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Valley Fever: Environmental Racism and Health Justice

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in Sociology

by

Sarah M. Rios

Committee in charge:

Professor George Lipsitz, Chair

Professor Denise Segura

Professor Victor Rios

Professor Antwi Akom

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The dissertation of Sarah M. Rios is approved.

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Antwi Atkom

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Victor Rios

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Denise Segura

_____
George Lipsitz, Committee Chair

June 2018

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VITA OF SARAH M. RIOS
March 2018

EDUCATION

Bachelor of Arts in Women's Studies, and Bachelor of Arts in Communicative Disorders and Deaf Studies, California State University, Fresno, 2008 (summa cum laude)
Master of Arts in Sociology, University of California, Santa Barbara, 2012
Doctor of Philosophy in Sociology, University of California, Santa Barbara, 2018 (expected)

PROFESSIONAL EMPLOYMENT

2011-2017: Teaching Assistant, Department of Sociology, University of California, Santa Barbara
2015: Instructor of Record, Department of Sociology, University of California, Santa Barbara
2018 (expected): Research Associate, Anna Julia Cooper Postdoctoral Fellowship, University of Wisconsin, Madison
2019 (expected): Assistant Professor, Department of Community and Environmental Sociology, University of Wisconsin, Madison

PUBLICATIONS

Ahault, Cyrus; Haney, Craig; Sarah Rios; and Brie A. Williams. 2017. "Reducing the Use and Impact of Solitary Confinement in Corrections." International Journal of Prisoner Health, 13(1).

Rios, Sarah M. 2015. "Reducing the Impact of Valley Fever in Low-income Communities" Policy Brief. UC Davis Center for Poverty Research.

Hoeft KS, Rios SM, Pantoja Guzman E, Barker JC. 2015. Using Community Participation to Assess Acceptability of "Contra Caries," a Theory-based, Promotora-led Oral Health Education Program for Rural Latino Parents: A Mixed Methods Study. BMC Oral Health, 15: 103.

Rios, Sarah. 2012. "From Ladies to Organizers: Gender Imagination in the Experiences of Women Cooperative Leaders." MA Thesis.

AWARDS

2017 Research and Writing Fellowship, Department of Sociology, UCSB
2017 Chicano Studies Institute, Dissertation Research Grant, UCSB

2015 Chicano Studies Institute, Doctoral Research Grant, UCSB
2015 Departmental Research Grant, Department of Sociology, UCSB
2014 UC President Dissertation Year Fellowship, UCSB
2014 Alternate, Ford Foundation Doctoral Fellowship
2014 Chicano/a Studies Institute, Research Grant, UCSB
2014 Continuing Central Fellowship, UCSB
2013 Visiting Scholar, UC Davis Center for Poverty Research, funding provided by Stanford Center for Poverty and Inequality.
2013 Graduate Student Travel Grant Program, UC California Studies Consortium
2013 Alternate, Ford Foundation Pre-Doctoral Fellowship
2013 Chicano Studies Institute, Dissertation Fellowship, UCSB
2013 Department Research Grant, Department of Sociology, UCSB
2012 Honorable Mention, Ford Foundation Pre-Doctoral Fellowship
2011 Departmental Research Fellowship, Dept of Sociology, UCSB
2010 Diversity in the Graduate Social Sciences (DIGGS), UCSB
2009 Deaf Education Personnel Preparation Fellowship (DEPP), CSUF
2008 Outstanding Women's Studies Graduate Award, CSUF
2008 Standard Bearer, College of Social Science Graduating Class 2008, CSUF
2007 Ronald E. McNair Directors Award, CSUF
2007 Ronald E. McNair Post-Baccalaureate Achievement Program, CSUF

FIELDS OF STUDY

Major Field: Environmental Justice and Health.

Studies in Ethnography and Latinx Sociology with Professors Denise Segura & Victor Rios

Studies in Critical Race, Environmental Racism, and Ethnography with Professors Antwi Akom & George Lipsitz

ABSTRACT

Valley Fever: Environmental Racism and Health Justice

by

Sarah M. Rios

This study of environmental racism and health in Kern County explores the experiences of farmworkers and formerly incarcerated men and women who have suffered from *Valley Fever,* an illness caused by a fungus spore that can lead to long-term pulmonary, brain, and spinal infections, and in some cases, death. Building on previous studies, I expand the analysis of how vulnerable groups acquire and recover from Valley Fever. Previous research has focused on racial minorities' genetic propensity for disparate impacts (Hector, Rutherford, Tsang 2011; Galgiani 2014), the efficacy of medical interventions (CDCP 2016), and efforts to map the areas where the disease is most likely found (Smith et. Al 1961, Kolivaras et. Al 2000). These piecemeal approaches inevitably foreground one cause or cure over others. They also divert analysis away from the conditions in which the disease is contracted and away from the structures that govern accessing care. My research explores the cumulative vulnerabilities that shape how farmworkers and former prisoners contract and recover from Valley Fever. I ask: How do vulnerable groups come to understand Valley Fever's causes, consequences, and potential cures? How does their knowledge differ from conventional experts in public health and

biomedical research? What social and ecological structures in Kern County shape their ability to manage valley fever? Over the course of ten consecutive months of field research, I drew upon a broad range of methods, taking note of the prevailing social and environmental conditions of a Valley Fever endemic county. I interviewed thirty-nine farm workers and formerly incarcerated men and women of color, but also community activists who work closely with these two groups. I also conducted extensive research in state and county archives, court reports and amicus briefs, online social media and secondary sources to explore how vulnerable groups contract and recover from this disease, the strategies they devise to deal with its effects, and to compare their knowledge from conventional experts. My strategies reflect João H. Costa Vargas (2008) discussion on observant participation where participating, rather than passively observing, was critical to entering the field site and collecting data. I utilize the social ecological framework of illness and the lessons of the environmental justice movement to uncover how the health and wellbeing of farmworkers and prisoners in Kern County are damaged long before they come into contact with Valley Fever spores.

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I. Chapter One: Introduction

It is my first day recruiting participants in Kern County for my research on poverty, pollution, prisons, and Valley Fever, an environmental disease that plagues the Central Valley of California. I am at an outdoor flea market surrounded by the loud sound of a *corrido*, a poetic ballad accompanied by a pronounced accordion arrangement and soloist that is popular among the romantics in the high deserts of Northern Mexico. The open air hangs heavy with the spicy smell of grilled chili peppers and red meat from a taco truck nearby. In contrast to the rain showers that fell the evening before, this morning is bright, clear, and quickly warming up to 80 degrees. My recruitment booth consists of a multi-colored Mexican blanket laid over a table. Pieces of free candy are scattered on top, next to a green box that is holding up the sign "*Se busca personas con fiebre del valle*" (Wanted: people with valley fever). Two folding chairs sit neatly tucked beneath the table. Standing in the wide and busy dirt path just in front from my display, I ask people passing by if they have had Valley Fever. Some shake their heads. Others shout back "ni lo mande dios!" "y no la quiero!" "gracias a dios no!" (May God not even send it! / And I don't want it!/ Thank God no!). These are popular phrases in Mexico that confirm they neither had Valley Fever nor desired it; that somehow, divine intervention had saved them from contagion from the deadly and painful disease.

Marilou was one of the few people that day who nodded and stopped to investigate why I was asking this question. She knew about Valley Fever because her sister Beatrice suffers from it continuously. After hearing about who I am and my research interests, Marilou agreed to an interview. Her sister Beatrice was diagnosed with Valley Fever over a

decade ago, and was dealing with a recent reoccurring infection that made her drowsy, listless, and incapable of doing the daily routines that most people manage to get done before heading out to work or school. Beatrice initially developed the illness while living in the city of Lamont, but she moved closer to the city of Bakersfield after her diagnosis to take care of her father who was then 98 years old. Beatrice used whatever strength she had left to ensure that her father was fed and watched over. But beyond caring for her father's life, she was ready for her own death. Marilou explains:

> Sometimes (Beatrice) feels bad and she stops taking her medicine because she says that the medicine costs too much. And then she says, "well if I can't live without medicine oh well." I tell her, No. Don't talk like that! You know that you need your medicines. That you can do this, you can overcome this. You can do this because you don't have children to support any longer because they are working for themselves. …The problem is that you don't want to. *Don't be a coward* I tell her. Order your medicines. And she says… "I will do it today that I have my father to take care of because my father needs me. But the day that my father leaves us, there is a chance that I will leave behind him."

Beatrice does not wish to follow the advice that health professionals give for a smooth path to recovery; her obligations and observations contrasts with the recommended strategies of experts. The high cost of medicine and her own poverty make her think that it would be better for her family if she just died. When Beatrice fell ill to Valley Fever, she felt responsible for having acquired this disease. She sought medical help at the onset of her symptoms, but was misdiagnosed. After a week of continuous pain, she went the emergency room, because she had no insurance to cover healthcare costs working only seasonal labor. Without insurance it took a long time for her to acquire prescription drugs. That delay contributed to advancing and spreading the disease. Beatrice was forced to undergo surgeries. When more invasive surgeries were recommended, she traveled to Mexico for the suggested removal of a piece of her lung at a hospital in the town where she grew up. When

she reentered the U.S. fully recovered, Beatrice fell ill again with a reoccurring infection. She paid for new prescription drugs with family donations and was told that she would have to continue taking medicine for the rest of her life. Beatrice seems to feel that undergoing eleven years of constant medical observations and expensive treatments might not be worth the burden that it has placed on her and her family.

Lingering in Marilou's cry of "*Don't be a coward*" are resonances of the mutual support these sisters have provided for each other as they struggled to survive in the face of a seemingly unlivable destiny as young Oaxaqueña immigrants. They crossed dangerous international borders, raised families, endured back-breaking conditions of agricultural labor, learned English, and made due with poverty wages while supporting binational families. For Marilou, a slow and highly unsuccessful recovery by Beatrice would be only the latest in a long line of overwhelming challenges. For Beatrice, however, whether life is worth living or not after caring for her father is an open question. In the volatile lives of migrant laborers, Valley Fever threatens family pledges to help and protect each other, and to share the costs and burdens of migration and low wages. Leaving it up to individuals to solve problems caused by large structures, systems, the medical establishment and the economy combined make dying seem like the better option for someone like Beatrice.

That same morning, Ronnie also stopped to ask questions. While he did not read Spanish, the free candy caught his attention, and brought him to my display table. Ronnie was among the many Black residents shopping that day. He wore a wide brim hat that made him look especially tall and confident. He grabbed a fun size Snickers chocolate bar from the table, unwrapped it and, just before placing it in his mouth, asked me what I was selling. I explained my role as a graduate student and my goal of recruiting participants for my

research study about Valley Fever. Ronnie was all too familiar with the dangers of this disease. He pointedly listed the symptoms as he peered over my shoulder into the dry patches of dirt surrounding us, almost as if to warn me that I could be the next victim. He explained the rashes that manifested over the trunk of the body, the unstoppable high fevers that last days on end, the feeling of being worn down, and perfuse coughing. Ronnie described in detail how these symptoms advanced, sometimes taking over the bones and joints of people, other times claiming several lives. He stipulated that Valley Fever was virtually everywhere, even if we could not see it. Ronnie explained that he knew many people who had caught Valley Fever. He told me about the fate of one friend who was locked behind bars when he died:

> Ronnie: I knew a buddy, he's a buddy that died of Valley Fever. He was in the penitentiary. I heard him on the phone, talked with him on the phone, saying he had Valley Fever.
>
> Author: Tell me more about that...
>
> Ronnie: Well being incarcerated you have no, no hope really because their doctors' systems is tough. They don't treat you as you should be treated. They treat you less than who you are. They should be giving you respect as a human being, instead they treat you like scum and they create things to happen. You know my boy, he tells the police that he was ahh, he was feeling bad in his body and they wouldn't see him. He died a few days later. And so, in there there's no hope unless you have it for yourself.
>
> Author: Did he die of Valley Fever or something else?
>
> Ronnie: They didn't really say. So, you couldn't be sure of that because they not going to give you the details of what happened. But we know that he was dead in there with the people that was there. Yeah, he was dead. He blue [pause] and blood [pause] and he just passed.

While the administrators of the prison never confirmed that his friend died from the complications of Valley Fever, for Ronnie that correlation was possible because he knew the

health care system in the prison to be inadequate and unresponsive. The lack of urgency about caring for the health of a prisoner cost Ronnie a good friend. If there were alternative recourses, his friend was not given those options. Without the right to medical care and the dignity of health, prison walls can weigh heavily on one's moral capacity for self-preservation. For some prisoners, Valley Fever can seem to warrant an inescapable death.

Marilou's and Ronnie's story are about people they love who lost hope of recovering from Valley Fever, not just because of the illness itself, but also because the available prescriptions and medical interventions were fatally inadequate or even unobtainable. Other participants that I interviewed in this study also revealed that few of them depended on conventional health resources at all, neither emergency nor clinical-- precisely because those that were theoretically available were so difficult to access. Red-tape, differential processes for insurance, clinics that far exceed their maximum capacity of patients, and demoralizing practices including medical racism, language discrimination, and criminalization push farmworkers and prisoners away from rapid and preventative health care. This is a finding consistent with other studies **(**Burciaga 2003; Ku and Jewers 2003; Bade 2004; Welch 2005; Van Ryn, Burgess, Dovidio et al. 2011; Hester 2013; Holmes 2013; CURB 2016; Horton 2016; Ansell 2017**).** While diagnostics, medications, and the development of hoped for vaccines remain the central concerns of the biomedical and public health approaches that command the primary attention of nurses, physicians, epidemiologists, and biotechnicians, the disparate health impacts of Valley Fever among people like Ronnie's friend and Beatrice reveal that one root of the problem is not just *health and healthcare inequities*, but also the knowledge regimes that focus on individuals as the problem, rather than on the social ecology of vulnerable populations.

The logic that treats prisoners with health problems as problems was applied in 2015 when prison officials adopted a two-pronged strategy for rectifying Valley Fever outbreaks in prisons. Valley Fever is an infectious disease caused by exposure to a soil fungus that impacts outdoor workers, prisoners, and immune compromised populations disproportionately. The California Department of Corrections and Rehabilitation (CDCR) spent over $5 million dollars to transfer "African-Americans, people of Filipino descent, Inuits, persons with diabetes, HIV, or an immunocompromised state" out of endemic prisons (Plata v. Brown Jr. 2013). They did so by setting an arbitrary threshold of acceptable levels of Valley Fever among prisoners, one that reflected the already alarmingly high incident rates of the disease in surrounding communities, which are populated overwhelmingly by Latinos, the poor, and farm workers, and which are replete with cumulative pollution burdens. The Department of Corrections claimed that the epidemic did not stem from the CDCR's much criticized environmental and health practices, especially the failure to prevent exposure in a timely manner by paving dirt lots, installing air filters, and providing adequate and urgent health care. Instead, the CDCR attributed the growing incidences of Valley Fever to the alleged biological susceptibility of African Americans and other racial groups with pre-existing medical conditions (Moore 2013). As a result, the stereotype that persists is of prisoners as a racially homogeneous and vulnerable population whose health issues stem from genetic problems, or that of a population of undeserving "criminals" who threaten to exhaust public resources. These claims lead to arguments that systematic changes can come only from transferring problematic individuals to other institutions rather than addressing the complex conditions that make people sick and unable to secure adequate medical care in the first place.

The experiences of Beatrice who wished to die and Ronnie's friend who did die unattended and incarcerated are similar to those thousands of vulnerable residents in the Central Valley who suffer from Valley Fever. Their experiences, observations and objections are overwritten by experts who focus on prescribing biomedical treatments to relieve painful symptoms and return bodies to working health, rather than restoring the healthful ecologies of homes and communities, of securing safe employment, and of accessing reliable public resources.

When catastrophic hurricanes hit a residential area, the Federal Emergency Management Agency (FEMA), the American Red Cross, and other agents rescue people who are caught in the flood waters, they treat their immediate injuries, shelter them, and later help them to reconstruct their homes and businesses whether they had insurance or not. State agencies attend to the damage done to public facilities and private industries whose toxic by-products may spill over into nearby residences and contaminate people and the natural environment. Yet when poor residents and prisoners experience a Valley Fever outbreak, at best doctors treat their infections and send them home or to their cell without determining whether it is safe to go back. No one seems to address whether their homes or places of work are plagued with the conditions that cause the environmental disease, to investigate how many industrial toxic by-products have seeped into the ground water or into the air, or to determine if there are other conditions contributing to their higher chances of risk. Instead the environmental disease known as Valley Fever is contained within the biological sphere, even when its origins and implications are environmental and social.

Annually, an estimated 20,000 people suffer from Valley Fever in the states of Nevada, New Mexico, Utah, Arizona, and California. Experts suspect that many more cases are undiagnosed and remain uncounted (CDCP 2013)[1]. On a national scale, over 65 percent of Valley Fever cases occur in Arizona. California is responsible for approximately 30 percent of the nation's cases, some 6,000 diagnoses per year. California, however, has the highest number of Valley Fever related deaths. There were 3,089 deaths from the disease recorded during an eighteen-year period -- an estimated 170 annual fatalities from the disease in the state (Huang et al 2013). When compared to environmental disasters, deaths related to Valley Fever in California are more than double the number of deaths from tornados nation-wide, which average around 80 fatalities annually (Brooks 2013). In 2016, flooding caused 126 fatalities in the U.S. (National Weather Service 2017). The National Weather Service (2017) reports that over a thirty-year period heat is the number one cause of weather related fatalities averaging around 131 per year. More people on average die from Valley Fever every year in the state of California than from many of the nation's natural disasters.

The voracious force with which environmental destruction occurs, and the unpredictability of its severity, remind us that social structures render some people more vulnerable than others. Aggrieved communities of color suffer more injury from nearly every natural disaster and environmental condition. Despite the preoccupation with biomedical approaches, however, genetic difference has little to do with these results. The Category Five Hurricane Katrina in New Orleans revealed that decades of social neglect, racism, and white flight confined Black and poor residents in that city to geographies that

[1] See Huang et al 2013 for the problem of misdiagnosis, which is likely to increase the number of related deaths.

were below the sea level, polluted, abandoned by investors, and inhabited by a criminalized and all too easily dismissed population. These areas had fewer public resources to tend emerging chronic health problems (Bullard and Wright 2009). These conditions directly shaped Black and poor residents' capacity to deal with evacuation and recovery. When state authorities asked the people of New Orleans to abandon the city before the storm landed, more Black residents than white stayed behind because they had no transportation or means to get out. When the Hurricane Katrina hit New Orleans, fifty-one percent of the nearly 2,000 deaths were of Black people (Ansell 2017). The deaths of Black residents were 1.7 to 4 times greater than the deaths of whites. Four out of the five communities with the highest death rates were in Black neighborhoods. Those who suffered from Post-Traumatic Stress Disorders, mold related respiratory diseases, and depression after the storm were disproportionately Black. Hurricane Katrina revealed that the chasm between racialized groups was pronounced in the places where Back residents were forced to live, in the resources unavailable to them, and in burgeoning health disparities that were deadly both before and after the hurricane hit.

Like the destruction of Hurricane Katrina, Valley Fever disproportionately plagues members of aggrieved racialized groups, especially Mexican, Black, Filipino and Indigenous farm workers, construction workers, and people incarcerated in prisons. Yet, experts in public health and biomedical research generally leave the social ecology of the disease – its connections to poverty, prisons and pollution unexamined, unquestioned, and unaddressed. Proposed solutions for Valley Fever seem to focus less on the social ecological context and more on the expansion of the biomedical model of health that frames racially disparate health impacts as a matter of genetic difference, requiring treatment and developing a

hoped-for vaccine. As David Ansell argues in another context, when it comes to environmental racism, people's zip codes are usually more important than their genetic codes.

