that the field of public health is in place to protect the public’s health. Public health’s surveillance is elucidated; because the field in its entirety serves the function of protection, its individual programs and actions are also framed as enacting this same care. This in turn inflects the precedence of contact tracing, rendering it as having a heritage of care. Joining the public health workforce as a contact tracer is thus understood as being enlisted as a protector of the public’s health.

While describing that contact tracers will be interviewing two groups of people—cases (who are diagnosed with COVID-19) and contacts (who were exposed to the virus)—Gurley explicitly relates the nature and logic of care in this work. She says, “we care about contacts because they could have been infected. And because of that, they need to take special precautions [to prevent others from getting sick].” Just as surveillance take on a future temporality with its focus on knowledge production, as described in the previous chapter, this enactment of care is also future-oriented, in anticipation of future disease. Care, as Martin et al. describe, requires a selective mode of attention, which in this case is geared toward those who might become sick, and therefore might pose a danger to the community and the public’s health.
The subject of care here, however, is convoluted. Although it is described as caring for the case, Gurley’s explanation makes clear that this work is actually in service to those around the case who could fall ill without intervention. Care’s inclusionary and exclusionary capacities are at play here, bringing together the group of individuals requiring care. Contact tracing therefore cares for each contact’s social milieu through working with the contact, and by extracting information from the contact. Care is presented as being oriented toward the contact, but is instead refracted toward the healthy, but at-risk, community within this surveillant gaze.

Understanding contacts as, a la Tronto, being “suspended in plural webs of care relations and [needing to] come together and take collective responsibility” helps to understand the multiple engagements and levels of care within contact tracing.107 Contact tracers care for the people who may become ill in the future, and cases and contacts are impelled to care for them as well. During the training course, contact tracers are offered phrases and prompts to use in their interviews that are otherwise not included in interview scripts. For example, tracers are recommended to say something akin to following when interviewing cases and/or contacts: “I’m here to help you to understand what it means, offer you some guidance, explain a little bit about what you can do, and how you can protect the people around you.”108 Care and protection are herein conscripted into the interview, adjoined to scripts. Most notably, this protection is performed by not only the contact tracer, but also the case/contact. This surveillance is therefore not top-down as is typical to surveillance, but rather surveillance’s protective functions operate within this web of caring relations among community members.

Care is performed for contacts within each interview, but it is oriented toward the community. This becomes apparent during the course when Gurley explains the ethics of contact

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107 Tronto, Caring Democracy.
tracing. Public health interventions, she expounds, are balanced in terms of public goods and individual rights. Individuals have rights to privacy, confidentiality, and autonomy, but these are limited to benefit society, and further to benefit all members of society. To authorize these programs, Gurley explains the legal basis for these limitations to protect public welfare. Furthermore, she describes that contact tracing serves social justice, as it “has to be applied, and it has to be used to protect all communities and all populations.” Contact tracing is therefore framed as an inclusionary surveillance practice, one that reaches everyone in society and that provides protection and resources for all. Framed in this manner, contact tracing is portrayed as caring for public health and the community writ large, as well as every individual within.

Video Examples of Contact Tracing

Recognizing that contact tracing interviews do not always go according to script, the Johns Hopkins training course includes a set of mock examples to show what to do and what not to do in practice. These examples include four characters: a COVID-19 case—an older white man named Larry; a COVID-19 contact—a middle-aged woman of color named Annette; and two contact tracers—a male person of color named Drew and a white woman named Amy, both seemingly in their twenties. Throughout these examples, Drew and Amy serve as foils to one another, with Drew unsuccessfully performing interviews and Amy conducting them well. In this section, I analyze one set of these examples, wherein the contact tracers call Annette to notify her that she may have been exposed to COVID-19. Annette is concerned that she may become sick, and that then her friends will fall ill as well. By analyzing the contact tracers’ differing responses

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109 Ibid.
110 Ibid.
TWO: CONSCRIPTING CARE

to her concerns, I uncover how caring is gendered in this surveillance and how stereotypical notions of care are enlisted.