Valley Fever cases in California disproportionately take place in five neighboring counties-- Merced, Fresno, Tulare, Kings, and Kern. The regional concentration of the disease is often attributed to the natural environment, to its temperatures and levels of rainfall that affect the growth of the fungus, to the winds that can dangerously circulate the toxic fungus spores in the air. Although the wind passes over every county crevice and corner, people who work outdoors, prisoners, and people with compromised immunities, including pregnant women, are among the most vulnerable populations likely to contract Valley Fever (CDCP 2013). Blacks and Latino/as comprise just forty percent of the general population in endemic areas of California but they account for over sixty percent of the cases reported (Hector, Rutherford, Tsang 2011). Blacks and Pacific Islanders are more likely than whites to develop severe symptoms (Cox and Magee 2004; Huang, Bristow, Shafir, Sorvillo 2013; Hector, Rutherford, Tsang 2011; Mohney 2013). Native Americans experience the greatest mortality rate from the disease, even though they represent less than three percent of the population (Hector, Rutherford, Tsang 2011; United State Census Bureau 2016). To treat the disease, a typical hospital stay will cost $55,000 dollars, with an average of six days of hospitalization (Sondermeyer, Lee, Gillis, Tabnak, and Vugia 2013). Of the total Valley Fever hospitalizations from 2000-2011, government programs covered sixty-one percent of cases through Medi-Cal, MediCare, and county indigent programs,

which suggests that those who have government subsidized healthcare rely more on emergency services and less on a primary care physician to treat symptoms.

The differential rates of Valley Fever among the poor and people of color are not "proof" of biological susceptibility or even difference (Krieger 2011). Claims about genetic susceptibility to disease have historically served to justify segregation and to distract the public away from the unequal and discriminatory social conditions affecting people's health (Roberts 2011). When medical experts focus exclusively on advancing biomedical research, they occlude how scientific claims about racial categories are based on societal assumptions and fictitious stories about race rather than scientific evidence (Roberts 2011), how place matters in determining life expectancy and death gaps (Ansell 2016), and the costly price that corporations and state governments would have to pay to remediate the conditions injuring poor and racial minorities health (Roberts 2011; Briggs and Mantini Briggs 2002). Relying on biological explanations can lead to treating the symptoms of illness without addressing the social conditions that are causing unequal health outcomes (Briggs and Mantini Briggs 2002). The differential rates of illness that provoke speculations about racialized genetic propensities should also lead to a social ecological analysis of the unequal health impacts.

In a region dominated by agribusiness, dairy farms, crude oil extraction, waste management, and massive growth in prison construction, vulnerable populations are dangerously exposed to cumulative vulnerabilities. The Central Valley's air pollution not only far exceeds the Environmental Protection Agency (EPA) standards for acceptable air quality, but it also disproportionately injures the health of non-white, poor, immigrant, and rural residents (Office of Environmental Health Hazards Assessment 2017; Harrison 2011).

Dust, diesel, and pesticide drift pollute the air with Particulate Matter 10 and 2.5, and they disproportionately interfere with and injure the cardiovascular and respiratory systems of people of color (G. Aguirre Jr., personal communication, October 2, 2017). Fracking and biomass facilities in Kern County produce energy for residents in Southern California, leaving behind Volatile Organic Compounds (VOC's) that jeopardize local children's health, their development and their future in the region. Dairy farms in rural areas expose rural residents to ammonia gases that evaporate into the air, as well as nitrates and bacteria outbreaks from cow waste water ponds that seep into the local ground water. Combined with Nitrogen Oxides (NOx) from the Interstate Highway traffic, these ammonia and NOx gasses react with other chemicals to produce particulate matter. Cows and cars account for nearly fifty percent of the air contamination in the Central Valley.

The prison industrial complex is well represented in the areas where Valley Fever is concentrated. Over half of California's 22 new mega-prisons were built along the region's highways. Prison abolitionists have re-named this territory "Prison Alley" because parents, relatives, children, and legal representatives of prisoners drive on these roads and can stop along the way at nearly every newly constructed prison site built in the state since 1980 (R. W. Gilmore 2007). At least sixteen different punitive detention centers operated by various private and public correction departments are located in Kern County alone. Some participants in my research confided that the regular transportation of prisoners in white buses with bared black windows driving through the city streets had become such a part of everyday life that they no longer even noticed the vehicles. When prisoners are shuttled out of county jails and into carceral facilities, however, they become even more vulnerable to acquiring communicable diseases than the rest of the region's residents. Inmates of color not

only enter the prison system with worse health conditions than whites, but they are also less likely to access care for chronic illness after release (Schnittker, Massoglia, and Uggen 2011). They contract new diseases and develop chronic health conditions while incarcerated because institutions are replete with HIV and tuberculosis (Welch 2005). Inside and outside prisons, people of color who use medical care face systemic racial bias, regardless of the individual health professional's attitudes about race (Van Ryn, Burgess, Dovidio et al. 2011). The criminalization, racialization, and pathologization of people of color who are deemed "unfit" for society (Chavez-Garcia 2012) poses a serious health threat to inmates who are forced to utilize collective resilience in order to cope with a fatal combination of punitive medical treatment and medical abandonment (Frampton, Haney Lopez, and Simon 2008; Welch 2005).

Prisons are connected to other forms of surveillance and social control. Past, present, and future residents of the Central Valley have inherited not only the institutions where punishment is the central focus of everyday life but also a suppressive culture that adds to the legacy of anti-immigrant enforcement measures, at times exercised by street-level police surveillance in communities of color, and other times, by U.S. Immigration and Customs Enforcement (ICE) raids (Braz and Gilmore 2006; Macias-Rojas 2017). Displaced and sometimes deportable immigrants may feel logically that they are viewed as disposable by employers, physicians, and law enforcement personnel. Others may simply evade visits to clinics as a precaution to keep alive hopes of securing legal residency, knowing as well that they may be denied care and turned in to immigration authorities.

Poverty is an extension of broader societal problems. In Valley Fever Endemic Counties (VFEC) between 20 and 25 percent of residents live below the poverty-line, ten

percent greater than the state average (PPIC 2013). People who want to work and earn decent wages face chances of securing a job that are lower than most residents living in non-endemic areas. In Kern County, the unemployment rate in August 2016 was 9.4 percent, compared to 5.4 percent for California and 4.5 percent in the nation (KernEDC 2017). Poverty and unemployment are frequent predictors of food insecurity. In 2016, the percent of food insecure households was 13.4 percent or approximately 115,000 individuals experiencing a "meal gap" in Kern County (Feeding America 2017). Thousands of residents do not write down grocery lists of food they will purchase when they are hungry; instead, they plan their schedules around the days when food pantries open their doors to distribute basic staples. Food insecurity is associated with other health problems, including diabetes, hyperlipidemia, and hypertension which can suppress proper immune responses to bacterial infections by compromising the proper function of white blood cells (Seligman, Laraia, and Kushel 2010). In Valley Fever Endemic Counties, every resident is exposed to the terror of environmental health risks; but people of color and poor residents are disproportionately faced with cumulative vulnerabilities that further injure their wellbeing and their capacity to address directly the causes to the injuries to their health.

Theoretical Framework

Social epidemiologist Nancy Krieger (2011) shows how policies, practices, and processes influence people's health. Krieger's *Ecosocial* theory of health posits that the manifestation of illness in not simply the physiological deterioration of the body but also the body's exposure to social and ecological inequality. The body absorbs effects from the

social, political, and economic conditions in which everyday life unfolds and creates disparities in "physiology, behavior, and genetic expression" (936). The reaction of the body to social inequality influences the "development, regulation, growth, and death of the biological systems, organs, and cells" (936). Racism is part of a spectrum of social processes and interactions that lead to injurious social and environmental contexts such as residential segregation, medical racism, language discrimination, criminalization and deportability, and poverty, prisons, and pollution. Racialized bodies undergo significant physiological deterioration, declined defenses, and elevated levels of stress, while the wealth, health, and medical knowledge of privileged groups is subsidized because of this disadvantaged social ecology (Ansell 2017; Krieger 2011; Gee-Payne and Sturges 2004). The theoretical concept *eco-apartheid* similarly captures how "institutional arrangements and interactions produce unequal environmental health benefits and burdens based on race, class, gender, language and immigration status" (Akom 2011: 832). The social ecological framework shifts the lens away from individual bodies and decisions and towards the collective social structure and social relationships that influence people's health.

Applying the social ecological model of health to Valley Fever cases allows examination of specific legacies of inequality, the making of social structures and social relationships that collectively influence the disease's causes, consequences, and potential cures (Ansell 2017). As a social and environmental approach to understanding health, the social ecology framework encourages asking for answers from people who are eyewitnesses to environmental racism, people who are propelled into becoming experts about their symptoms and authors of feasible solutions in the face of repeated denials of timely and adequate medical resources (Briggs and Mantini Briggs 2016). The social ecological model

of health is motivated by the knowledge that overburdened patients can be critical observers of how social and environmental contexts force them to experience inequality and illness (Sze 2007).

If the social ecology model is the road map to understanding disparities of illness, the Environmental Justice (EJ) framework is the vehicle to acquiring health. The environmental justice movement approach to illness demonstrates that *laissez-faire* politics about emerging environmental health problems are tied to racism and the social maintenance of inequality. Studies have found that the mere articulation of strict environmental health regulations is not sufficient to reduce chronic illnesses related to exposure to industrial toxic spillage into natural rivers, groundwater, air, and soil, or to produce compliance with measures that regulate chemical use in homes and agricultural production (Kraft and Sheberle 1995; Metzer Delgado, and Herrell 1995; Foster and Cole 2001; Quintero-Somaini and Quirindongo 2004). For example, despite the sharp restrictions on lead exposure since the 1970s, Kraft and Sheberle (1995) found that low-income Latino/a children show higher levels of lead in blood samples than non-Latino/a youths. Recently, residents of Flint, Michigan were forced to consume lead contaminated water from the Flint River because state authorities opted to unhook residents from a non-polluted source and convey the new supply of water through pipes that were not properly treated to prevent lead poisoning. Nationally, nearly 80% of Latino/as live in areas failing to meet the Environmental Protection Agency air quality standards, compared to 65% of African Americans and 57% of whites (Metzer, Delgado, and Herrell 1995). When environmental policies fail to significantly reduce or eliminate risks for people of color, state authorities participate in

propagating ignorance, evade responsibility, and minimize the emerging health crises in poor and communities of color.

The EJ movement disrupts the social processes, practices and patterns that protect and advance the exclusive interests of whiteness. Community members suffering from environmental pollution are seldom represented in committees or boards responsible for placing hazardous sites near their communities (Cole and Foster 2001; Gibbs 2002). When residents become aware of these discriminatory processes, many get involved in political contestation with authorities and work toward participating in decision-making bodies through grassroots activism (Cole and Foster 2001; Gibbs 2002; Sze 2007). Environmental justice activists have won concessions like translated materials in Spanish and seats on decision making boards, while increasing their social networks and gaining a stronger collective voice that produces new accountability feedback loops (Cole and Foster 2001; Peña 2005). In some cases, residents have succeeded in shutting down facilities, achieved major clean-ups, and secured assistance with relocation (Bullard et al 2009; Cole and Foster 2001; Gibbs 2002). Residents become civically engaged in both the local and state committees (Cole and Foster 2001; Pardo 1998; Sze 2007). The achievements of environmental justice activism testify to ordinary people's capacity and motivation to flip power dynamics and politics to their advantage.

Environmental struggles among Chicano/a farmworkers have been far more complex than environmentalist and environmental justice scholars have previously explained (Pulido 1996). Pulido (2000) suggests that *environmental racism* research must address a wide

range of issues about human dignity because residents of polluted neighborhoods face the culmination of injustices rather than environmental inequality by itself. Unlike social movements that focus solely on the environment, the United Farm Workers (1966-1971) *Pesticide Campaign* was about getting farmworkers more power and control over their quality of life (Pulido 1996). Despite improved working conditions, farmworkers continue to be subjugated to multiple oppressions similar to those they faced in 1966 including exposure to pesticide drift, deplorable housing, political oppression, poverty wages, sexual harassment, chronic illness due to working conditions (i.e. stroke, heat exhaustion, cancer, valley fever, physical disability, and pesticide intoxication), and for many, deportability (*Hidden Danger* 2004; Pulido 1996; Zavella 2011). The threat of deportability for close kinships and important social networks harms the whole community, interrupting support networks that could have otherwise provided a sense of stability in everyday life (De Genova 2002). For farmworkers, environmental inequality and its subsequent health impacts is only one of the many indignities they endure.

The relationship between farmworkers and prisoners is a social spatial one fused by state and private capital interests, but also one of aggrieved populations sharing the cumulative impacts of poverty, prisons, and pollution. Ruth W. Gilmore (2007) notes that the pervasiveness of prisons in the Central Valley results from collaborations among agribusiness, the state, and private financial companies' efforts in response to the economic recession and the devastating California drought in 1977. With the collaboration of the state, private financing, and global labor trends, mechanisms were set in place to profit from surplus land, surplus labor and surplus financial capital. Strategies that frame the Valley Fever crisis as remediable solely through developing medical treatments threaten to steer

research on a course that obscures the complexity in which the everyday health of farmworkers and prisoners unfolds

Methodology

This study explores how farmworkers and formerly incarcerated men and women of color contract and recover from Valley Fever, and how their experiences and observations are valuable evidence about how to achieve environmental and health justice. I seek to understand a) the organic epistemologies and strategies that vulnerable groups draw from to negotiate environmental illness, b) identify the pervasive structural forms of inequality and discrimination that shape their experiences, and c) document the ways that their collective experiences are absent from dominant conversations about causes, consequences, and potential cures.

Over the course of ten months of field research, I drew upon a broad range of methods as I conducted observations of Kern County's prevailing social and environmental conditions. The economy of Kern County is dominated by agricultural production, oil extraction, waste disposal sites, and prisons. There are extreme economic inequalities along racial lines and uneven access to preventative health care centers, food supplies, transportation, employment, and education. My methodology reflects what João H. Costa Vargas (2008) terms *observant participation* where participation, rather than passive

spectatorship is critical to entering the field site and collecting data. I conducted a total of 35 in-depth interviews with farmworkers, with formerly incarcerated adult men and women who acquired Valley Fever, with organizers who worked for social justice for marginalized populations or communities, and with one attorney filing lawsuits on behalf of hundreds of prisoners suffering from the disease. Most participants were compensated with a $20 gift card to a coffee shop or a local grocery store for every 30 minutes that they interviewed. I recruited participants using various methods including snow-ball sampling, encounters at a farmers' market and at a local tax preparation office, as well as personal references. Interviews lasted between fifteen minutes and two hours. Unless the participant indicated otherwise, all interviewees' identities are protected by using fictitious names. Interviews took place in the office of a local non-profit organization in Kern County, over the phone, in participants' homes, at coffee shops, and at a recruitment table that I set up at a local flea market.

I conducted ethnographic observations at a community-and-prison ministry near downtown Bakersfield where free breakfasts were provided to residents on Saturday mornings. This group works closely with female and male inmates as well as recently released ex-offenders, former prisoners, and families otherwise touched by the criminal justice system. I augmented my understanding of the social ecology of Kern County by attending meetings of various environmental justice organizations where discussions revolved around projects and where weekly reports were delivered. Community residents spoke with me at length about their concerns during a six-hour bus ride to Oakland as we prepared to join a statewide protest demanding action on climate change. Attending a court hearing on pesticide regulations and participating in a community meeting on pesticide

exposure heightened my attentiveness to the role of pollution in damaging the health of school children and residents of pesticide affected areas. Activist-led "Toxic-Tours" -- two in Kern County and one in Fresno County -- enabled me to visit sites where pollution was particularly egregious. My work as a grant writer for one of the environmental organizations exposed me to their past achievements and ongoing problems and provided a front row seat for viewing their interactions and their collaborations with government officials and representatives of other environmental justice groups.

Supplementing my field research with secondary sources, I drew data from mapping sources, including the Department of Environmental Health and Hazards Assessment's CalEnviroScreen 2.0 website, the U.S. Census Bureau's online archives, a city map from Bakersfield's Geographic Information Systems office, and a map from the city of Lamont. These resources provide unanalyzed data about environmental inequality in Kern County and graphic representations of social, economic, and infrastructural conditions in incorporated and unincorporated zones. Published county reports delineated the paradoxical pairing of voluminous local agricultural production with food insecurity. Archival research revealed extensive evidence about previous public health research on Valley Fever in the Kern County Public Library in Bakersfield and the California State Archives Library in Sacramento. Primary source documents from litigation presented me with extensive data from federal court reports, testimony, appeals, and judicial orders regarding state prisons and the issues of Valley Fever and the adequacy and inadequacy of healthcare.

Organization of Chapters

In chapter One, I provide a social-ecological analysis of Valley Fever through exploring Kern County's prevailing "Three-P's": poverty, pollution, and prisons to explore how poor and vulnerable groups contract and recover from Valley Fever. I analyze data from in-depth interviews with farmworkers and former prisoners, field research, and secondary sources provided by the government Office of Environmental Health Hazards Assessments (CalEnviroscreeen 2.0), the City of Bakersfield office of Geographic Information Systems, and other mapping resources. The data illustrates how poverty, pollution, and prisons produce cumulative vulnerabilities that disproportionately expose poor and vulnerable people to dust and other environmental health hazards, medical misdiagnoses, and delays in receiving treatment. I also explore how incarceration and deportation treats people with illness as delinquents rather than patients. I challenge the biomedical models of illness that reframe the nexus of social and environmental conditions as biological mishaps that can be contained and mitigated individually.

In chapter two, I explore the historical relationships linking race, illness, and industry in California, particularly the legal and cultural exclusion of non-white immigrants, farmworkers, and prisoners from emerging public health resources. I demonstrate the establishment of a racialized public health sector that served the interests of the agricultural industry, securing and augmented the profits it derived from displaceable, deportable, and disposable labor through both public health and immigration policies. The creation of a bifurcated path to health maintained a racial order of wellness that persists today. Despite their various legal statuses, almost all participants experienced a devalued form of healthcare

that relegated them to what Ana Y. Ramos-Zayas (2004) characterizes as "delinquent citizenship;" they were subjected to "global penalties" such as discrimination and harsh treatment meted out to illegal residents (28). In chapter three, I draw from farmworkers' interviews more closely and describe their experiences with the uncertainty of healthcare, their collective struggles with toxic assault and sparse economic resources, as well as the persistent threat of deportability in their everyday lives.

In chapter four, I provide background evidence on how punitive institutions shape prisoners' experiences with Valley Fever and related medical developments. Drawing from research studies, archives, and a dissertation about Valley Fever outbreaks in Japanese internment camps during World War II, I demonstrate that protective health strategies have a long history of excluding prisoners of color. Strategies that directly address Valley Fever have changed very little in the era of mass incarceration; those that do aim to reduce deaths have focused more on the individuals and their health and purported genetic susceptibility than on the immediate social ecological factors causing risk. In chapter five, I unpack interviews with former prisoners who suffered from Valley Fever, their close relatives, attorneys, friends, and romantic partners. I analyze how they narrate the social and environmental conditions contributing to inadequate and untimely diagnoses, as well as the collateral and unforeseen consequences of this disease after being released from prison. Finally, I conclude with a summary of these chapters, their contributions to the study of Valley Fever, and a discussion about how participants' collective knowledge improves how we understand this environmental disease.

References

Akom, Antwi. 2011. "Eco-Apartheid: Linking Environmental Health to Educational Outcomes." Teachers' College Record, 113(4):831-894.

Auyero, Javier and Debora A. Swistun. 2009. Flammable: Environmental Suffering in an Argentine Shantytown. Oxford University Press.

Ansell, David A. 2017. The Death Gap: How Inequality Kills. Chicago, IL: University of Chicago Press.

Bade, Bonnie. 2004. "Alive and Well: Generating Alternatives to Biomedical Healthcare by Mixtec Migrant Families in California" In Indigenous Mexican Migrant in the United States. Eds. Jonathan Fox and Gaspar Rivera-Salgado. Center for U.S. Mexican Studies.

Beard, Renee L. 2017. Living with Alzheimer's: Managing memory loss, identity, and illness. New York: New York University Press.

Briggs, Charles and Clara Mantini-Briggs. 2002. *Stories in the Time of Cholera: Racial Profiling During a Medical Nightmare*. Berkeley: University of California Press.

2016. *Tell me why my Children Died*. Durham, NC: Duke University Press.

Braz, Rose and Craig Gilmore. 2006. "Joining Forces: Prisons and Environmental Justice in Recent Prison Organizing." Radical History Review. 95.

Brooks, Harold. 2013. "Low Tornado Numbers and low Tornado Deaths, May 2012-April 2014." National Severe Storms Laboratory (NSSL) News. Retrieved from (https://blog.nssl.noaa.gov/nsslnews/2013/05/low-tornado-numbers-and-low-tornado-deaths-may-2012-april-2013/).

Bullard, Robert and Beverly Wright. 2009. *Race Place And Environmental Justice After Hurricane Katrina: Struggles To Reclaim, Rebuild, And Revitalize New Orleans And The Gulf Coast*. USA: West View Press.

Burciaga Valdez, R. 2003. "Access to Illness Care and Health Insurance." In Latinos and Public Policy in California: An Agenda for Opportunity, edited by David López and Andrés Jiménez, 189-215. Berkeley: Berkeley Public Policy Press.

CDCP. Center for Disease Control and Prevention. 2013. Retrieved from (http://www.cdc.gov/fungal/coccidioidomycosis/causes.html).

CURB. Californians United for a Responsible Budget. 2016. "We are not Disposable: The Toxic Impacts of Prisons and Jails." Retrieved from (http://curbprisonspending.org/wp-content/uploads/2016/10/CURB-WeAreNotDisposableReport.pdf).

Center for Immigration Studies. 2017. Map: Sanctuary Cities, Counties, and States. By Bryan Griffith, Jessica Vaughan March 2017. Retrieved from (http://cis.org/Sanctuary-Cities-Map).

Chavez-Garcia, Miroslava. 2012. *States of Delinquencies: Race and Science in the making of California Juvenile Justice System*. California: University of California Press.

Cole, Luke W. and Foster, Sheila R. 2001. *From The Ground Up: Environmental Racism And The Rise Of The Environmental Justice Movement*. New York and London: New York University Press.

Committee on the Elimination of Racial Discrimination. 2014. "Racial Discrimination and Access to Safe, Affordable Water for Communities of Color in California." Report prepared and submitted by: Safe Water Alliance, Environmental Justice Coalition for Water; and the International Human Rights Law Clinic, University of California, Berkeley, School of Law. Retrieved April 2017 from (http://tbinternet.ohchr.org/Treaties/CERD/Shared%20Documents/USA/INT_CERD_NGO_USA_17884_E.pdf).

Costa Vargas. João H. 2008. "Activist Scholarship: Limits and Possibilities in the Times of Black Genocide." Pp. 164-182 in Engaging Contradictions: Theories, Politics, and Methods of Activist Scholarship, edited by Charles R. Hale. California: University of California Press.

Cox, Rebecca A. and D. Mitchell Megee. 2004. "Coccidioidomycosis: Host Response and Vaccine Development." Clinical Microbiology Review, 17(4): 804-839.

De Genova, Nicholas P. 2002. "Migrant Illegality and Deportability in Everyday life." Annual Review of Anthropology, 31: 419-447.

Epstein, Steven. 1995. "The Construction of lay expertise: AIDS activism and the forging of credibility in the reform of clinical trials." Science Technology and Human Values, 20(4): 408-437.

Feeding America. 2017. "Map the Meal Gap 2017." Retrieved from (http://www.feedingamerica.org/research/map-the-meal-gap/2015/MMG_AllCounties_CDs_MMG_2015_1/CA_AllCounties_CDs_MMG_2015.pdf).

Frampton, Mary Louis; Ian Haney Lopez; and Jonathan Simon. 2008. *After the War: Race, Democracy, and New Reconstruction.* New York: New York University Press.

Fullilove, Mindy Thompson. 2013. Urban Alchemy: Restoring Joy in America's Sorted-Out Cities. New Village Press.

Gee, Gilbert C. 2002. "A Multilevel Analysis of the Relationship Between Institutional Racial Discrimination and Health Status." *American Journal of Public Health*, 92: 615-623.

Gee-Payne, Gilbert C. and Deven C. Sturges. 2004. "Environmental Health Disparities: A Framework Integrating Psychosocial and Environmental Concepts." Environmental Health Perspectives, 112(170), 1645-1653.

Gibbs, Lois. 2002. "Citizen Activism for Environmental Health: The Growth of a Powerful New Grassroots Health Movement." *The ANNALS of the American Academy of Political and Social Science* Volume 584 (97).

Gilmore, Ruth Wilson. 2007. *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California*. Berkeley: University of California Press.

Harrison, Jill Lindsey. 2011. *Pesticide Drift and the Pursuit of Environmental Justice*. Cambridge, MA: MIT Press.

Harding, Sandra G. 2004. *The Feminist Standpoint Theory Reader: Intellectual and Political Controversies*. Psychology Press.

Hector, Richard; George W. Rutherford; Clarisse A. Tsang; Laura M. Erhart; Orion McCotter; Shoana M. Anderson; Kenneth Komatsu; Farzaneh Tabnak; Duc J. Vugia; Ying Yang; and John N. Galgiani. 2011. "The Public Health Impact of Coccidioidomycosis in Arizona and California." *International Journal of Environmental Research and Public Health* (8): 1150-1173.

Hester, Rebecca J. 2013. "Bodies in Translation: Health Promotion in Indigenous Mexican Migrant Communities in California." In *Translocalities/Translocalidades: Feminist Politics of Translation in the Latin/a Américas*, edited by Sonia E. Alvarez, Claudia de Lima Costa, Verónica Feliú, Rebecca J. Hester, Norma

Klahn, Millie Thayer and Cruz C. Bueno, 168-88. Durham: Duke University Press.

Holmes, Seth. 2013. *Fresh Fruit, Broken Bodies: Migrant Farmworkers in the United States*. Berkeley: University of California.

Horton, Sarah Bronwen. 2016. *They Leave Their Kidneys in the Fields: Illness, Injury, and Illegality among U.S. Farmworkers.* California: University of California Press.

Huang, Y. Jennifer; Benjamin Bristow; Shira Shafir; and Frank Sorvillo. 2012. "Coccidioidomycosis-associated Deaths, United States, 1990–2008". Emerging Infectious Disease, 18 (11): 1723-1729.

KernEDC. 2017. "Kern Economic Development Corporation Employment Statistics September 2017 Report." Retrieved from (http://kedc.com/community-profile/workforce/).

Ku, Leighton, and Mariellen Jewers. 2013. "Health Care for Immigrant Families: Current Policies and Issues." Washington DC: Migration Policy Institute.

Kraft, Michael E. and Sheberle, Denise. (1995). "Environmental Justice and the Allocation of Risk: The Case of Lead and Public Health". Policy Studies Journal Volume 23 (1): 113-122.

Krieger, Nancy. 2002. "Methods for the Scientific Study of Discrimination and Health: An Ecosocial Approach." American Journal of Public Health, 102 (5): 936-945.

2011. *Epidemiology and the People's Health*. New York: Oxford University Press.

Macias-Rojas, Patricia. 2017. *From Deportation to Prison: The Politics of Immigration Enforcement in Post-Civil Rights America*. New York: New York University Press.

Mauldin, Laura. 2017. Made to Hear: Cochlear Implants and Raising Deaf Children. Minneapolis: University of Minnesota Press.

Metzger, Raphael.; Jane Delgado; and Robert Herrel. 1995. "Environmental Health and Hispanic Children." *Environmental Health Perspectives* Volume103 (6): 25 – 32.

Mohney, Gillian. 2013. "Valley Fever Outbreaks Lead California to Move Inmates." ABC News. July 5, 2013. Retrieved from (https://owl.english.purdue.edu/owl/resource/583/03/)

Moore, Joe. 2013. “Inmates at risk of Valley Fever to be Moved from two Valley Prisons.” Published April 30, 2013 in Valley Public Radio. Retrieved from (http://kvpr.org/post/inmates-risk-valley-fever-be-moved-two-valley-prisons-0).

National Weather Service. 2017. Office of Climate, Water, and Weather Services. Retrieved from (http://www.nws.noaa.gov/om/hazstats.shtml).

Office of Environmental Health Hazards Assessments. 2016. “CalEnviroScreen Mapping Tool.” Retrieved from (https://oehha.ca.gov/calenviroscreen).

PPIC. Public Policy institute of California. 2013. “Just the Facts: Poverty in California.” Retrieved from (http://www.ppic.org/main/publication_show.asp?i=261).

Pardo, Mary. 1999. *Mexican American Women Activists: Identities and Resistance in Two Los Angeles Communities*. Philadelphia: Temple University Press.

Peña, Devon. 2005. Mexican Americans and the Environment: Tierra y Vida. Phoenix, AR: University of Arizona Press.

Plata v Brown Jr., NO-C01-1351 TEH, U.S. (June 24, 2013).

Pulido, Laura. 1996. *Environmentalism and Economic Justice: Two Chicano Struggles in the Southwes*t. Arizona: University of Arizona Press.

2000. “Rethinking Environmental Racism: White Privilege and Urban Development in Southern California.” *Annals of the Association of American Geographers,* Volume 90 (1): 12-40.

Quintero-Somaini, Adrianna and Mayra Quirindongo. 2004. “Hidden danger: Environmental health threats in the Latino community.” *Natural Resource Defense Council*. Retrieved from: http://www.nrdc.org/health/effects/latino/english/latino_en.pdf

Ramos-Zayas, Ana Y. 2004. “Delinquent Citizenship, National Performances: Racialization, Surveillance, and the Politics of “Worthiness” in Puerto Rican Chicago.” Latino Studies 2: 26-44.

Roberts, Dorothy. 2011. *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-first Century*. New York, NY: The New Press.

Schnittker, Jason; Michael Massoglia, and Christopher Uggen. 2011. “Incarceration and the Health of African Americans.” *Du Bois Review* 8(1):133-141.

Seligman, Hilary K.; Barbara A. Laraia; Margot B. Kushel. 2010. “Food Insecurity is Associated with Chronic Disease Among Low-Income NHANES Participants.” The Journal of Nutrition 140(2):304-310.

Sodermeyer, Gail; Lauren Lee; Debora Gilliss; Farzaneh Tabnak; Duc Vugia. 2013. “Coccidioidomycosis-associated Hospitalizations California USA 2000-2011”. *Emerging Infectious Disease* Volume 19 (10): 1590-1597.

Sze, Julie. 2007. *Noxious New York: The Racial Politics of Urban Health and Environmental Justice*. Massachusetts: MIT Press.

United State Census Bureau. 2016. “Quick Facts.” Retrieved from (https://www.census.gov/quickfacts/fact/table/kerncountycalifornia/AGE135216#viewto).

Van Ryn, Michelle, Diana J. Burgess, John F. Dovidio; Sean M. Phelan; Somnah Saha; Jenifer Malat; Joan M. Griffin; Steven S. Fu; Sylvia Perry. 2011. “The Impact of Racism on Clinician Cognition, Behavior, and Clinical Decision Making.” *Du Bois Review* 8(1): 199-218.

Welch, Michael. 2005. *Ironies of Imprisonment*. USA: Sage Publications Inc.

II. Chapter Two: Valley Fever and the Social Ecology of Kern County

"We are allies, not enemies. But sometimes we have to be adversarial to get things done."

--Activists from the California Environmental Justice Network 2017 Conference
Sacramento, Ca.

The disparities of health attendant to Valley Fever require an unapologetic and uncompromising investigation into why outdoor workers and prisoners contract and die from this environmental disease more than any other group. Current biomedical studies are developing better diagnostic tests and treatments, but they have also deployed longstanding hypotheses and arguments that attribute higher chances of risk and dissemination largely to biological characteristics of African Americans and people of Asian descent (CDPH 2015; Galgiani 2014; Ampel 2010; Smith, Pappagianis, Levine, Saito 1961). Although biomedical approaches are sometimes legitimate and necessary, defaulting to identifying genetic markers among people who are grouped into racial categories does not begin to resolve the question of why people who work outside and people who are locked inside are the most vulnerable to this disease (Hector, Rutherford, Tsang 2011). It is crucial to ask why farm workers and prisoners, two groups who are seemingly isolated from each other, become

similarly vulnerable. What factors or conditions shape prisoners' and outdoor workers' similar risk of contracting Valley Fever? How do their experiences with this illness meaningfully reshape what we know about vulnerability? Answering these questions requires redirecting causal explanations away from individual behavior and biological susceptibilities and toward examining the social structures, social relationships, and the environment of highly endemic areas.

In this chapter, I apply a social ecological lens to farmworkers' and former prisoners' experiences with Valley Fever in highly endemic Kern County. As a critical framework, the social ecology lens captures the specific legacies of inequality shaped by race, class and gender in places treated as sacrifice zones. It explores how these intersecting conditions influence the causes, consequences, and potential cures of illnesses. Members of vulnerable groups report that poverty, prisons, and pollution in the Central Valley cause cumulative health injuries that debilitate people long before they encounter cocci fungus spores. I argue that the racial disparities in Valley Fever cases stem from the ways in which public and private interests in Kern County deliberately undermine the health of poor and non-white residents. A variety of public and private practices systematically fail to secure the health of prisoners and farm workers, making weakened bodies and weakened immune systems more likely among residents who are non-white and poor. I do not presume to have the scientific or medical expertise to determine the degree to which genetic propensity or individual behaviors contribute to contracting Valley Fever. I do not oppose any research that might alleviate the suffering of sick people. I do claim, however, that the interviews that I have conducted in a Valley Fever endemic county with farmworkers and former prisoners, along with my participant observations with social justice groups, reveal an urgent need for public

officials and health care providers to account for poverty, prisons, and pollution as contributing factors in contracting Valley Fever.

The Biomedical Model of Valley Fever

The Centers for Disease Control and Prevention (2016) reports that Valley Fever is caused by exposure to *Coccidioides immitis* (cocci), a soil fungus that grows in arid lands in the Southwest of the United States and Northern Mexico. In California, the cocci fungus frequently germinates in the warm soil of the Central Valley, making Fresno, Kern, Kings, Madera, and Tulare counties, and more recently, San Luis Obispo and Los Angeles counties home to the highest numbers of reported incidents (CDCP 2016; Johnson 2017).

Cocci transform into an infectious disease known as Coccidioidomycosis when dirt germinating the fungus is dispersed into the air due to a strong gust of wind or excavation (Smith et. Al 1961). Moving the dust allows the fungi spores to become airborne. Just one breath of the spores can cause the painful illness commonly referred to as Valley Fever. The disease is not contagious, but it is burdensome. Symptoms include rashes, body aches, fatigue, fever, and chest pains that on average last sixty days. More severe symptoms include disseminated infections in the joints, the spinal cord, and the brain, which require aggressive and timely medical interventions (CDCP 2016). Some infections require a lifetime of treatment.

Employers are encouraged to dampen loose dirt, provide respiratory protection with HEPA air filters in closed cab equipment, and have employees use locker rooms to remove clothes so workers do not take spores home (CDPH 2015). The National Institute of

Occupational Safety and Health (2016) further recommends employers to arrange for prompt medical evaluation and treatment if workers are exposed. Local departments of public health encourage visitors and residents to talk with a primary healthcare provider, avoid spending time in dusty areas, stay indoors during dust storms, use an N95 respirator face mask, clean skin wounds with soap and water to avoid infection, and take prescribed medication if they become ill (CDC 2016). Drawing attention to the symptoms of infection and a general awareness of dust as a potential threat has led to a widespread acceptance of the idea that individual behavior can minimize, if not prevent, infection. Yet, these preemptive strategies seem to ignore that neither prisoners nor farmworkers have full control over their material living and labor conditions.

Evidence of racial disparities in contracting Valley Fever suggests that structural inequality poses a more significant threat to the health of people of color in highly endemic counties than individual behavior and potentially, genetics. A study that compared hospitalization rates among patients with Valley Fever found that low-wage earners and/or people who rely on subsidized health insurance or charity programs to pay the costs of hospitalization were more likely to use emergency services than people with private health insurance (CDPH 2013). This means that people without market insurance have to rely more on expensive emergency healthcare than on a primary physician to diagnose and treat illness. Latina/o, Black, Filipino, and Native American people with Valley Fever are over-represented in nearly every measure of morbidity and mortality when compared to whites. During an eight-year study of reported Valley Fever cases, Black and Latino/a residents had rates of illness higher than their percentages of the population (Hector, Rutherford, Tsang 2011). In a careful study by Hector, Rutherford, and Tsang (2011), people categorized as

non-Hispanic white and people categorized as Hispanic each account for forty-four percent of the population size of highly endemic counties in California; yet, fifty-one percent of the reported cases of Valley Fever occurred among Hispanics, while only thirty-two percent occurred among whites. Black people in highly endemic counties comprise four percent of the general population, yet they accounted for eleven percent of the cases during this same period. The stark difference in the number of cases of Valley Fever between whites and non-whites is consistent with findings in other studies that note higher dissemination rates among Black and Filipino patients (CDPH 2013; Huang, Bristow, Shafir, Sorvillo 2013; Mohney 2013; Cox and Magee 2004). Analyses of these differences quickly and too easily lead researchers to suspect immunological deficiencies and genetic causes, especially with regard to people who are African American or Pacific Islander (Galgiani 2014). Rather than focusing on resolving how structural inequality injures the health of people of color and poor people, biomedical studies draw attention to fixing and treating individuals with Valley Fever, a strategy we saw applied by the Department of Corrections and Rehabilitation (CDCR) when it transferred prisoners identified as African American or Pacific Islander out of highly endemic facilities while leaving everyone else behind.

The systemic reluctance to explore how race, class, gender and place combine to influence causes, consequences, and potential cures of Valley Fever ignores the collective knowledge of vulnerable groups. Neglecting what vulnerable populations know about their health and how social inequality contributes to their chances of recovery when faced with a life-threatening disease excludes new ways of knowing about Valley Fever. Relying on behavioral and biological explanations occludes inequalities in the health care system, insurance coverage, and community health.

Poverty, Prisons, Pollution, and Illness

During my field research in Kern County poverty was a prevalent theme found in interviews with farmworkers and former prisoners. Noe illustrates this idea.

Noe and Soledad sat in the rows of chairs in the lobby of a tax-preparation office where I was recruiting participants for this study in January 2015. I did not know that Noe was suffering from Valley Fever at the time I approached him, but I was instantly struck by his frail, aged, and skeletal body. As we walked to a private office, I observed his slow and painful gait, how his wrinkled skin hung from his bones, his toothless smile, and the surgery scars on his scalp. One would not guess that he was only in his mid-forties. Soledad took the lead in telling their story, but it was not long before Noe interjected and told his own version.

When Noe acquired Valley Fever, he was trying to make up for the loss of wages that he suffered because of seasonal layoffs in agriculture. He is one of thousands of Latino immigrant farmworkers who toil in the fields for six to eight months of the year, sometimes migrating to other destinations and sometimes changing companies or industries for work opportunities locally. His new and temporary job was in maintenance at the mobile home park where he was renting a unit. Three days before Noe developed a high fever and a nauseating headache, he was installing insulation on the floor of a trailer home. He got on his belly to crawl beneath the trailer. Noe believes he was exposed to Valley Fever

underneath the trailer where the floor consisted of loose dirt and the air was cold, but the job itself was toxic.

> Noe: I was working there, installing insulation and everything that goes with it on a mobile home…. We used to install insulation on everything that was ripped from inside.… They made us go underneath, saying that we needed to install insulation in the floor from beneath the trailer. We installed it, but all of the fibers that we were putting in, we were using staplers, so all of the dust and fibers would enter through our mouth or nose. We were breathing it. I think that it damaged me.
>
> Soledad: That was the last time he worked. But there, they paid in money orders. They did not give a pay-stub. We took copies, but they were not pay stubs. He qualified for disability, but only from working in the fields. They gave him about eight months of help.