These examples differ from contact tracing interviews in practice because they are video recordings, through which each contact tracing trainee can not only hear the interview, but also see each character’s physical actions and reactions—when they get distracted, fidget, look away, grab their face, and furrow their eyebrows. Although the characters themselves cannot see each other within these recordings, this provides an additional level of comprehension of how to care for the trainee and for this analysis.

In the following sections, I first provide the example interview’s transcription and then discuss its contents.

An Example of Bad Contact Tracing

Figure 3  An Example of Bad Contact Tracing
The Johns Hopkins University’s online COVID-19 contact tracing training course includes video examples of contact tracing interviews. This is a screenshot of one of these examples, wherein the contact tracer Drew (right) poorly responds to the COVID-19 contact Annette’s needs and stress. (Source: Gurley, “COVID-19 Contact Tracing”)
TWO: CONSCRIPTING CARE

Annette: I'm really worried that my friends are all going to get sick. Do you know if they're going to be OK?

Drew: That's not really why I'm calling. I just need to get some information from you to tell you how to quarantine yourself for the next two weeks.

Annette: Two weeks?! Well, I need to go shopping, and I need to go to work, and I just can't stay home for two weeks. So what am I supposed to do?

Drew: That's what we're asking everyone to do who's been around with someone with coronavirus.

Annette: Well, you're not helping.

In this example, Drew dismisses Annette’s concerns, saying “That’s not really why I’m calling.” He instead explains his two-fold role: to collect information, and to provide instructions. Throughout the interview recording, Annette visually embodies her stress and anxiety, furrowing her eyebrows, grabbing her face, and looking left to right. Drew, on the other hand, is visibly distracted; he is seen shuffling papers around his desk and constantly looking off-screen.

In discussing this example, Gurley notes that Drew “wasn’t paying close attention to Annette. He failed to hear her emotion or her requests for information about the severity of the disease.” Recalling Gurley’s description of contact tracers as being “equal parts detectives, investigators, social workers, and therapists,” Drew failed to take on the latter two roles. Where Puig de la Bellacasa conceptualizes care as having commitments to neglected experiences, Drew actively neglects Annette’s experiences, extending her need for care. This lack of care toward Annette also breaks down any rapport between the two, ultimately undermining the data collection purposes of the interview. In other words, caring for knowledge...

111 Ibid.
112 Ibid.
113 Puig de la Bellacasa, “Matters of care in technoscience.”
production within contact tracing is supported and even enabled by caring for the individual being interviewed, and thus Drew fails to fulfill the goals he defines for himself in the call.

An Example of Good Contact Tracing

Figure 4 An Example of Good Contact Tracing
The Johns Hopkins University’s online COVID-19 contact tracing training course includes video examples of contact tracing interviews. This is a screenshot of one of these examples, wherein the contact tracer Amy (right) responds well to the COVID-19 contact Annette’s needs and stress. (Source: Gurley, “COVID-19 Contact Tracing”)

Annette: I'm worried that all of my friends are going to get sick. Do you know if they're going to be OK?

Amy: Yeah, you're scared for your friends, of course. You need to know they're going to be OK. For right now, let's just take this step by step. Why don't I tell you what I know, and then we can go from there? OK?

Annette: All right. I mean, I really can't stay home if that's what you're going to ask me to do. I have bills I have to pay.

Amy: I hear you. You need to make sure you've got enough to stay on top of things. I have some resources that might help if you'd be willing to let me share them with you later.

Annette: Yeah, that would be really great.
Amy: Thanks so much, Annette. This is a really difficult time, so I appreciate you talking with me today. And I'm hoping you can help answer a few questions for me. Would you be willing to do that?

Annette: I guess so.

Amy: Thanks again. So first things first, are you feeling sick at all today?

The interview between Amy and Annette takes on a markedly different trajectory than that with Drew. By reflecting Annette’s concerns and offering her resources, Amy is able to ease some of her anxieties and ultimately gain her trust and consent to proceed to the data collection portion of the interview. Throughout the video of their interview, Amy and Annette begin to mirror each other’s body language, despite their not seeing each other, which symbolically represents their communion and partnership during the call. They both start nodding their heads, and they both grin and bear the uncertainty and difficulty of the pandemic.