After that floor repair, he developed a high fever and was in constant pain. Soledad could not control the fever for three weeks, so she asked a neighbor for a ride to take Noe to the county hospital. The doctors sent them home with a misdiagnosis, an ineffective prescription for allergy medication, and a $7000 debt for the visit because Noe did not qualify for Medi-Cal due to his undocumented status. After eight weeks of back and forth visits to the clinic, he was finally diagnosed with Valley Fever.

> Soledad: Later, they told us he had Valley Fever. They called us one afternoon, in the night.
>
> Author: Oh… So, did you go to the hospital in the morning and receive the call at night?
>
> Soledad: No, it was a span of about eight days, no eight weeks when they called me unexpectedly.
>
> Noe: So, I would go [to the hospital] and they would check me. They would say that there was nothing wrong with me, that it was normal to

> have a fever. Then, they did a blood analysis on me. After that, they called to say that I needed to see a doctor because I had Valley Fever.

The doctor prescribed medicine that cost $120 per week or almost $500 per month. Soledad paid for the small number of the pills that she could afford with her farmworker salary, which meant that Noe only had enough medication to use intermittently. The burdens they experienced early on became slightly alleviated when a special program enabled them to pay $86 dollars per month for low-cost health insurance. But by then, more than two months had passed without the proper diagnosis and treatment. Soledad sometimes paid an additional $20 to compensate her neighbor for every ride to a pharmacy in Bakersfield because no other pharmacy near them accepts this health plan. Noe also returned regularly to the hospital to drain the fluid that accumulates in the back of his head. He needs this treatment and faces a life time of using prescription drugs to keep surviving.

Noe and Soledad are responsible health consumers. Their plight does not stem from inattentiveness to their health or risky behavior. On the contrary, the seasonal layoffs combined with informal job opportunities caused the conditions that damaged Noe's health and that exposed him to the disease. A health care system that neglected initially to recognize that Noe had Valley Fever, that prescribed a medicine he could not afford to take regularly, that saddled the couple with unpayable debts and consigned them to a life of illness and inconvenience caused healing to be slow and arduous, and at times, an unrealistic possibility.

Noe and Soledad's experiences are not unique, as observations by environmental justice activist and scholar, Rosana, demonstrate. At the time of this research, Rosana was

working on water safety issues with the residents of a rural town known as Lost Hills. Rosana explained that Lost Hills is a small community that is ninety-seven percent Latino. Most residents are farm workers. The fields around Lost Hills are replete with crops such as almond, grapes, and pistachios that when consumed support a healthful and long life for consumers. When farm working residents who pick these products need medical attention, however, they cannot count on seeing a physician. During the few years that Rosana was in the area, residents who contracted Valley Fever were forced to use emergency hospital services in the city of Bakersfield (a 30-minute drive) because the local community clinic was unable to secure a licensed physician for almost two years. Rosana notes that this situation exacerbated the adverse effects of Valley Fever because patients were unable to obtain a diagnosis quickly, efficiently, and affordably. Many farm workers who rely on company transportation or carpooling to work must pay an additional fee to neighbors for transportation to the hospital. Recommendations from health experts to talk with a primary care provider, to arrange for a prompt medical examination, to remain indoors during dust storms, to avoid dust exposure, and to remove soiled clothes in locker rooms may make sense for middle class white patients, but they are impractical forms of prevention for farmworkers, especially for the many who make a living on seasonal wages. Moreover, these individual strategies do not begin to address more profound questions about the general lack of health care for rural communities inhabited by mostly Latino/a farm workers, much less the effects of poverty wages, and community wide lack of social resources.

The distribution of wealth in Kern County suggests that racial disparities in health conditions have more to do with the forces that create residential segregation and promote capital accumulation than with individual biology. During my field research in the streets of

Bakersfield while traveling to participants' homes, I saw that east and west of downtown Bakersfield were mirror opposites. The further east I moved from the city's center, the more I saw payday lenders and check cashing establishments, bail bonds firms, and scattered small businesses that extract wealth from residents through predatory and deceptive financial transactions. Neighborhoods east of highway-99 have lower property values, scattered factories and businesses that have shut-down, and schools with high chain linked fences and low performance ratings. Neighborhoods with the highest poverty rates were also disproportionately inhabited by Latino/as and Blacks. Wealth and whiteness, however, were found in the better and newer housing stock west of the city center. While Black residents account for only six percent of the population in Kern County, thirty-five percent of them live below the poverty line (Healthy Kern County initiative 2016). Latino/as account for thirty-eight percent of the county population and twenty-nine percent of the Latino population lives below the poverty level (Healthy Kern County initiative 2016). During the 2008 subprime lending meltdown, Bakersfield was considered within the top 10 cities among 230 metropolitan areas in the US with the highest rates of foreclosures, most of which affected Latino/a and Black residents (California Assembly Committee on Banking and Finance 2008). Food hardship in and around Bakersfield is so severe that only eight other counties in the U.S. have a greater need for food (Community Action Partnership of Kern 2015). These findings about the concentration of poverty and people of color are consistent with other studies about how local decision-making processes restrict people's access to resources and rewards, while also creating racially communities, housing, and health outcomes (Ansell 2017; Hernandez 2014; Akom 2011; Lipsitz 2006).

Building the basic blocks to a healthy lifestyle that can support strong immune systems requires many of the resources that are lacking in neighborhoods where vulnerable groups live, such as employment opportunities, affordable fresh and nutritious food supplies, affordable housing, safe environments, quality schools, preventive healthcare and affordable medical treatment, opportunities to acquire wealth, and public investments that facilitate access to all (Hernandez 2018; 2014). The strong correlations among the high incidence rate of Valley Fever, lack of wealth, and racial minority status should prompt scientists to ask what the struggles of collectively disadvantaged groups facing Valley Fever can tell us about the illness.

Prisons

Former prisoners report that prison staff personnel and health officials limit their protection from exposure to Valley Fever and prevent them from receiving adequate and timely medical attention to combat its symptoms. Deplorable health care and environmental health hazards in the state prison facilities can be traced to the policies of mass incarceration. The declining ability to provide for prisoners' varying health needs resulted from policies that rapidly enlarged the number of people incarcerated at rates that far exceeded capacity and in placing facilities in sites surrounded by toxic agricultural and industrial operations that injure inmate health (R.W. Gilmore 2007; CURB 2017).

A woman whom I will call Debbie from the Fresno Prison Moratorium Project explained to me in a phone interview the threat that building prisons poses to both farm workers and other poor people of color. In trying to make sense of the role of prison

building in reconfiguring the Central Valley, Debbie discovered the C*errell Report*, a study conducted by the California Waste Management. The report advised siting toxic waste producing industries in the communities least able to resist placement of prisons in their vicinity. For Debbie, it was no coincidence that more than half of the 22 new mega-prisons were built near waste facilities and poor communities in the Central Valley. She explains:

> Using the Cerrell Report, they were able to build prisons in the Central Valley. These communities did not fight back. But thinking about environmental racism, how it happens, I was like, wait a minute, when people, oppressed people, are working all the time, there's no time to know about it, Valley Fever and toxic industries down the street. This is not their fault. What [developers] didn't bank on was that Valley Fever was affecting people in the prisons. No one did anything about it. So, our work kicked up to talk about prisons and mass incarceration, mostly about Latinos and Blacks and the quality of their lives with mass incarceration.

The Cerrell Report (1984) advised the state and private polluters to place hazardous industries in communities where residents are primarily Catholics, immigrants, and people with lower levels of education, where people earn low-wages and work in resource extraction. The report advised that these places were less likely and less able to resist the waste facilities. The report did not have to identify people of Mexican and Filipino origin expressly as the target groups directly because the features they cited -- religion, citizenship status, educational level, and labor position -- served as perfect proxies for race and national origin (Braz and Gilmore 2006). For Debbie, building prisons in impoverished and polluted places further exacerbated what the Cerrell Report encouraged.

Ruth Wilson Gilmore (2007) describes how the rising numbers of incarcerated people in the Central Valley reflect place-specific historical processes in both the rural and urban areas. Notably, natural disasters like drought conditions freed open agricultural land for sale, creating new markets for prison development. At the same time, new lending

policies led bond traders to turn to prison construction. As a new market, prison development forced policy decisions that made low-income, predominately male, and non-white residents susceptible to social control policies that led to fulfilling the need for building more prisons. New mandatory sentences have prolonged the time of incarceration, causing an aging prisoner population to become more susceptible to a range of chronic diseases (Ansell 2017). Prison facilities are also replete with communicable diseases; forty percent of adult prisoners have one or more chronic conditions, HIV rates in prisons are five times higher than the general community, and more than two-thirds of the prison population have a diagnosed substance-abuse disorder (although less than fifteen percent of them receive treatment) (Ansell 2017). When prisoners come home, their mortality rate is more than three times higher than the rate of the general population, and more than twelve times higher during the first fourteen days back. The top reason former prisoners die is from drug overdose, "followed by heart disease, suicide, homicide, cancer and motor vehicle accidents," all of which are preventable (92). Women who care for former prisoners also suffer from chronic illnesses; "63 percent are smokers, 27 percent have hypertension, 34 percent report anxiety and 36 percent report depression" (94). Debbie connected the urgency to grow the prison industry exponentially with the exploitation of Black and Mexican and Mexican America communities. Her work focused on the invisible and unforeseen vulnerabilities that prisons bring to historically poor communities.

My phone call with Debbie was followed by the opportunity to meet her personally. Debbie offered me the chance to examine letters sent to her by prison inmates over the course of several years. When I went to Fresno to collect these letters at her home, I met Debbie sitting outside her driveway leaning back on a lawn chair wearing sun glasses and a

brim straw hat; she was waiting for my arrival. The sun was heating up the Central Valley to nearly 100F˚ degrees. Debbie presented me with a meticulously kept stack of letters that had a rubber band around them. She explained that they came from prisoners all over California. She wanted me to read the ones that contained requests for help with Valley Fever. In 2006, Nico wrote:

> I am writing to you in hopes that you might help to putting a stop to the continued chemical/pesticide drift that the prisoners are being exposed to at numerous state prisons run by the CDCR here in California… I myself have been at three of the prisons and gassed with chemicals…I am still very sick from the exposure and we have medical documentation to prove it. But to which the medical department and the CDCR still denies happened.

Nico explains that California prisons are surrounded by agricultural fields that are typically evacuated of humans when the land is sprayed with fumigants and pesticides. Prisoners, however, do not have the option of leaving. They are denied the equipment needed to protect their health from the fumes that escape to the prison grounds from the nearby fields. Rather than taking responsibility for the health of inmates, the prison authorities employ strategies that further endanger them. Nico explains:

> [M]edical doctors at the prisons are in denial and fail to care for patients exposed in a timely manner until it's full blown Valley Fever and can't be controlled. I have names and evidence to prove my position in this matter. All are inner city people of color and people most susceptible to contract Valley Fever and through discovery [I] got all of the names of the poor souls who lost their lives to Valley Fever in all of these contaminated prison properties. [I] will carry the day on my position that all of these prisons need to be deactivated and closed.

Inmates are exposed routinely to fumigants, pesticides, and other chemicals from agricultural applications in the same facilities that expose them to the Valley Fever fungus

spores. Nico's letter further suggests what the *Plata v. Brown* 2011 lawsuit confirms: prison health administrators operate care in an age when cuts in state spending guide fiscal policy and compel them to pay as little attention as possible to inmate health unless ordered to do so by the federal courts.

Between 2006 and 2013, sixty-two state prisoners died from Valley Fever alone (Dannenberg 2013). In a random review of four of those cases, investigators found that the prison health authorities had delayed testing the inmates for several months, something that Nico had disclosed from his own observations (Dannenberg 2013). The scale of this problem of neglect is much larger. At least eight hundred current and former prisoners have been in contact with attorneys to file civil-rights lawsuits with the federal courts on health-related issues (Ellis 2015; personal interview with Wallach 2015). The eventual number of grievances is projected to be twice as many.

Studies report that over two-hundred prisoners contract Valley Fever annually in twenty different prison facilities (Plevin 2012; Winslow 2007). Approximately $23 million dollars are spent yearly to send inmates to hospitals for anti-fungal treatment and to pay security guards to monitor recovering patients there. Even more is spent treating less severe cases at the prison medical facilities (Winslow 2007). The Valley Fever epidemic was called a "public health medical emergency" by the federal court appointed medical receiver J. Clark Kelso, who oversaw the monitoring of inmates' health care needs and the delivery of care in prisons (St. John 2013). Under the control of the prison healthcare system, inmates cannot obtain an immediate second opinion, see their health provider when needed, obtain adequate respiratory protection, or even shield themselves from dust storms. They

have few options except to rely on the available care while fervently (and often futilely) advocating for a proper diagnosis and the right to treatment.

Inmates are receiving care in disorganized and unsanitary medical facilities. In 2014, prison staff and inmates' rights lawyers found the California Health Care Facility in Stockton to be unsuitable for providing treatment. Although it was recently built and intended to be a leading model for prison medical care, the Stockton facility failed to deliver healthcare to dying patients and failed to provide hygienic supplies (St. John 2014). In the Salinas Valley State Prison, the Plata Medical Experts committee (2013) reported that doctors regularly ignored inmates' health needs. Nurses were accused of stealing drugs. The experts described the Salinas clinic as follows:

> The A clinic was extremely cluttered, filthy, and generally unacceptable for clinic space. Triage is performed in the hallway. There were three examination rooms, one of which had been originally intended as a closet. Nothing in this clinic appeared to be in a standardized location. Supplies and equipment were extremely disorderly. The medication room had medicine and supplies stored on the floor, on counters and in drawers that were open and used as shelving. This room was not sanitary… (p 20).

The report goes on to note mismanagement of supplies, the absence of procedures for keeping inventory, a lack of intent or effectiveness in holding to cleaning schedules, and the absence of privacy for patients. In Valley Fever endemic prisons, court expert witnesses found that the CDCR did not implement environmental mitigation strategies to reduce dust exposure in a timely manner (United States District Court C01-1351TEH). On two separate occasions, reviewers of inmates' health records raised concerns about medical experts not recognizing early signs of infections among Black men; they were "slow to begin timely and proper treatment for the disease" (12). The same court file reports that racial minority

inmates, who account for sixty percent of the male and female prison population, are treated in facilities that lack the vital conditions needed to deliver health care and are treated with less consideration for their health needs than whites. Nico's observation that prisoners are nestled between toxic environments and inadequate services that operate with racial discrimination to prisoners' health needs illustrates how a biomedical approach is too narrow of a frame to capture the varying dangers posed to prisoners' health.

Pollution

Farmworkers and prisoners are surrounded by pesticide drifts from agriculture and toxic fumes from oil and gas industries that compromise their health. Cocci fungi spores are a further danger. Cesar from Arvin illustrates this point.

I met Cesar at the tax preparation office where I was recruiting participants. Laughter coming from the direction of the office table caught my attention. A tall and robust man stood leaning on his right elbow over the wooden table. He hunched slightly lower to make eye contact with the two women standing in front of him. He was joking with them and it was easy to see how his charm wooed them into giggles and outbursts of laughter they could not contain. I approached, and the laughter stopped. A small smirk appeared on his face as he looked to me. I announced, "I am looking for farm workers who might have contracted Valley Fever." He paused and stood up straight. I could see his full body. His boots were muddy. Dirt covered up his legs from the soles of his shoes to the knees of his pants. Even his plaid shirt was speckled with tiny smudges of dirt. He looked me up and down before he finally answered, "Well then, you must be looking for me."

Cesar and I talked in a side office of the tax preparation business. He explained that he caught Valley Fever three years earlier while working harvesting grapes. Before that, he had been a practicing nurse at a hospital in Honduras where he tended to sick patients in an emergency room. Cesar migrated to California due to the economic hardships that his family was facing because of neoliberal economic austerity policies in his native land. Although he enjoyed his job in the hospital, it did not pay enough for his family's subsistence. Now as a farmworker in the Central Valley, he sends money home every month to support his daughter's education. When I asked him where he believes that Valley Fever is coming from and why he caught it, Cesar replied:

> I say it is coming from the contamination because no fever is going to happen for no other reason except an infection derived from something, a virus or whatever. But a fever comes from an infection, whether it is in the kidneys, the lungs, even from an open cut you can have a fever. So, I believe that Valley Fever comes from contamination. Without ruling out other politics, right, from the giant scientists…and the quantities of poison that ranchers spray, yes. Well, who do you think they will blame? Let's blame the environment. Let me see, the air ventilation in Lamont, the Arvin air, from wherever. Because we will not be able to justify who is doing this, right. But we are still dying.

To Cesar and many others, Valley Fever results from environmental pollution that injures people's health. Cesar is keenly aware that the toxic chemicals in the air from agriculture and oil and gas production compromise how the body responds to the disease. He believes that farmworkers are especially vulnerable because they are outside for long hours in the day, surrounded by poisons that take a toll on the body's capacity to fight off a disease. Controlling the deadly dust cannot be the only solution. For Cesar, this approach

conveniently distracts us away from asking who is contaminating the area in ways that damage farmworkers' overall health.

A closer look at the environmental hazards in Kern County reveals that Cesar's observations are astute. Poor communities of color are persistently exposed to toxic fumes and polluted water because the spaces where they live, work and play are located near polluting industries more so than white and wealthy residents. The modeling tool from the Office of Environmental Health and Hazard *CalEnviroScreen 2.0*. reveals that pollution is distributed decidedly unequally across the county. See table 1.0. This tool measures Volatile Organic Compounds (VOC's), Particulate Matter (PM's), ground ozone, pesticides, drinking water contamination, proximity to hazardous waste facilities and clean-up sites, as well as rates of poverty, unemployment, and various health conditions. The tool measures its score by census tract, but it also provides a range for entire cities.

Table 1. POPULATION (2000) AND POLLUTION (2016) DISTRBUTION KERN COUNTY

	Population	White	Latino	Black	CalEnviroScreen Score Range*
Kern County	661,645	49.5%	38.4%	6.0%	
Bakersfield	247,057	51.1%	32.5%	9.2%	6-100 %
Lost Hills	1,938	2.6%	96.7%	2.8%	86-90%
Weedpatch	2,726	8.5%	89.2%	0.7%	86-90%
Arvin	12,956	9.8%	87.5%	1.1%	86-90%
Lamont	13,296	9.2%	88.9%	2.6%	76-95%
McFarland	9,618	10.2%	85.7%	3.2%	76-90%
Mettler	157	15.3%	84.7%	0.0%	66-95%
Delano	38,824	9.2%	68.5%	5.4%	50-100%
Buttonwillow	1,266	25.0%	68.4%	3.8%	86-90%

Shafter	12,736	29.0%	68.1%	1.6%	71-85%
Wasco	21,263	21.6%	66.7%	10.3%	66-95%
Taft	6,400	79.1%	15.5%	2.0%	56-60%
Fellows	153	82.4%	14.4%	0.0%	46-50%
Taft Heights	1,865	82.5%	13.1%	0.5%	36-40%
Rosedale	8,445	83.3%	11.0%	1.2%	6-45%
Oildale	27,885	84.9%	10.1%	0.3%	70-100%
Dustin Acres	585	85.1%	10.3%	0.2%	66-70%
Valley Acres	512	87.9%	7.4%	0.6%	66-70%
McKittrick	160	88.1%	10.0%	0.0%	66-70%
Derby Acres	376	90.2%	7.7%	0%	66-70%
Tupman	227	91.2%	6.2%	0.4%	66-70%

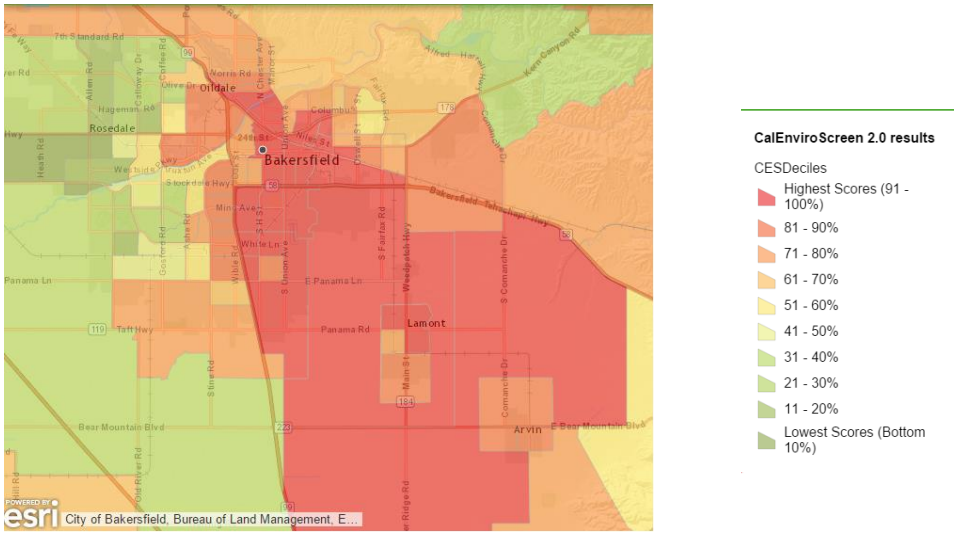
***CalEnviroScreen 2.0 Score reflects the range of percentiles of the surrounding tracts.**
SOURCES: Housing Assistance Council "Farmworkers Case Study Kern County." Office of Environmental Health Hazard Assessment (2016).

The cities and rural communities where the highest CalEnviroscreen scores are also have the greatest rates of illness, poverty, and non-white residents.

When communities are surrounded by various industries that pollute it becomes more difficult to identify the precise symptoms and causes of declining health. In Lowell Park, a neighborhood with 7,000 residents of whom 58 percent Latino, 28 percent are Black, 9 percent white, and 5 percent other, there are four hazardous waste generators and one hazardous waste Treatment Storage and Disposable Facility (TSDF). Local companies that offer their services to oil and agriculture industries include Argo Chemical Inc., Kern Steel Fabrication, SA (scrap metal) Recycling, and A C (chrome) Plating. Bordering Lowell Park is Highway 58 which contributes fumes from congested and idle traffic. The CalEnviroScreen measures this community in the 99th percentile, which means that only one percent of census tracts in California face more hazardous pollution burden scores.

Deciphering whether any symptoms of illness are due to any one of these companies' operations, to the traffic or to the waste facility is nearly impossible. In fact, it is illogical given that shutting down any one of these industries would still leave others operating and polluting. The bombardment of contamination that silently and slowly injures poor people and people of color's health is embedded into the social ecology of segregated areas. People in these communities are burdened with the responsibility of deciphering whether they are sick because of a polluting industry or because they have Valley Fever.

Figure 1: CalEnviroScreen 2.0 Score Kern County



Source: Office of Health Hazards Assessments CalEnviroscreen 2.0, Kern County, 2016.

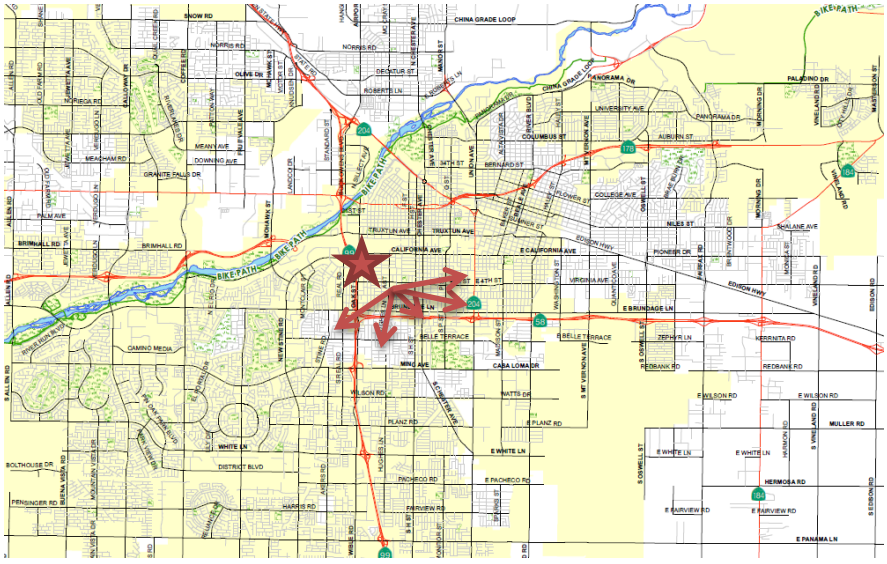
In Bakersfield, communities overburdened with toxic conditions also provide the perfect habitats for the Cocci fungus. During my field research, I found that sidewalks are largely missing in impoverished communities of color, and that many store buildings, apartments, and homes are located next to empty dirt lots. The lack of sidewalks and the

high rates of poverty suggest that people have few options except to walk outdoors and use public transportation near areas with potentially deadly dust. Although exposure to uncontrolled dust is not absolutely guaranteed to infect people with Valley Fever, this map suggests that neighborhoods in Bakersfield that are disadvantaged by social, economic, and environmental policies and practices are also threatened by exposure to Valley Fever. During the severe California drought, dust has been especially dangerous. Sporadic rain storms, radiant sunlight, and undisturbed patches of dirt combine to make conditions conducive to the generation and dissemination of Coccidioidomycosis.

Using a city map of Bakersfield and tracking where its sacrifice zones are located, I found that many exist inside what are considered unincorporated areas where Latino, Black and other working-class residents of color do not benefit from the provision of basic municipal services. [See figure 2.0.] Municipalities use zoning and incorporation practices to protect the property values of wealthy whites, while channeling environmental burdens toward communities of color (Wilson, Hudson, and Mujahid 2008: 212). These land-use policies and ordinances allegedly operating on race neutral grounds have race specific consequences. Affluent communities are likely to become annexed into the city limits because they provide high property tax revenues. These places benefit from access to waste-water disposal, police protection, garbage collection, street lights, sidewalks, storm drains and the ability to acquire meaningful assets that appreciate in value and can be passed down to succeeding generations (Tumpson Molina 2014). Incorporated areas are also likely to attract businesses, educational institutions, transit hubs, and health organizations, all which provide stable employment to residents. Unincorporated areas or communities with a greater need for services and lower property values, however, are at the borderlines of where

racial and spatial subordination converge, where the inability to accrue wealth "is cemented for generations to come," and where the political power of non-whites is limited (Tumpson Molina 2014: 186). Moreover, low property values attract zoning ordinances that allow for toxic industries to operate at maximum capacity (Sze 2006). Municipalities that encourage these unfair practices force poor residents of color to manage and navigate their health problems with fewer protections and more risks. Their increased need for resources to diagnose and treat illnesses coerce them into accruing more debt as they take time off work, seek medical emergency services, and borrow money for necessary expensive medication. For immigrants, Latino/as and Blacks, inadequate political power emanating from their legal status and their lack of employment with health insurance restrains suffering patients from demanding adequate and timely diagnosis.

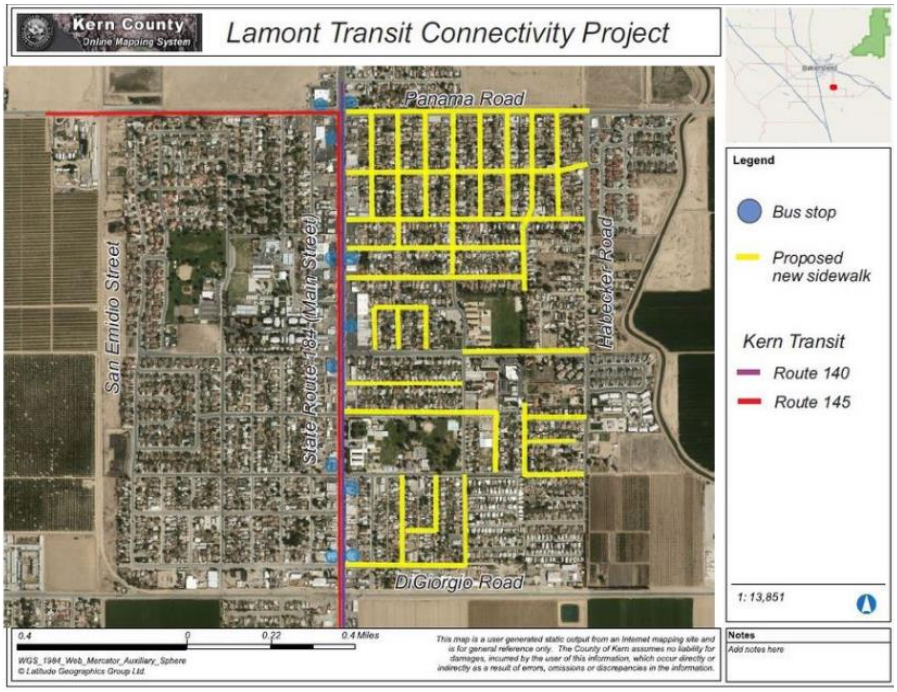
Figure 3: City Limits of Bakersfield, CA.



Source: City of Bakersfield Office of GIS Mapping, 2015.

The burdens of environmental pollution are clearly visible in unincorporated communities. Lamont, a town of fifteen thousand residents, most of whom are Latino/a, has very few sidewalks to protect residents from dust exposure. During a meeting with "Parent Partners/Padres Socios" a local grassroots organization that aims to improve the quality of life for school age children, the Active Transportation Project (ATP) announced that it was awarded $2 million dollars to build sidewalks in the area, which until then had featured only dirt paths near residences. The ATP project is expected to encourage walking and biking to schools, grocery stores, and other high use venues in town, while also reducing exposure to dust. Figure 4 below illustrates where the grant will be spent. It is likely that health improvements will follow.

Figure 4: Active Transportation Project



Source: Leadership Council for Justice and Accountability, 2015. Retrievable from http://cal.streetsblog.org/2015/12/14/another-active-transportation-victory-kern-county-improves-transit-access/

Social Ecological Perspective on Illness

Claims about the causes of Valley Fever based primarily on assumed genetic differences shield racial inequality from public examination. The health effects of poverty, prisons, and pollution are rooted in group based conditions and are experienced as systematic and institutional.

Differential access to the services of healthcare institutions combined with researcher and public health emphases on biomedical causes, cures, and treatments not only reduce the visibility of discrimination but also maintain a racial order contoured around illness. Differential rates in illness and chronic disease along racial lines are not "proof" of innate biological differences, but they often indicate the existence of social injustices (Krieger

2011). The social organization of space and distribution of wealth causes chronic disease and premature death. Davis Ansell (2017) argues that "focusing on race at a molecular level while discounting its impact at a societal level can serve only to deflect attention away from the real work that needs to be done" (61). Reversing political, economic, and social conditions and public health infrastructures that cause unequal death rates between whites and non-whites can reduce the impact of structural violence and increase overall life chances.

Racial segregation, sparse job opportunities, low wages, the fear of both crime and being criminalized by law enforcement officers, pollution, deportation, facing housing and food insecurity, and being relegated to overcrowded and underfunded health services operate in concert with efforts to heal from Valley Fever. The body's ability to protect itself from Valley Fever does not depend solely on the correct genetic or immunological order, but rather, reflects the collective and cumulative inequalities of people and place. Racial discrimination, unfavorable social conditions, and stress combine to produce chronic illness (Gee and Payne-Sturges 2004; Gee 2002; Krieger and Sydney 1996). Stress-levels are mitigated by how one evaluates situations and attends to physical health (Lazarus and Folkman 1984; McEwen 1998), but this often depends on a reliable support system and the availability of social resources in neighborhoods, which can be limited due to social control surveillance that strip residents of valuable kinships and social networks (Phillips 2012; Israel et al 2002; Kretzman and McKnight 1993). When these social and environmental factors are compromised, the body becomes more vulnerable to chronic disease and illness (Gee and Payne-Sturges 2004). Illness and chronic disease result in the "wear and tear" of

the organ system and in decreased immunity (McEwen 1998), making some groups more vulnerable to Valley Fever than others.

Stressful conditions in neighborhoods are not isolated ephemeral events, but rather a product of broader patterns of segregation that have protected the wealth and health of those able to access the privileges of whiteness. Access to affordable housing is an ongoing problem for all poor people but especially for people of color. Despite federal mandates to desegregate neighborhoods, failure to enforce fair housing laws and the enduring afterlife of restrictive covenants, mortgage redlining, racial zoning and other discriminatory practices in the housing market have made it all but impossible for significant numbers of non-whites to acquire property that builds wealth over generations (Lipsitz 2006; Hernandez 2018). The national effort to deconcentrate poverty has led to the demolition of public housing units in major U.S. cities, shifting a fraction of former tenants into mixed housing residential areas (Quality Housing and Work Responsibility Act of 1998; Crump 2003; Keen 2016). Poor residents, however, are often unable to access housing that is significantly better than the dwellings they were forced to leave, especially in city centers where gentrification and landlords who refuse to accept housing vouchers constrain the housing market (Keen 2016). In rural areas, housing shortages produce overcrowding and high rents. Educational segregation, zoning regulations, and subsidized investment policies allocate resources to wealthy neighborhoods and dish out austere and punitive environments to poor ones. Zoning areas to allow polluting industries to function at maximum capacity exposes the poor and communities of color to toxic substances (Sze 2006). Higher rates of asthma, birth defects, infant mortality, cancer, and overall lower life expectancies persist in these "sacrifice zones" (Sze 2006; Bullard 2011). The results of housing segregation, educational segregation,

unequal hiring practices, and environmental racism produce a condition of constant uncertainty, what Mindy Thompson Fullilove (2013) names the "*feeling of unexpectancy*." This feeling means that no one really knows what happens next or what adjustments and readjustments to the presence of danger in people's everyday lives will need to be made. Rational planning becomes all but impossible because of serial displacements, dispossessions and the looming specter of deportability or incarceration.

The narrow biomedical approach to Valley Fever caters to the interests and aspirations of pharmaceutical companies concerned with developing and marketing profitable vaccines. It conforms to the long and ignoble history of medical racism that continues to use the unscientific category of race as a variable in analyzing health outcomes (Roberts 2011). It enables investors and owners of agribusiness to evade responsibility for polluting the air, water, and land while compelling workers to labor under unsafe conditions, and when workers get sick, to blame them for bad choices that affect their health and housing. The biomedical model allows the state to evade the responsibilities and costs of environmental protection and promotion of public health. Sole emphasis on the biomedical approach gives prison administrators permission to move vulnerable groups from one prison to another rather than address the conditions of confinement in ways that protect all inmates from Valley Fever and other environmental hazards to inmate health. It perpetuates ineffective bureaucratic interventions that entail piecemeal solutions serving as anti-poverty measures, like covering a fraction of the costs of expensive medications, but also shifting the responsibility to identify, apply for, and go through the waiting period to qualify for help to vulnerable populations.

The voices of farm workers and former prisoners provide another view of Valley Fever. They encourage us to think about collective accountability rather than individual deficiency, to recognize the social ecology of the disease and the ruinous effects of poverty, pollution, and prisons. Their strategies, observations, and perceptions need to be considered when designing public health policies.

References

Ampel, Neil M. 2010. "New Perspectives on Cocci." Proceedings of the American Thoratic Society, 7: 181-185.

Assembly Budget Committee. 04/11/2011. "Bill Analysis: AB 94." Retrieved from http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0051-0100/ab_94_cfa_20110411_134555_sen_floor.html

Braz, Rose and Craig Gilmore. 2006. "Joining Forces: Prisons and Environmental Justice in Recent California Organizing." Radical History Review 96, 95-111.

Briggs, Charles L. and Clara Mantini-Briggs. 2003. *Stories in the Time of Cholera: Racial Profiling During a Medical Nightmare.* CA: University of California Press.

Bullard, Robert. 2011. "Sacrifice Zones: The Frontlines of Toxic Chemical Exposure in the United States. Environmental Health Perspectives, 119(6): A266.

CDCP. 2016. "Coccidioidomycosis: Risks and Prevention." Retrieved from http://www.cdc.gov/fungal/diseases/coccidioidomycosis/risk-prevention.html

CDPH. 2013. "Valley Fever and African Americans, Filipinos, and Hispanics." California Department of Public Health. Retrieved 2013 from https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/VFRaceEthnicity.pdf

2015. "Preventing Work Related Coccidioidomycosis (Valley Fever)." California Department of Public Health. Retrieved December 2015 from https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/CocciFact.pdf

California Agricultural Commissioner's Reports. 2012. Retrieved from https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/2012/201212cactb00.pdf

California Assembly Committee on Banking and Finance. 2008. "Subprime Lending and Foreclosure Crisis: Legislative Response." Retrieved on December 2017 from https://www.library.ca.gov/crb/08/foreclosure/SubprimeLending.pdf

California EBT Client Website. Retrieved 2016 from https://www.ebt.ca.gov/caebtclient/cashlocationSearch.recip

Cerrell Associates Inc. 1984. Political Difficulties Facing Waste-to-Energy Conversion Plant Siting. Retrieved 2014 from http://www.ejnet.org/ej/cerrell.pdf

City-data.com. 2017. "Information About Poor and Low-Income Residents." Retrieved December 2017 from http://www.city-data.com/poverty/poverty-Bakersfield-California.html

Cole, G.T.; J.M. Xue, C.N. Okeke, E.J. Tarcha, V Baschrur, R.A. Schaller, R. A. Herr; J.J. Yu, and C.Y. Hung. 2004. "A Vaccine Against Coccidioidomycosis is Justified and Obtainable." *Medical Mycology*, 42, 189-216.

Community Action Partnership of Kern.2015. "Food Bank." Retrieved from http://www.capk.org/programs/food-bank/

Costa Vargas. João H. 2008. "Activist Scholarship: Limits and Possibilities in the Times of Black Genocide." Pp. 164-182 in Engaging Contradictions: Theories, Politics, and Methods of Activist Scholarship, edited by Charles R. Hale. California: University of California Press.

Cox, Rebecca and Mitchell Magee. 2004. "Coccidioidomycosis: Host Response and Vaccine Development." *Clinical Microbiology Reviews*. 17(4), 804-839.

Crump, Jeff R. 2003. "The End of Public Housing as we Know it: Public Housing Policy, Labor Regulation, and the US City." *International Journal of Urban and Regional Research,* 27.1, 179-187.

Dannenberg, John E. 2013. "Valley Fever Declared a Public Health Emergency at Two California Prisons; Court Orders Prisoner Transfers." Prison Legal News. July 15, 2013. Retrieved from https://www.prisonlegalnews.org/news/2013/jul/15/valley-fever-declared-a-public-health-emergency-at-two-california-prisons-court-orders-prisoner-transfers/

Ellis, John. 2015. "Inmates Sue, Saying They Got Valley Fever While in State Prisons." The Fresno Bee. June 06, 2015. Retrieved from http://www.fresnobee.com/news/local/article23306760.html

Fullilove, Mindy Thompson, 2013. *Urban Alchemy: Restoring Joy in America's Sorted Out Cities*. NY: New Village Press.

Galgiani, John. 2014. "How Does Genetics Influence Valley Fever? Research Underway Now to Answer this Question." Southwest Journal of Pulmonary and Critical Care, 9: 230-237.

Gee, Gilbert. C. 2002. "A Multilevel Analysis of the Relationship Between Institutional Racial Discrimination and Health Status." *American Journal of Public Health,* 92: 615-623.

Gee-Payne, Gilbert C. and Devon C. Sturges. 2004. "Environmental Health Disparities: A Framework Integrating Psychosocial and Environmental Concepts." *Environmental Health Perspectives,* 112(170), 1645-1653.