Within the course, Gurley describes this interview as a conversation, wherein Amy and Annette build rapport and come to an agreement about the situation at hand and how to move forward. Care is interwoven throughout this conversation, as evidenced in Amy’s empathic listening. Furthermore, her responses embody the qualities of an ethics of care, as conceptualized by Tronto. That is, she is attentive and responsive to Annette’s needs; right away, Amy shows that she understands Annette’s concerns and that together they will walk through them “step by step.” Amy takes on the responsibility of providing care and demonstrates her competency to fulfill these needs when she identifies the resources she could connect Annette to address needs. And lastly, she is responsive to Annette’s vulnerability, reflecting the difficulty of the times, her needing financial resources to not fall behind on bills, and to not infect her friends.

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114 Tronto, Moral Boundaries.
TWO: CONSCRIPTING CARE

Discussion

This set of examples divulges how rapport is portrayed as essential to being able to care for and support individuals and the public’s health, and I argue rapport is garnered by utilizing a rhetoric of care. Gurley further notes that rapport “is central to everything that contact tracers do.”\textsuperscript{115} She explains that it allows them to collect accurate information, to provide education about the pandemic, and to persuade them to follow isolation and quarantine recommendations. Building rapport is essentially building the relation between surveillor and surveilled that enables both knowledge production/extraction and public assistance, as was related in the previous chapter. The difference, however, is that rapport emphasizes the ease of communication between the two, and the rhetoric of care—embodied in empathy, active listening, and reflection—support this effort.

This rhetoric of care serves the role of protection and care more broadly within these videos. Drew’s character shows that the pursuit of data collection in a contact tracing interview can go awry without imbuing the conversation with a rhetoric of care. Amy, on the other hand, shows that putting data collection aside momentarily to help ease anxieties allows more thorough data collection. It is interesting to note that within these video segments, Amy does not provide the resources she alludes to, but rather she merely references them, and in so doing her establishes her authority as someone with access to a variety of resources. Bringing forth the set of questions raised by framing contact tracing as surveillance, these references count as care and protection in these videos. The assurance that assistance will come counts as protection.

The mock interview videos of this course portray a stereotypical image of care as women’s work. Across all of the course’s videos, Drew sometimes leads a successful interview,
but more often than not, he demonstrates what contact tracers shouldn’t do. Amy on the other hand is always the exemplar of a caring contact tracer, and moreover of the ideal contact tracer. These videos represent traditional gender stereotypes of women playing a nurturing, caring role, while men detach from the emotional components of work. This caring work even further enters the domestic sphere because contact tracing is done remotely, most often from individuals’ homes while utilizing a digital call center. Every (at least in the state of Connecticut) contact tracer went through this training course, and as a result these controlling images imbue contact tracing across the state. In future developments of such trainings, it would be beneficial to balance this between characters such as Drew and Amy as to not reinforce gendered divisions of labor.

**Conclusion: Connecticut’s Volunteer Workforce**

In the state of Connecticut, contact tracing was in a large part conducted by a body of over 500 volunteers, across both state and local health departments.\(^{116}\) This selective workforce has multiple implications for the shaping and practice of public health surveillance. Since the beginning of the pandemic, epidemiologists have noted that establishing a volunteer contact tracing base was necessary because of local and state health departments’ lack of funding, and thus volunteers were able to fill a personnel gap.\(^{117}\) I argue that this has even greater sociocultural implications for how contact tracing was conducted and experienced.

First, establishing a workforce of volunteers selects for individuals in the community who are inclined to volunteer in the first place. Such volunteers step up with an intention to serve the


TWO: CONSCRIPTING CARE

community of which they are a part. This orientation of service simplifies the conscription of care within contact tracing work. That is, because contact tracers entered the work in part with the a pursuit of caring for their communities, contact tracing provided a venue in which to perform such care. However, because of the lack of resources exemplified in this thesis’s first chapter and the focus on knowledge production shown throughout this thesis, the transformational capacity of this care was limited and reoriented toward data collection. Contact tracers thus often set forth to serve their communities in the present, and inadvertently because of public health’s commitments served their communities for the future, focusing on collecting information to prevent the spread of the disease over assisting members of the public.