Healthy Kern. 2016. “People Living Below Poverty Level.” Retrieved from http://www.healthykern.org/index.php?module=Indicators&controller=index&action=view&indicatorId=347&localeId=252

Hector, Richard; George W. Rutherford; Clarisse A. Tsang; Laura M. Erhart; Orion McCotter; Shoana M. Anderson; Kenneth Komatsu; Farzaneh Tabnak; Duc J. Vugia; Ying Yang; and John N. Galgiani. 2011. “The Public Health Impact of Coccidioidomycosis in Arizona and California.” *International Journal of Environmental Research and Public Health* (8): 1150-1173.

Hirschmann, Jan V. 2007. “The Early History of Coccidioidomycosis 1892-1945.” *Clinical Infectious Disease 44(9):* 1202-1207.

Housing Assistance Counsel. 2016. “Farm Workers Case Study: Kern County, California.” Retrieved from http://www.ruralhome.org/storage/documents/farmcase.pdf

Huang, Y. Jennifer; Benjamin Bristow; Shira Shafir; and Frank Sorvillo. 2012. “Coccidioidomycosis-associated Deaths, United States, 1990–2008”. Emerging *Infectious Disease,* Volume 18 (11): 1723-1729.

Israel, Barbara A., Stephanie A. Farquhar; Amy J. Schultz; Sherman A. James; and Edit A. Parker. 2002. “The Relationship Between Social Support, Stress, and Health among Women on Detroit’s East Side.” *Health Education and Behavior*, 29(3), 342-360.

Johnson, Brian. 2017. “How to Protect Yourself from Valley Fever.” ABC News. Retrieved December 2017 from abc30.com/health/how-to-protect-yourself-from-valley-fever/2648472/

Judicial Council of California. 2016. “California’s Three-Strikes Sentencing Law.” California Courts, The Judicial Courts of California. Retrieved from http://www.courts.ca.gov/20142.htm

Keen, Danya E. 2016. “‘We Need to Have a Meeting:’ Public Housing Demolition and Collective Agency in Atlanta Georgia.” *Housing Policy Debate*, 26(1): 210-230.

Kern Economic Development Corporation. 2012. Chapman, Richard; Cheryl Holsonbake, Mark Evans. Retrieved from https://www.co.kern.ca.us/econdev/kedc_labor_study.pdf

Kretzman, John P. and John McKnight. 1993. *Building Communities from the Inside Out: A Path Towards Finding and Mobilizing a Communities’ Assets.* IL: ACT Publications.

Krieger, Nancy. 2011. *Epidemiology and the People’s Health*. New York: Oxford University Press.

Krieger, N and S. Sydney 1996. “Racial Discrimination and Blood Pressure: The CARDIA Study of Young Black and White Adults.” *American Journal of Public Health*, 86A: 1370-1378.

Lazarus, Richard S. and Susan Folkman. 1984. *Stress Appraisal and Coping*. New York: Springer.

Lipsitz, George. 2006. *The Possessive Investment in Whiteness: How White People Profit from Identity Politics.* PA: Temple University Press.

Lynch, George Gilbert. 2006. "History of Oildale, California." December 10, 2006. Retrieved from: http://activerain.com/blogsview/1524844/history-of-oildale--california

McEwen, Bruce S. 1998. "Protective and Damaging Effects of Stress: Central Role of the Brain." *Dialogues in Clinical Neuroscience*, 8(4), 367-381.

Merickel, TR. 2017. "2015-2016 Annual Statistics Report: Kern County Probation Department." Retrieved from: http://www.kernprobation.com/wp-content/uploads/2012/01/Annual-Report-2015-2016-002.pdf

Mohney, Gillian. 2013. "Valley Fever Outbreaks Lead California to Move Inmates." ABC News. July 5, 2013. Retrieved from: https://owl.english.purdue.edu/owl/resource/583/03/

NIOSH. National Institute Occupational Safety and Health. 2016. Coccidioidomycosis (Valley Fever): Prevention in a Work Setting." Retrieved from: http://www.cdc.gov/niosh/topics/valleyfever/prevention.html

National Agricultural Workers Survey. 2005. "Findings from the National Agricultural Workers Survey (NAWS) 2001 - 2002. A Demographic and Employment Profile of United States Farm Workers." U.S. Department of Labor, Office of the Assistant Secretary for Policy, Office of Programmatic Policy, Research Report No. 9. March 2005. Retrieved from https://www.doleta.gov/agworker/report9/naws_rpt9.pdf

Ngai, Mai. 2004. *Impossible Subjects: Illegal Aliens and the Making of Modern America*. NJ: Princeton University Press.

PPIC. Public Policy Institute of California. 2015. "California's Changing Prison Population." Retrieved from http://www.ppic.org/main/publication_show.asp?i=702

Pardo, Mary. 1990. "Mexican American Women Grassroots Community Activists: 'Mothers of East Los Angeles.'" *Frontiers: A Journal of Women Studies* 11(1). Special issue, Las Chicanas (1990): 1-7. Published by: University of Nebraska Press

Pelvin, Rebecca. 2012. "Taxpayers Spend Millions on Valley Fever in Prisons." Vida en el Valle. October 14, 2012. Retrieved from http://newamericamedia.org/2012/10/taxpayers-spend-millions-on-valley-fever-in-prisons.php

Plata Medical Experts. 2013. "Salinas Valley State Prison Health Care Evaluation." Joe Goldenson, Madie LaMarre, and Mike Puisis. Published August 23, 2012. Case3:01-cv-01351-TEH

Prison Legal News. 2012. "Federal Suit Targets Dangerous, Unconstitutional Conditions in Fresno County, California Jail System." Retrieved from https://www.prisonlegalnews.org/news/2012/jul/15/federal-suit-targets-dangerous-unconstitutional-conditions-in-fresno-county-california-jail-system/

Quality Housing and Work Responsibility Act. 1998. U.S. Department of Housing and Urban Development. Retrieved from https://portal.hud.gov/hudportal/documents/huddoc?id=DOC_8927.pdf

Roberts, Dorothy. 2011. *Fatal Inventions: How Science, Politics, and Big Businesses Recreate Race in the Twenty-first Century*. NY: The New Press.

Rothenberg, Daniel. 1998. With these Hands: The Hidden World of Migrant Farm Workers Today. CA: University of California Press.

St. John, Paige. 2013. "CDC Probing Valley Fever Outbreaks in Two California Prisons." Los Angeles Times. May 01, 2013. Retrieved from http://articles.latimes.com/2013/may/01/local/la-me-ff-prisons-valley-fever-20130502

---2014. "California's Medical Prison Beset by Waste and Mismanagement." Los Angeles Times. April 12, 2014. Retrieved from http://articles.latimes.com/2014/apr/12/local/la-me-ff-prison-hospital-20140413

Sagaser v McCarthy. U.S. 176 CA. App 3d 288. (1986).

ScaryAir.Org. 2016. "Frequently Asked Questions." Valley Fever Center for Excellence. Retrieved from http://www.scaryair.org/faq.html

Shah, Nayan. 2001. *Contagious Divides: Epidemics and Race in San Francisco's Chinatown*. Berkeley, CA: University of California Press.

Smith, Charles; Demosthenes Pappagianis; Hillel B. Devline; and Margarette Saito. 1961. "Human Coccidioidomycosis." Microbiology and Molecular Biology Reviews, 25: 310-320. Retrieved 12/25/15 from http://mmbr.asm.org

Sondermeyer, Gail; Lauren Lee; Debra Gillis; Farzaneh Tabnak; and Duc Vugia. 2013. "Coccidioidomycosis- associated Hospitalizations, California USA 2000-2011." Centers for Disease Control and Prevention.

Sze, Julie. 2006. *Noxious New York: The Racial Politics of Urban Health and Environmental Justice*. MA: MIT Press.

Thompson, John. 2015. “California Spends $5Million to Screen Inmates for Valley Fever.” KPCC Health Coverage. January 15, 2015. Retrieved from http://www.scpr.org/news/2015/01/11/49218/california-spends-5m-to-screen-inmates-for-valley/

Tumpson Molina, Emily. 2014. “Race, Municipal Underbounding and Coalitional Politics in Modesto, California and Moore County, North Carolina.” *Kalfou ,1(1):180-187.*

United States District Court for Northern District of California. Order Granting Plaintiff Relief RE: Pleasant Valley and Avenal State Prison. C01-1351TEH, 12.

U.S. Census Bureau. 2014. Quick Facts: Kern County, California. Retrieved from http://www.census.gov/quickfacts/table/PST045215/06029

Wilson, Sacobe; Malo Hudson, and Mahasin Mujahid. 2008. “How Planning and Zoning Contribute to Inequitable Development, Neighborhood Health, and Environmental Injustice.” *Environmental Justice*, 1(4), 211-216.

Winslow, Dwight. 2007. “Recommendations for Coccidioidomycosis Mitigations in Prisons in the Hyperendemic Areas of California.” Retrieved from http://www.cphcs.ca.gov/docs/resources/recommendationsforvalleyfever_0607.pdf

Wolf, Steven H.; Sarah M. Simon, Laudan Aron, Emily Zimmerman, Lisa Dubay, and Kim X. Lux 2015). “How are Income and Wealth Linked to Longevity.” *Urban Institute & the Center on Society and Health.* Retrieved from http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000178-How-are-Income-and-Wealth-Linked-to-Health-and-Longevity.pdf

III. Chapter Three. Ripe for Disease: The Farm and Prison Industry

When California transitioned from Spanish colonial rule to a U.S. territory, claims about the region's biological resistance to illness arose in relation to questions about private investment in large scale farming. Eugenicists argued that the Pacific regions of the state were ideal geographies for the procreation of a "sturdier and more attractive breed" of white settlers (Nash 2007: 44). The Central Valley with its record high temperatures, however, was considered ripe for disease and thus, unsuitable for whites. By 1877, the California State Board of Health acknowledged that "scarlet fever, measles, diphtheria, influenza, typhoid, phthisis (consumption), and various forms of dysentery and intestinal disease" were part of the valley's landscape (37). At the same time, prominent California physicians in the nineteenth-century, such as Thomas Logan, argued that people with Black, Asian, and mixed-race descent were naturally immune to tropical conditions and their subsequent illnesses (Nash 2007). When Native Americans showed susceptibility to the kinds of diseases that whites suffered, like other physicians, Logan argued that their "un-civilized" behaviors would inevitably cause them to perish, so long as California continued to transform and grow. The division of wealth and health along racial lines made it seem possible and desirable to develop the Central Valley with the labor of non-whites, particularly immigrants who could be displaceable, disposable, and deportable. Under this model of colonization, white settlers saw themselves apart from nonwhites as paradoxically more vulnerable to certain diseases because of their race yet also singularly destined to enjoy the full fruits and benefits of settlement.

Contemporary claims about racially determined degrees of biological resistance to Valley Fever in the Central Valley reveal that racist ideals about health, wealth, and the development of land persist. As delineated in the previous chapter, biomedical research related to Valley Fever has flipped the old script about which racial group is more susceptible to disease, arguing that higher morbidity rates and contraction of the disease among people with Black and Asian descent are due to their allegedly compromised biology. Racial health inequalities have grown in a region where exploitative industries hold onto the rich resources and the profit yields attendant to them. The owners and top executives of agribusiness and resource extraction firms generally do not reside in the area. Their focus on the purported genetic deficiencies of people of color ignores the stark realities of exploitation and power in the Central Valley.

In this chapter about the history of industrial farming and prison expansion, I unravel how both institutions have deployed racist notions about the health of farmworkers and prisoners as part of a politics of land use development and wealth accumulation. I seek to answer the question of how these industries have influenced the health of farm workers and prisoners in the Central Valley. What is accomplished when public health authorities ignore the structures and social processes that racialize illness in the course of developing the Central Valley into a farm rich and prisoner ready land?

Early Agriculture Development

In the making of factory farms in the Central Valley, mythical fables about differences in the biology of racial groups were used to excuse and justify the exploitation of immigrants. According to these stories, the genetic makeups of Blacks and Asians made

them ideally suited for hard labor under dirty and dangerous conditions, consigned to be denied adequate nutrition, to live in crowded, dark and damp dwellings that exposed them to the risks of tuberculosis, to inhabit areas with open sewers and waste dumping sites that increased their chances of contracting cholera and malaria (Shah 2001). When members of these groups did contract diseases in large numbers, whites attributed the infirmities to their uncleanliness and biological deficiencies that allegedly posed a dangerous threat to white people.

Arguments about cultural inferiority justified the segregation and isolation of communities of color as a kind of quarantine needed to protect whites. White landlords jammed Chinese workers into tiny, dark, dirty and overcrowded dwellings. White entrepreneurs dumped the byproducts of slaughter houses and factories into open ponds near where people of color lived. White real estate agents collaborated with city officials to hoard resources and opportunities in areas inhabited by whites and to concentrate health hazards in areas inhabited by nonwhites. They presented aggressive exploitation and immiserating conditions as a form of self-defense, using the concentrations of disease in communities of color as a way of rendering the social taboo against race mixing into a biological threat to white bodies. Concentrating disease in communities of color, and blaming those communities for that concentration provided whites with an opportunity to create racially differential health opportunities, profit from the unhealthy conditions immensely, and then blame the resulting misery on their victims.

When the California agriculture industry became influential in the politics and economic interests of the state, laws guaranteed that nonwhite immigrants would continuously fuel the growing need for exploited labor. In the northern region of the

Central Valley, the labor of Chinese immigrants transformed the area from a wilderness into rich agricultural lands; they removed overgrowths of shrubs and trees, flattened lands, created irrigation canals, and harvested fields (Nash 2004). When Chinese immigrants demanded better living, and working conditions and higher wages, racist policies crushed their attempts. In 1882, the Chinese Exclusion Act suspended immigration from China for ten years and two years later, the ban became indefinite (Haney Lopez 2006). Japanese immigrants replaced Chinese immigrant workers but soon faced anti-Japanese policies as well. Although they made up less than 10 percent of the population by 1920, Japanese farm workers had acquired 450,000 acres of land in California, mostly in the Central Valley (Galarza 1977). Growers who relied on cheap and exploitable labor were outraged about Japanese immigrants' successes as farmers and land owners. Taking matters into their own hands, growers influenced state politicians to make land ownership one of the most important issues of the time. In 1913, California passed the Alien Land Law which prohibited all who were ineligible for citizenship from owning or purchasing land in the state, even if they had acquired it before 1913. Later, in the *Ozawa vs. United States* case the Supreme Court ruled that Japanese immigrants were ineligible for naturalization (Gordon-Reed 2002). The court found that Japanese and all Asians were permanently foreign in the public's imagination and therefore, not entitled to the same rights as Anglo Saxons (Haney Lopez 2006). The terms of whiteness and citizenship were defined not on the basis of loyalty to the nation or even on the color of skin but rather on the public's perception of what was acceptably white. The policies that followed further entrenched beliefs about who should work the land in the Central Valley and who should reap the

benefits associated with it. These policies established which rights and entitlements would not be shared.

The hazardous conditions of farm labor did not subside but rather grew with the rise of the agricultural industry. Aided by innovations by researchers at the University of California in engineering and technology, the Central Valley became a prime location for world class research on industrial agricultural production (Walker 2004). Improved irrigation systems, faster harvesting yields from hybridized seeds, and the mechanization of labor supported growers' efforts to open new sites for production (Nash 2007). Moreover, better freezing and storage methods along with new interstate transportation systems expanded growers' ability to reach more distant markets (Galarza 1977). Controlling the state's water system also facilitated an increased production of food in the Central Valley. By 1930, private funders invested over thirty million dollars in canals and irrigation (Galarza 1977). Connecting the state's major water resources with private funding was too risky, too costly, and too slow for agribusiness. In 1931, growers lobbied the legislature to secure federal and state funding for a massive water conservation plan. The Central Valley Project (CVP) proposed linking the Cascade Range in the northern region of the Central Valley to the Kern River in the south. It was part of the larger state water project, which aimed to connect the Shasta River and the Colorado River through dams and canals into one big infrastructure in California. Although the CVP provided water to homes and industries in the city of San Francisco, manipulating the state's natural resources also poured gorges of water into the Central Valley's major agricultural lands (US Department of the Interior 2014). Consequently, the CVP project subsidized nearly one third of farmable land in the entire state of California (US Department of the Interior 2014). The structural and

technological innovations strengthened California's agricultural economy, a powerful industry that maintains its grip in the politics of labor, land ownership, citizenship, science and technology, and resource manipulation.

The agriculture empire that controlled that land and its resources also influenced the source of exploitable labor. As early as the 1860s, the farming industry purposefully kept a diverse circulation of immigrants at work in the Central Valley; Chinese, Japanese, Armenian, Hindu, Portuguese, Yemenite, Filipino, and Mexican immigrants, each with their own language and culture were brought to toil tirelessly. (Weber 1970). After 1910, the majority of workers arrived from Mexico. An estimated half a million people were required for the peak harvest season, but less than 140,000 were local "domestic" workers or citizens (Galarza 1977). The children of immigrants were the least desirable labor force. Not only did citizens witness generational poverty, but they also brought knowledge about labor rights and skills that helped organize workers into a unionized force (Galarza 1977). Citizen bi-lingual and bi-cultural competence proceeded with organizing farm workers across ethnic lines and small victories were won after long and bloody political battles with growers (Almaguer 1994). Yet the majority of union attempts were crushed by violence and strategic force that at times ended in defeat and even death. Hiring undocumented Mexican immigrants and contracting foreign laborers who were willing to accept lower wages became a regular solution to derailing citizen workers' unionizing efforts and limiting their participation in the fields (Galarza 1977). As farm labor became more politicized, growers sought to secure a permanently replaceable and disposable work force that adapted to the ebb and flow of production, an important precondition of cyclical immiserating.

As an unwanted labor force, Mexican American workers, and the generation of workers before them were left with few options except to endure job insecurity and live in undignified segregated communities reserved for non-white farm workers. Throughout the Central Valley, Mexican American and other non-white farm working communities enjoyed the fewest resources and absorbed the most risks. Some families built homes using scrap materials, cardboard, and salvaged lumber, others used tarps, tents, or abandoned sheds (Galarza 1977). Many had little access to running water except from ditches or that which they stored in barrels which before were used for gasoline. Some labor camps provided running water and roofed housing for workers. However, labor camps charged for room and board, transportation to the work site, taxes, and state insurance (Bisharat 1975). While workers in labor camps enjoyed slightly better amenities, labor camps were set up to restrain workers from leaving debt free; many owed more money than they had earned after being charged high rates for food, rent and transportation. Despite the minimal amenities, camp sites were also ridden with infestations of malaria, tuberculosis, fevers, muscular fibrosis, and other illnesses associated with inadequate living conditions (Nash 2007). The agriculture industry's success and prominence established the permanence of the poverty and sickness among non-white employees. Transforming farm worker shantytowns into thriving and healthy communities was not part of the plans of growers and corporations (Daniel 1982). If there were schools and health clinics nearby, these were reserved for white residents or were provided in segregated facilities (Nash 2007; Abel 2004). Status as farm workers, nonwhites, and non-citizens combined to deny services and infrastructural development to those who needed them most. Denying basic services to individuals who increasingly needed them to offset very little pay advanced the calculated labor needs of

growers who relied on a disempowered domestic and immigrant population unable to organize against them.

Poor whites who migrated to the Central Valley from the states where the Dust Bowl destroyed their crops found some relief in public protections. Public health institutions were concerned with protecting against diseases poor whites who joined the ranks of the ethnically diverse farm workers (Nash 2007). The first attempt to control malaria in a farm labor camp occurred in Anderson, California aimed at "'a strikingly pure population of native born Americans" in the most northern region of the Central Valley (99). Mexicans were among the greatest number of hired foreign groups in California factory farms at this time. The common argument for undignified conditions in mostly Mexican labor camps was that most workers were expected to return "home" with their earnings. They were not expected to receive or benefit from the social service funds they paid into. The differential treatment of white and non-white labor camps became important in the development of community health clinics, which I will return to in a later section.

The living and working conditions of non-white farmworkers needed to make them displaceable, disposable, and deportable for the agriculture industry to thrive. Any attempts to challenge these conditions were crushed with physical force and with political tricks. As I describe next, the Bracero Program continued the strategy of disposing workers, while at the same time, securing the profits of the agriculture industry. Later, the rise of mass incarceration would accomplish the same objective.

The Bracero Program and Mass Incarceration in the Central Valley

The Bracero Program emerged to secure growers' control over farm labor in California. By 1940, there were an estimated one hundred thousand stable farm working residents, but they were among the most unwanted population. Public Law 45, the Bracero Program, contracted Mexican male laborers, requiring them to work the fields and then return home at the closing of each season (Calavita 1992)[2]. Public Law 45 was initially authorized for the duration of World War II in order to substitute for an alleged absence of workers who were fighting the war. The process required that growers report the number of workers needed to the American Farm Bureau Federation (AFBF) and purposely neglected the availability of domestic or citizen workers. The AFBF was prohibited from using federal money for domestic workers because they were not protected under the international agreement. The AFBF would then recruit and transport laborers from Mexico via trains or buses to growers. The number of hired braceros was often greater than that needed on the farm, leaving many Mexicans stationary and without pay. Braceros were paid at piece rates for their labor and charged exorbitant costs for room and board regardless of the availability of work. Owing more to the agricultural companies than they had earned, many braceros sought employment as undocumented workers in cities (Galarza 1977). Altogether nearly 2,000,000 Mexican braceros circulated through California between 1942 and 1960. The management of Mexican men as laborers entailed a process of dehumanization. They were segregated in remote sites and in labor camps that "limited the workers' interactions, physical mobility, visibility, and settlement, allowing the US government to depress wages and repatriate the men upon their contract's expiration, denying them the right to organize

[2] See Kitty Calavita (1992) for a discussion on how PL 45 violated the Anti-Alien Contract Labor Law of 1885.

and bargain for fair wages individually and collectively" (Rosas 2014: 7). Although the Bracero Program emerged as a temporary assistance project for growers during a surmised shortage of labor, the political strength and economic influence of growers maintained its operations without government subsidies for three years after the end of WWII (Walker 2004). With less government supervision, the outcome was an erratic operation that resulted in harsh labor treatment and further violations. Growers influenced Congress to pass Public Law 78 in 1951 after the Mexican government threatened to cancel the agreement (Calavita 1992). Congress extended the authorization of contracted labor under the condition that the Department of Labor would supervise the exchange and that the Immigration and Naturalization Service (INS) would control the flow of undocumented migrants. This agreement intended to curb the rate of labor violations persistently reported to the Mexican Consulate. The prolongation of the labor assistance project for growers meant that Mexicans and other farm workers were at the mercy of international policies and ongoing violations of labor laws. Regardless of who ran the operations, PL 45 and PL 78 secured the benefits of factory farms for growers while transferring the risks of unemployment, debt, and unhealthy conditions to workers.

Where agriculture was the principle economic enterprise, the Bracero Program served to institutionalize the revocation of farm workers' rights. Permanent farm laborers were viewed as undeserving individuals who diminished social resources (Galarza 1977). They used the public educational system for their children, accessed health care to treat illnesses associated with poverty and unsafe housing, and applied for social welfare during low harvest seasons. Even though many of these alleged resources were not comparable to

the resources granted to poor whites, anti-immigrant sentiment portrayed them as parasites rather than producers. This sentiment was further exacerbated by media representations that portrayed "illegal" border crossings by Mexicans as a problem of national security, contributing to the collapsing of ethnic identity and national citizenship as both being threats to whiteness. In previous years, the INS had kept the border a porous boundary between Mexico and the United States in order to meet growers' demand for undocumented workers who could break unionizing efforts (Calavita 1992). INS even returned undocumented immigrants directly to the grower. Caught between the demands of the public crying for safety and the needs of growers to institutionalize the Bracero Program, the INS endorsed Operation Wetback in 1951, a racist and derogatory reference to Mexicans crossing the Rio Bravo into the United State. The INS "rounded up" and deported about four million Mexicans in three years, half of whom were American citizens (US Commission on Civil Rights 1968). More than a million Mexicans were deported in 1954 alone. Together, the INS and the Department of Labor cooperated to replace undocumented laborers with a legally contracted labor force. As deportations increased. braceros were brought in to replace their ranks (Calavita 1992). Although the Bracero program appeared to be an international agreement that benefited everyone, it instead served to protect the California agricultural industry. The program guaranteed that growers' maintained wages at low levels and rendered workers mobile without interruption from unionization efforts. Moreover, it legitimized the public's strategy to cry wolf, despite the fact that many Mexican Americans were legally entitled to the same public benefits as white workers.

The end of bi-national contracted labor was important in changing the Central Valley's social and environmental landscape. The Bracero Program was scheduled to end in

1964. However, in California, the official termination date came three years later when the California Rural Legal Assistance (CRLA) filed several law suits against the Reagan administration and the US Department of Labor for their continuation of the program (Bennett and Reynoso 1972). The court ruled for a gradual reduction in contracted workers and eventually the complete termination of the program the following year. News articles publicized the complaints of agribusinesses, the State Farm Labor Service, and various political leaders who made public pleas and personal attacks against its closing. Yet, pressure from CRLA maintained the order in place. The end of the Bracero program opened up the possibility of regular labor for citizens whom had been persistently crowded out of work by braceros. More jobs signified that domestic workers could begin accumulating wealth and stability for the next generation, as well as begin improving the conditions of living in rural communities. Moreover, the closing of the program gave wind to the farm worker's movement, which was already escalating during the 1960s. Without the threat of contracted labor, domestic workers and immigrants could organize to improve working and living conditions, including combatting the dangers of pesticide exposure.

In addition to the changing social landscape, the Central Valley underwent an environmental crisis shortly after the end of the Bracero Program that set the stage for a booming prison industry. Rural communities were devastated by a six-year drought spanning from 1971 to 1977 which left many factory farms dry. California had less rainfall each consecutive year, depleting some water reservoirs to as low as 20 percent in some areas and no higher than 75 percent in less than 2 years (Robie 1978). While improved technological developments in irrigation and farming buffered some of the drought costs, $566.6 million were reported in agricultural losses from 1976 to 1977 alone. The loss of

production translated into loan debt for growers and fewer jobs for workers (Walker 2004). At the same time, a national economic crisis that became more drastic each year promised fewer options for those seeking work outside of agriculture. California unemployment grew from just under six percent in 1979 to almost eleven percent in two years (Bureau of Labor Statistics 1990). People of color were at the forefront of the unemployment battle. Unemployment for African Americans was more than double that of whites. Black unemployment was 15.5 percent in 1985, while Latino/as were 10.5 percent unemployed (US Census 1999). The rates of joblessness were growing faster in neighborhoods historically impoverished (Wacquant and Wilson 1993). Rural residents in California were more likely to request social welfare than urban residents (Gwynn 1989). The percent of urban families living in poverty was 10.6 percent in 1986; in contrast, 20.5 percent of rural families were impoverished (PPIC 2002). Immigrants and residents of color in the Central Valley were affected by decreased job security and increased uncertainty. Yet, white growers were the only group with the resources to turn bad fortune on its head. Because they owned the majority of land and water resources, growers had the capacity to sell excess land to developers and the state government (R.W. Gilmore 2007). This was a quick fix in their desperation to relieve declining earnings.

California had not always sought prison expansion as a means to advance an economic project; since the annexation of the state, prison growth had been more of an experiment. Seven prisons operated between 1851 and 1936, compared to fifteen new institutions or institutional components constructed by 1974 (Bookspan 1991). Before the era of mass incarceration, in California much of the logic behind prisons was to control the seemingly unassimilable behavior of nonwhites, especially immigrants. In 1858, more than

55 percent of inmates were foreign born. In the first annual report, prison inspectors recommended that California pass legislation to prohibit the importation of "foreign convicts or of those other persons belonging to alien and servile races," adding fuel to stereotypes about immigrant behaviors (as cited in Bookspan 1991: xviii). Although California underwent waves of prison reform, one of which was to "restore" the prisoner to acceptable standards for re-integration in society, police officers continued to target nonwhite and immigrant residents aggressively. Crimes committed by Mexicans and Mexican Americans in both rural and urban communities were punished with harsher sentences than similar crimes committed by whites (US Commission on Civil Rights 1968). The Council on Mexican American Affairs documented the testimonies of nearly 30 cases of police brutality in the Los Angeles area alone in 1966, a primary destination for Mexican immigrants (US Commission on Civil Rights 1968). In Mexican neighborhoods, police used derogatory language and without reasonable suspicion frisked adults and youth; they conducted "dragnet" arrests, placing into custody anyone near the scene of the crime. Although the Civil Rights laws were designed to protect minority residents from the abuse of power over racialized people, prisons and incarceration strategies served as sites to control the populations who had the least power.

In 1971 President Richard Nixon and California Governor Ronald Reagan began "proposing 'law and order' as the appropriate response" to national growing rates of civil unrest, which were rooted in the discontent of high unemployment and poverty (R.W. Gilmore 2007: 40). Prison expansion was introduced as a solution and became a feasible project as funding became less costly to the state's budget. Through General Obligation Bonds (GOB's) funding was made available for local communities to build prisons; these

would be paid back through tax revenues (R.W. Gilmore 2007). GOB's had funded much of the state's previous infrastructure development after WWII (Semler 2005). They were also obtained for the State Water Project that fueled the agricultural economy, road construction, as well as for building schools and universities. Prisons were an additional public utility that the state residents would pay into. Financial resources were also made available by the legislature's approval of Lease Revenue Bonds (LR's), which required no voter endorsement but depended on the public to pay the debt. These financial maneuvers made funding for prisons possible with virtually no public visibility or oversight (R.W. Gilmore 2007). Developers and rural political leaders, who were predominantly growers, packaged the projects as a good investment because they "diversified" local economies, increased the availability of jobs, and brought other development projects with them (R.W. Gilmore 2007). For rural towns that had long been overlooked by developers and who fluctuated with the rise and decline of agriculture, building a prison seemed like a reasonable proposal to maintain towns to not just survive but to thrive.

The development of prison facilities in the Central Valley resulted from collaborations among agribusiness, the state, and private financial companies' efforts in response to the economic recession and the devastating California drought (R.W. Gilmore 2007). With the collaboration of the state, private financing, and global labor trends, mechanisms were set in place to profit from surplus land, surplus labor, and surplus financial capital.

The national economic crisis and the ensuing droughts pinned urban and rural California communities in competition with each other for profitable markets. This tension was partially relieved when a prison scheduled to be built in a Mexican American

neighborhood in Los Angeles was met with strong opposition from the local community, leading to its cessation in 1991. In 1982, Governor Jerry Brown had secured $495,000,000 in general obligation bonds to construct a prison (R.W. Gilmore 2007). The proposed site in Los Angeles was suggested due to the greater proportion of prisoners coming from Southern California. When residents became aware of the siting of a state prison in their neighborhood in 1985, a movement led by the Mothers of East LA (MELA) utilized their connections in Parent Teacher Associations and their strong church membership to organize opposition, which they used to argue convincingly that the prison would further compromise their quality of life (Pardo 1998). Charging that white, wealthy, and middle-class communities would never be considered for placing prisons, MELA also organized under an environmental racism campaign. Within a span of two years of having proposed building the prison, the local government opted to site the Chemical Thermal Treatment System waste incinerator near the same community. MELA confronted the dual threat of extending the punitive arm of the state near their home along with the operation of an environmental health hazardous site for an indefinite amount of time.

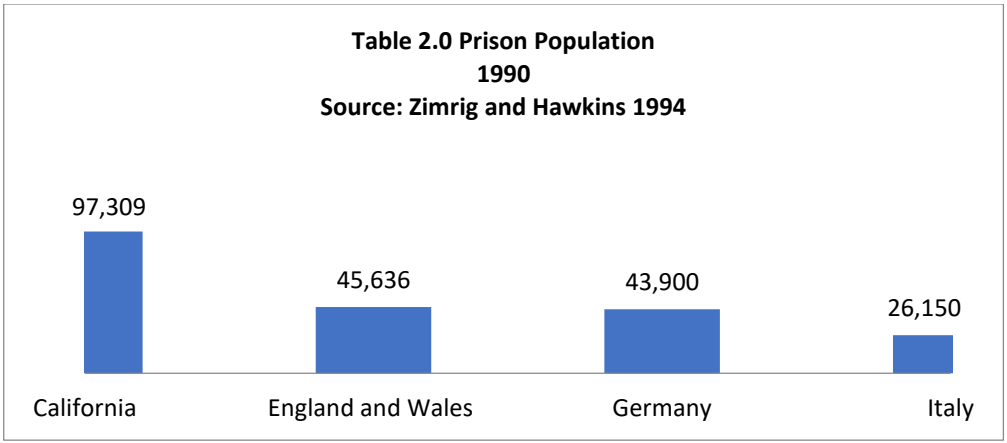
The most logical response of the state was to identify where to site prisons with the least form of resistance and then build the facilities there. This strategy was the same as the recommendation offered in Cerrell Associates' private study in 1984, a report paid for by the California Waste Management Board. The Cerrell Report investigated the availability of Locally Unwanted Land Use (LULU) for the siting of toxic industries, operations that are portrayed as necessary but highly objectionable to neighbors (Foster and Cole 2001). According to the Cerrell Report, the siting of unwanted industries is found ideally in locations that are rural, low income, low educated, above middle age, open to promises of

economic benefits, predominantly resource extraction workers, Catholic, and republican (Cerrell Associates 1984). While never directly mentioning race or ethnicity, all of these suggested that Mexican rural communities would be the best fit for toxic industries. Such locations would offer the least form of resistance because these communities had the least kind of power, stripped over the course of almost a century of agricultural politics. Mexican and Mexican American residents were the least likely to participate in local political structures that made important decisions about their communities, creating opportune locations for unwanted industries. Although the Cerrell Report was a private investigation on toxic waste sites, the disproportionate siting of state prisons and private toxic industries in the Central Valley suggest that it played a significant role in early stages of the decision-making process of prison siting. The drought added pressure to the reasoning behind using the Central Valley as the prime site for locking up prisoners, allowing the prison industry to expand with limited resistance from local communities. Growers gained more profits from selling excess lands than they would have gained waiting out the drought (R.W Gilmore 2007). The Cerrell Report along with urban resistance sealed the deal to bridging the lives of farm workers and felons in the Central Valley.

Between 1986 and 2005, twenty-two new mega prisons were built at the expense of voter debt; more than half were located in the Central Valley's drought stricken lands near predominantly Mexican farm working communities (Braz and Gilmore 2006). Already struggling with poverty from the decline in jobs and with pollution from toxic industries, prisons further made life volatile for rural residents. The prisons failed to return the economic promises developers had suggested; instead, local authorities were pressured to invest in local development projects that would attract parolees and their families to stay

permanently, or construct a second prison along the recently added facility to increase tax revenues (R.W. Gilmore 2007). The problems brought by the growth in mass incarceration facilities included growing rates of domestic violence, light and water pollution from overcrowded facilities, and hyper-surveillance from police officers on the streets. By 2010, Latinos represented 41 percent of inmates, while only 38 percent of the California population (Sakala 2014). More strikingly, while Blacks represented only six percent of the state population, they filled over one quarter of prison cells. For every 100,000 California residents, 187 people would be incarcerated in 1985 and another 320 would be incarcerated five years later (CDCYSR 1970 to 2000). The prison population quadrupled from 24,569 in 1980 to 97,309 in 2010 (CDCYSR 2000). See Table 1.0. California led the race for incarceration in the US and also surpassed the national figures in other western democracies (Zimring and Hawkins 1994). See Table 2.0.

Table 1.0
California Prison Population
1935-2000
CDCYSR (2000)



Generations of poverty and the lack of basic infrastructures in the Central Valley proved difficult to undo with a quick fix. Even the farm workers' movement, which had achieved many labor and environmental victories in the 1970s and 1980s, did not manage to obtain living and working conditions that offered a dignified way of living. Poverty, pesticide exposure, deplorable housing, and chronic illnesses such as asthma and heart disease remain higher in the Central Valley than most regions in California. The construction of prisons illustrated the priorities of the state and demonstrated who were its influential members.

After the 1980s, the distance between the agriculture and prison industries became only a few degrees of separation. Both operated in the Central Valley under the guise of doing a public good: the mass production of nutritious food to feed a growing population and the prison expansion to lock out delinquency and maintain safety in the streets. These industries, however, also produced some of the worst health consequences known in the history of California. Agriculture and overcrowded prisons have contaminated local water, soil, and air resources, split families apart, and made it particularly unsafe for workers and prisoners both inside and outside of prison. They also locked out loyal workers, suppressed creativity and intellectual capital, and squandered the potential for new expressions of democracy.

Returning to the discussion of health and industry in the Central Valley, what follows is a description of health care for prisoners and the availability of public health care for farmworkers. I explore how prisons and agriculture, as influential institutions in the state, have addressed illness for the people affected by their activities.

Public Health & the Rise of Agriculture Industry

Farmworker health care has historically been deficient and underfunded despite well documented risks to health and the quality of life. As early as 1932, the Committee on the Cost of Medical Care observed that farmworkers had an increased risk of acquiring common diseases related to poverty. President Franklin D. Roosevelt issued a rural relief program through the Farm Security Administration (FSA). Funding was meant to offset the Great Depression's impacts on "agricultural groups," which included growers, tenant farmers, and migrant workers (NCFH 2008; Grey 1989). Through low-interest loans and educational opportunities for bookkeeping and cooperative farming, the FSA helped homestead farmers to increase their chances of competing with larger growers and overall, reduce poverty and disease among workers (Grey 1989). The philosophy behind the loans was a "trickle down" effect. However, FSA strategies quickly changed when new studies on the role of bacteria in spreading illness motivated public health institutions to redefine disease control as having less to do with poverty and more with individual behaviors (Nash 2007). Public health institutions contended that controlling unsanitary environments, as opposed to curtailing poverty, would reduce the transmission of illness between people, thus stabilizing the health of low wage workers. With federal funding and a better understanding of disease, the FSA

funded the construction of more decent housing for workers, but these housing developments were primarily reserved for white Dust Bowl refugees in California (Grey 1989). This period marks an important moment in the history of farm labor and farmworker health. In some cases, attempts to improve sanitation in nonwhite labor camps were executed because they posed a serious threat to the surrounding white communities (Williams 1939). When strategies were generally targeted at nonwhite communities, growers influenced decisions by writing letters to the department of public health claiming that "these 'hoboes' or 'these Mexicans' or 'these foreigners'" would not accept improved standards of living "if they had a chance," a strategy they hoped would maintain workers as exploitable, mobile, and seasonal (Miller 1921:700). Mexican and Mexican American shantytowns were overwhelmingly left unchanged. By 1974, 488 farm labor camps failed the state's housing, safety, and sanitation standards and the failure of sanitation committees was most devastating in non-white immigrant communities (Bisharat 1975). During this early period of public concern for the health of farmworkers, racism and dogmatic anti-immigrant beliefs influenced how health institutions addressed poverty, unsanitary conditions, and threats to the general health of citizen and immigrant farm working residents. Most efforts to relieve workers of injuries to their health, however, were consistently reserved for securing the wellness of whiteness.

Just as worker's health was a national problem due to deplorable living and working conditions and scant resources, the health of white growers revealed the broader problem of accessible healthcare. An investigation on why white farmers were unable to pay their FSA loans revealed that 50 percent of unpaid loans were "directly traceable to 'bad health'" (Williams 1939). Farmers, particularly white small landholders, spent most of their

revenues paying for expensive medical bills, rather than covering the costs of loans. In their attempt to improve loan collections in Arizona and California, state and private health institutions created the Agricultural Worker's Health and Medical Association (AWHMA), a non-profit corporation to serve farmers and workers. The AWHMA provided a membership identification card to farmers and laborers who participated in the program for clinical health services, regardless of citizenship. Medical or hospital professionals billed the AWHMA for health costs. In theory, billing the AWHMA would address the need for access and affordable health care and would increase workers' and farmers' chances of surviving a treatable disease. But this system of healthcare was also divided by a color line.