Second, employing community members to serve as contact tracers complicates the power dynamic between the surveillor and surveilled. Most notably, because the state’s contact tracing program was heralded as a volunteer effort, the public was aware that their peer community members would be the ones interviewing them if they were to become sick or exposed to the virus. This underlying relationality between contact tracers and cases and contacts promotes building rapport, and it also reduces the hierarchical, top-down approach that is common to surveillance practices. Instead, surveillance here occurs more horizontally across and within the community, suggesting that these programs might be better understood through what I call serveillance. This also has the effect of making public health departments more accessible to the public, as its representatives are more scattered across the state and because public health is no longer practiced from as central of a location but rather from individuals’ homes.

Lastly, the enlistment of such large quantities of contact tracers presents a laicization of the public health workforce more broadly, productively understood as citizen science. According to Jeffrey Cohn, citizen science allows a network of volunteers to not only expand the scope of
scientific research by enhancing data collection, but also provide members of the public with opportunities for further education.\textsuperscript{118} In the context of contact tracing, volunteers learned about the pandemic through training courses, and afterward were tasked with a great deal of data collection. Furthermore, these contact tracers were attuned to developments in the understanding of the pandemic, as these were reflected in what kind of information was collected and how the contact tracing program developed, as was discussed in the previous chapter. This laicization expands the scope of surveillance, normalizing these activities across society. Surveillance studies scholars Martin French and Torin Monahan warn about the future implications of this normalization, noting the importance to be mindful about potential function creep, such that other interests and goals are not covertly fulfilled within this new and far-reaching surveillance apparatus.\textsuperscript{119}

This volunteerism can productively be understood as service work, showing how surveillance (read: serveillance) practices were made common and imbued with ethical obligations of caring for and serving the public and community. Viewing these programs as practices of serveillance gives purchase to critically analyze public health’s positioning in the midst of the crisis that has been the pandemic. Public health sets forth to protect the public—the named subject of its study and action—but in practice, this protection does not reach all members of the population equally. As described in the previous chapter, this protection is primarily for the healthy population. And furthermore, as contact tracing programs developed, further segments of the population were enrolled as subject of public health’s protection. Serveillance therefore brings to the fore public health’s dynamic practices by focusing on questions regarding surveillance’s functionality and purpose. More typical questions of who conducts surveillance,

\textsuperscript{118} Cohn, “Citizen science: Can volunteers do real research?”
\textsuperscript{119} French and Monahan, “Dis-ease Surveillance.”
who is surveilled, and what the relations between the two are within this surveillant project are further subsumed in surveillance’s question: whom/what does public health serve, and by whom? The volunteer workforce and the public are made to join together within this project to care for the population writ large. Although this is transformational as the program was first conceptualized, throughout this thesis, I have shown how attending to the social dimensions of public health surveillance provides insights for how public health practice fell short.
At the beginning of the COVID-19 pandemic, contact tracing was implemented as a public health measure to prevent the further spread of disease. In this thesis, I analyze contact tracing as a case study of public health surveillance. I argue that public health does not sufficiently study the social components and consequences of its surveillant activities, and as a result is hyperopic; it sees health-related phenomena at a distance with clarity, but has not brought its own logics under view. To remedy this, I utilize perspectives from the field of surveillance studies, which studies surveillance as social and cultural phenomena. In analyzing federal guidelines for contact tracing and statewide contact tracing interview scripts, I show how contact tracing has two primary functions, knowledge production and public assistance, and I argue that these programs in their first few months focused on the former over the latter. Contact tracing, and public health surveillance more broadly, is oriented toward the future by preventing disease’s spread. Through analyzing contact tracing training materials, I show how contact tracers are taught to utilize a rhetoric of care within their practice to build rapport with the public and therein to better be able to collect data. I argue that this instance of surveillance might better be understood in terms of what I call serveillance, bringing to the forefront questions of whom
CONCLUSION: TAMING UNCERTAINTY

and what purposes surveillance serves, and whom it protects. By bearing in mind the various social aspects of these surveillance practices, I argue that public health’s commitments to knowledge production over public assistance are made clear. I now turn to a discussion of how analyzing contact tracing in the early months of the pandemic provides useful insights for the future of public health practice.

In the first few months of the pandemic, little was known about the effects of the disease and how it spread. As I have related in this thesis, contact tracing thus allowed public health departments to interact with members of the public and build trust and confidence in their actions, and also to produce more knowledge about the pandemic. For example, studies based off of contact tracing data showed young children were just as likely to get infected as adults, but that they typically experienced less severe symptoms. Contact tracing across all these capacities—of knowledge production, public assistance, and care more broadly—functioned to quell uncertainties about the pandemic and people’s experiences therein. In this moment of crisis, public health needed to prioritize these functions due to limited funding and personnel.

The effects of the pandemic on different communities, and especially BIPOC communities, however, were not entirely clear throughout the pandemic and especially in its first few months. Knowledge production, a key component of contact tracing, was conducted differentially across the population. In response, a group of 97 U.S. state representatives proposed the Equitable Data Collection and Disclosure on COVID-19 ACT (H.R.6585) which would establish a commission to ensure health equity during the pandemic. Data demonstrates the pandemic’s disparate impacts along racial and ethnic lines (see Figures 5 and 6); however,

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120 Bi et al., “Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: a retrospective cohort study,”; Chen, “You Don’t Need Invasive Tech for Successful Contact Tracing. Here’s How It Works.”
CONCLUSION: TAMING UNCERTAINTY

Figure 5 COVID-19 Cases in Connecticut by Race/Ethnicity, May 2020 - March 2021
The above graph shows the disparate impacts of the COVID-19 pandemic in Connecticut. Note that race and ethnicity data is available for only 64% of cases, which are represented in this graph. (Source: The COVID Tracking Project)

Figure 6 Cumulative COVID-19 Cases and Deaths in Connecticut by Race/Ethnicity, May 2020 - March 2021
The above chart shows the cumulative disparate impacts of the COVID-19 pandemic in Connecticut. Note that race and ethnicity data is available for only 64% of cases and 98% of deaths, which are represented in this graph. (Source: The COVID Tracking Project)
CONCLUSION: TAMING UNCERTAINTY

there is little to no other information about how contact tracing programs were experience in these communities, and further how they succeeded and failed. With the history of surveillance of BIPOC communities, this is an area of analysis that is crucial for future study, and I regret that I could not find the appropriate evidence to further the analysis in this thesis in this way.

The speed with which public health departments needed to develop pandemic responses including contact tracing meant that resources and safety nets were not in place to fulfill everything that public health officials identified as under the purview of contact tracing’s possible scope. This has shown the need to establish a permanent workforce to respond to infectious diseases. Local, state, and federal governments quickly funded the development of these programs and training of a large workforce, but this prioritized mechanisms for data collection over public assistance. By introducing a permanent workforce and infrastructure, public health would be better able to respond to contagions.

The pandemic has also demonstrated the need for public health officials to evaluate both viral contagions and social experiences of their diseases when crafting responses. The pandemic response’s focus on viral enemies often overlooked the human components of who was being affected and how public health was positioned to ease suffering. When facing a public health threat, it is imperative that responses are not only epidemiological in nature, but that public health’s work in social sciences and policy are all complementarily leveraged. The public’s health must be understood in a broad sense, not just in terms of their infection status, but in terms of their biological and social well-being. Furthermore, public health officials must bear in mind who they bring to mind when referencing “the public.” Contact tracing sees people and groups

\[121\] I echo sentiments expressed by David Harvey, the head of the National Coalition of STD Directors, as quoted in: Ollstein and Goldberg, “Congress shoveled out billions to boost contact tracing. It may have come too late.”

73
CONCLUSION: TAMING UNCERTAINTY

rather than populations, which allows specific vulnerabilities and needs to come to light.\textsuperscript{122} This, however, remains simply a rhetoric of care rather than a care-based and -infused practice if public health does not see the public in the same way. To do this, the public must reorient from the notion of the majority to that of the collective.\textsuperscript{123} Only then can public health fulfill its missions.

\textsuperscript{122} Taylor, “The price of certainty.”
\textsuperscript{123} Ibid.
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