While the federal government celebrated a new social healthcare program for impoverished and rural communities, discrimination against Mexicans and other immigrants was rampant throughout California's public health institutions. In 1933, the Director of the State Bureau of Tuberculosis, Edithe Tate Thompson, wrote a monthly report about Filipinos' use of hospitals in Bakersfield:

> Here, [Bakersfield's Kern General Hospital] as in many of the other general hospitals, the beds on the tuberculosis service were nearly all filled with Filipinos. Those people seem to have more complications than other races. Rarely do I see a Filipino with just a pulmonary involvement. They require very much more nursing than a white patient, and since they are so often disturbed mentally, coupled with certain groups of them carrying many superstitions, it makes life very miserable for white patients around them
>
> As cited in Abel 2004.

In the administration of public health institutions and throughout the practice of medicine, an epistemological shift aligned itself with the eugenicist movement. While medical professionals during colonization of the state believed that nonwhites and immigrants had a certain resistance to disease, public health experts in the 1930s believed

that nonwhites were mentally and culturally incompetent. It was common practice to treat people of color as a burden to the state's economy. It was also common to have segregated health clinics that were less capable of delivering services (Abel 2004). The "red-tape" that emerged and the vulgarly racist treatment that accompanied it meant that immigrants and farmworkers had to resign themselves to such treatment during a life or death circumstance, a strategy that has not entirely ended in the Central Valley healthcare system.

The national politics of improving farmers and farmworkers' health was followed by the federal government screening the health of Mexican immigrant men who came to labor as temporary contracted workers or Braceros. Within two years of the establishment of the Bracero Program, the federal government disqualified domestic farm workers from receiving AWHMA health services (NCFH 2008). Congress later turned over all farm labor health operations to the private growers, ending the free clinic program in rural communities (Weber 1970). When growers failed to offer these services, the only medical care guaranteed to Braceros were in the Mexican selection centers located in Mexico City (NCFH 2008). Under this health care model, the health of Mexicans contracted to work in the United States was contingent upon the generosity of agribusinesses, an industry that had proven itself racist, hostile, and unwilling to improve living conditions for immigrant workers. At the same time, domestic or citizen farm workers were at the mercy of health services that felt entitled to segregate nonwhites. To no surprise, California farm workers, both immigrants and citizens, utilized health services sporadically. Farm workers had the lowest rates of hospital admissions, despite having the highest rates of parasitic infections, circulatory disease, and work-related accidents, all of which required immediate medical attention (Gilbert and O'Rourke 1968). Women laboring in fields suffered perinatal deaths

at greater rates than the state average, 39.6 versus 20.6 per 100,000 residents. Although farmworkers comprised only three percent of the population, one informal study found that twenty percent of 222 deaths due to diarrhea were in farm working families (as cited in Gilbert and O'Rourke 1968). These findings suggest that the practicality of accessing and improving health for Mexican, Mexican American, and other non-white farmworkers came with extravagant and unattainable costs. The price of acquiring any type of health care often meant facing humiliation, frustration, and prolonged suffering.

The Farmworkers' Movement led by a multi-racial and multi-group alliance with roots in unionization efforts during the first decade of the 20th century, played a major role in growing national consciousness about the hazardous aspects of factory farming (Almaguer 1994). The farmworkers movement helped win concessions in health rights. Before the termination of the Bracero Program, President John F. Kennedy signed the Migrant Health Act in 1962. The act authorized Public Health Services to disburse grants specifically for migrant workers. By 1970, the Farm Workers Health Services operated 33 decentralized migrant clinics in California, covering approximately 17 counties during the peak harvest season (Weber 1970). These services did not distinguish between migrant or domestic farm workers. Unlike mainstream health clinics, migrant clinics additionally offered bilingual and educational services, and participated in camp sanitation inspections. Within ten years of operation, however, the clinics received strong criticism for only having the capacity to assist 15 percent of the state's migrant population.

The migrant health care model was a step forward toward improving workers' health. However, migrant health care centers still generally presumed that individuals were responsible for the deterioration of their health (Weber 1970). They adopted twisted versions

of the eugenicist movement and the colonial medicalization models. Clinic staff educated and trained farm workers to make better and healthier choices, as if cultural practices and behaviors made them sick. Sanitation inspections of labor camps reprimanded growers for failing to provide basic infrastructural needs; yet, labor camps were nestled between other toxic industries or next to sites where pesticide drift persistently harmed worker health. Workers were not required to exit the fields during aerial or ground pesticide applications. Policies about waiting to enter fields where pesticides were recently applied were nonexistent, creating special dangers for pregnant women. Men, women, children, and elders worked along poisonous and life-threatening conditions. They had the safety net of clinics to patch them up when they fell sick, but the rural public health model disregarded the broader social and environmental hazards. This failing approach and the foregoing failure of public health care for immigrant and domestic farm workers motivated the United Farm Workers of America (UFW) to pursue an alternative model of care.

National Farmworkers Health Group

The National Farmworkers Health Group (NFHG) was organized in 1969 by the United Farm Workers of America (UFW) union to provide comprehensive and affordable medical care to farmworkers. The philosophy of the union clinic was that the wellness of individuals came from the broader health of the community. NFHG pamphlets stressed the need for decent living and working conditions; "'people are healthy not because of good hospitals or good doctors, or good medicine. Healthy people are a product of a healthy life'" (Chamberline and Radebaugh 1976: 641). Public health meant that every aspect of what constitutes a community was healthy. Water was not only available but also safe to drink.

The air was unarguably clean, not a standard of safety established by an institution. Moreover, people had decent housing and access to good schools, earned fair wages, and could access a doctor regularly regardless of race or class.

The NFHG clinics were self-supported, operated and paid for by UFW union members. This gave the clinics more control over the services they offered, including assisting farmworkers in their own language. Member dues allowed clinics to avoid the crippling effects of defunding that many state migrant clinics had experienced before. For example, in 1973, rural health clinics funded by the California State Department of Health shared a $100,000 budget; recent cuts had required reducing staff from 28 to 4 (Bisharat 1975). By 1961, NFHG clinics were opened in Calexico, Delano, Sanger, and Salinas—prime areas that followed "la corrida" or the harvest trail.

The services provided by the UFW clinics reflected their philosophy of wellness. Primary care included "prenatal and postnatal care, child wellness, periodic screening and health exams, acute illness care, health education, and follow-ups" (Chamberline and Radebaugh 1976: 642). The Delano clinic also provided x-rays and had its own maternal clinic. A natural healer or *curandera* was hired to attend to patients who had musculoskeletal lesions from work. Community based services included health education, home screenings, advocacy for disability claims, connecting the patient to the proper agencies or clinics, and helping the patient negotiate the red tape required at hospitals. Physicians began providing health services right on the picket lines during strikes. Moreover, physicians collaborated with the union safety committee, leading to important negotiations with growers on banning harmful pesticides. The safety committee obtained hand washing dispensers to remove pesticides at work, brought toilet facilities to the fields,

and included the ban of pesticides such as *aldrin, endrin,* and *dieldrinin* in their contracts with growers four years before the Environmental Protection Agency (EPA) placed a restriction on their use.

The UFW's perspective on farm workers' health was completely distinct from the state's and the growers' points of view. The union rejected the prevailing calculations and cultural and biological assumptions about farmworkers' wellness. Instead, NFHG clinics focused on how the social and environmental conditions that damaged farmworker health resulted from severe powerlessness (Chamberline and Radebaugh 1976). Good health would come from strong communities. Healthy communities came not from accessing more doctors, but from eliminating the broader structures that sustained powerlessness.

The 1970s was the decade of hope for the farm worker movement's vision of building healthy and thriving environments. In 1972, California voters rejected Proposition 22, which would have outlawed fair union elections by requiring that farmworkers vote only when an equal number of domestic and migrant workers resided in an area (C. Chavez 1976). This would exclude the majority of migrant workers who were out during "la corrida" following the harvest, but who would eventually return and be immediately affected by the decision (Chavez, Henning, and Hartmire 1972). Additionally, it demanded a sixty-day injunction against strikes and boycotts, withholding union members from using their leverage in collective bargaining. Voters supported the farm worker movement by rejecting the proposition with a sixty percent vote. In 1970, President Richard M. Nixon signed the Occupational Safety and Health Act (OSHA) into law. OSHA reduced workers' exposure to chemicals and ensured that they had reasonable rest breaks and access to toilet facilities. The state granted OSHA the authority to conduct inspections of field sites and to enforce safety

standards through expensive penalties. The grape boycott in 1975 was also a success. A Louis Harris poll showed that 17 million Americans were participating in the grape boycott (C. Chavez 1976). Moreover, in 1977, the Head Start Program began offering bilingual and bicultural services to migrant and seasonal working families (California Head Start Association 2014). Twenty-one states established these programs to serve over 6,000 children. Perhaps one of the greatest victories for farm workers was the California Agricultural Labor Relations Act (ALRA) passed in 1975 (C. Chavez 1976). Until then, farm workers were prohibited from self-organizing and electing representatives to negotiate labor conditions. Unlike other industrial workers who were protected under the 1935 Wagner Act, farm workers did not qualify for the right to organize as a labor force. The ALRA authorized workers to have collective-bargaining rights for the first time. It also blocked growers' political leverage in the state legislature, which had historically crushed all other unionizing efforts. The Farmworkers Movement and the national support for their cause brought legal protections to rural communities, improved access to education for the youngest family members, expanded labor rights, created stronger environmental health protections, and provided union sponsored health care. Theoretically, the mortar and bricks were ready for building healthy communities for generations to come.

A ruthless conservative backlash in the subsequent decades, however, suspended the victories of the movement. Leo R. Chavez (2008) explains that in the era of law and order, Mexicans were nationally stigmatized as "illegals" despite their political gains and long historic presence in the southwest. Mexicans were characterized as a permanently foreign group, portrayed as "taking" the jobs of citizens, and accessing benefits that threatened to diminish already limited resources. The anti-immigrant policies that emerged deeply

impacted the availability of health and health care for farm workers, but also for others who had few economic and social resources.

The Production of Racial Health Disparities

The legal exclusion of immigrants from public benefits surged in the last two decades of the 20th century. In 1993, the California legislature introduced twenty-one pieces of legislation that would reduce or eliminate the rights of undocumented immigrants; among them were strict policies at work and cutting public funding for social services (Garcia 1996). The Immigration Reform and Control Act (IRCA) of 1986 penalized employers who hired undocumented workers, but also provided amnesty to over a million long-term immigrant residents. Despite the state's involvement in global factors encouraging immigration, IRCA castigated recent immigrants by giving them fewer labor protections. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 disqualified undocumented immigrants from obtaining welfare, making poverty entrenched where immigrants lived and worked in seasonal labor. In California, the highest numbers of recipients of the program during the 1990s were in rural communities and among US born children whose parents were undocumented (PPIC 2002). The US Congress placed restrictions on undocumented immigrants' use of health insurance, stipulating that they would only qualify for Emergency Medi-Cal insurance to stabilize their health (Rural Migration News 1995; Cage 2000). The state also placed block grants on Medicaid and opened bids for contracts to private physicians. This meant that Community and Migrant

Health Clinics (C/MHC) who provided care to almost 20 percent of the 43 million people lacking primary care had to compete for funding with private physicians (Henderson and Markus 1996). At the same time, the C/MHC's absorbed a greater number of patients who were rejected by private physicians because of their high risk of illness, which meant that C/MHC's would cover the higher costs of health care procedures that federal grants were unlikely to reimburse. The new restrictions were a direct blow to the farm working population. The uninsured would increasingly depend on C/MHC for health services, but these organizations were now less capable of providing care. Outraged by the disproportionate impact on immigrant health, organizations that served farm workers protested futilely on the steps of the capitol in Washington DC (Rural Migration News 1995). The unavailing results forced recent immigrants to substitute limited medical care and social welfare for alternative measures, among them dangerously waiting to qualify for emergency Medi-Cal when they became ill.

The wave of anti-immigration policies and the rise of social control and surveillance fused the relationship between felons and farm workers more closely. Proposition 187 passed by California voters in 1994 established the cooperation of law enforcement authorities and the Immigration and Naturalization Service (INS) to identify, stop, and arrest anyone who was suspected of violating the federal immigration laws (Garcia 1996). The law further sought to exclude primary and secondary education for undocumented children and the citizen children of undocumented parents. Social service providers would be required to decline serving anyone determined to be -- or suspected of being -- undocumented. Nonemergency health services, which included migrant clinics, were authorized to use this same provision. The proposition not only operated with underlying

racial implications, targeting, and criminalizing Mexican and Central Americans who represented the majority of immigrants, but also authorized public and private institutions to be reporters of "illegality" (De Genova 2002). Despite many of its provisions being ruled unconstitutional in the courts, the core premises of Proposition 187 became institutionalized in subsequent federal and state laws. Everyday life for immigrants became saturated with the risk of deportability and functioned as a form of epistemic violence against them. De Genova (2002) points out those policies purported to isolate unauthorized residents from social resources, but ignored how people flow in and out of "intimate proximity" to various categories of documented persons, documented statuses, and processes (422). The parade of conservative policies to separate the authorized from the unauthorized was a multi-scale effort to cast "illegals" as the less deserving poor. Simultaneously, these anti-immigration policies re-affirmed white sovereignty and its attendant moral entitlements of citizenship and privileged access to social resources, employment, and health care.

Increased surveillance on the streets and longer sentencing time in prisons carried out by the criminal justice authorities impacted the same communities struggling with exclusion from public benefits (Phillips 2012; Vargas 2006). Policies such as the 1988 California Street Terrorism Enforcement and Prevention (STEP) Act created a comprehensive street gang sentencing enhancement law. The STEP Act purported to discourage street gangs and drug violence by making any kind of association or assistance to them a punishable crime. These policies were enforced largely in Mexican American and Black communities. Between 1986 and 1988, federal legislation established higher penalties for the possession and distribution of crack cocaine when compared to powder cocaine,

directly targeting for sentencing the poor and people of color to prison (Bobo and Johnson 2004). These laws meant that the possession of cheap street drugs was more punishable than the possession of exorbitant amounts of expensive drugs for distribution. It also meant that drug use was socially constructed as a criminal offense, rather than a health problem. In 1992, the Federal Bureau of Investigation created the Violent Gang Safe Streets Task Force to coordinate with the surveillance of "gang" related activities. It further intended to reduce firearm and drug related violence in cities and smaller communities. By 1994, the Three Strikes Law was enacted in California. This policy required doubling the sentence of a felon who had previously been convicted of a different crime. The third conviction would automatically place the person under a sentence of 25 years to life imprisonment. Five counties in the Los Angeles region eventually contributed 60 percent of the state prison population (R.W. Gilmore 2007). The highest rates of incarceration, however, occurred in rural communities (California Sentencing Institute 2012). Policing and criminalization strategies fractured families with limited access to social resources, reduced important social networks that would otherwise prove crucial in dealing with poverty, and made entire neighborhoods susceptible to surveillance, incarceration, and the cumulative vulnerabilities of poverty, prisons, and pollution.

Recent studies on prisoners' health suggest that the legal construction of uncertainty among the poor and communities of color has a strong influence on prisoners' health and wellbeing. Preventable diseases such as hypertension, diabetes, AIDs, HIV infections, asthma, Tuberculosis, and Hepatitis B and C are more prevalent among prisoners than the general public (Jarrett, Adeyemi, Huggins 2006). Yet studies estimate that less than twenty percent of inmates acquire illness while serving their sentence. This means that prisoners'

declining health is primarily a public health matter that is dealt with during incarceration. Even after completing their sentences and obtaining care in prison health centers, however, recently released felons are more likely to suffer from bad health than the general public. Less than 10 percent of released prisoners have health insurance or medical coverage (National Commission on Correctional Health Care 2002). Moreover, receiving communities are less prepared to provide health care resources for ex-felons because they are typically disadvantaged, and resource stripped. Local "safety-net" sites such as public health department clinics and federally qualified community health clinics become ex-prisoners' primary source of support. Acquiring illness while incarcerated and being released with illness and without healthcare impacts former prisoners and the public alike.

Discussion

In this chapter, the prevalent binary relationships of power in the Central Valley are: "biological inferiority and social subordination" "white growers and non-white farm workers," "medical experts and ill patients," and the "authorized" and the "unlawful." These narratives of winners and losers built across the place-specific history of the Central Valley suggest that Valley Fever can be more broadly understood as part of a legacy of cumulative racial vulnerabilities and controlled by policies grounded in social ecology rather than biomedical approaches. Illnesses linked to the region have racialized non-white farmworkers as biologically "adequate" to resist environmental suffering and stronger than whites to tolerate physically demanding labor and conditions of poverty. Dominant narratives on illness however, have also deemed people of color as culturally "inadequate"

for averting preventable illnesses and individually responsible when they do become ill. Federal and state decisions directed at the needs of Central Valley residents have covertly justified these false narratives in their deliberate decisions to privilege the agricultural economy, public health institutions, and more recently, the punitive prison expansion project. There is a general absence of recognition of how these institutions provoke rather than revoke the continuance of racist ideals of health. Given the collaborative history of agriculture and prison expansion in the Central Valley, it is ever more imperative to examine how proposed solutions, causes and cures, related to Valley Fever are linked to investments in wealth and whiteness. It is also imperative to examine the ways in which farmworkers and prisoners today experience health care that is incompetent, underfunded, and racist and that individualizes responsibility for their acquired illnesses.

References

Abel, Emily K. 2004. "Only the Best Class of Immigration" Public Health Policy Toward Mexicans and Filipinos in Los Angeles, 1910–1940. American Journal of Public Health, 94(6): 932-939.

Almaguer, Tomas. 1994. *Racial Fault Lines: The Historical Origins of White Supremacy in California.* CA: University of California Press.

Bennett, Michael; and Cruz Reynoso. 1972. "The California Rural Legal Assistance (CRLA): Survival of a Poverty Law Practice." *Chicano/a Latino/a Law Review*, 1(1): 1-79.

Bobo, Lawrence D., and Devon Johnson. 2004. "A Taste for Punishment: Black and White American's Views on the Death Penalty and the War on Drugs." Du Bois Review 1:151-180.

Bureau of Labor Statistics. 1990. “Labor Force Statistics from Current Population Survey.” United States Department of Labor. Retrieved from http://data.bls.gov/timeseries/LNU04000000?years_option=all_years&periods_option=specific_periods&periods=Annual+Data

CDCR. California Department of Corrections and Rehabilitation. 2014. “Division of Correctional Health Care Services”. Retrieved from http://www.cdcr.ca.gov/DCHCS/MHP_Coleman_v_Davis.html

Calavita, Kitty. 1992. *Inside the State: The Bracero Program, Immigration and the INS.* London, Great Britain: Routledge Press.

California Head Start Association. 2014. “Facts and History: 2013-2014 Program Statistics” Retrieved from http://caheadstart.org/facts.html

CDCYSR. 1971. “California Prisoners 1970-1971: Summary Statistics of Felon Prisoners and Paroles.” Human Relations Agency, Department of Corrections. Research Division Administrative and Statistics Section. Sacramento California.

CDCYSR. 1980. “California Prisoners 1980: Summary Statistics of Felon Prisoners and Paroles.” Youth and Adult Corrections Agency. Department of Corrections, Administrative Services Division, Offender Information Services. Sacramento California.

CDCYSR. 1990. “California Prisoners and Paroles 1990: Summary Statistics on Felon Prisoners and Paroles: Civil Narcotic Addict Inpatients and Outpatients and Other Populations.” Youth and Adult Corrections Agency. Department of Corrections, Administrative Services Division, Offender Information Services Branch. Estimates and Statistical Analysis Section, Data Analysis Unit. Sacramento California.

CDCYSR. 2000. “California Prisoners and Paroles 2000: Summary Statistics on Felon Prisoners and Paroles: Civil Narcotic Addict Inpatients and Outpatients and Other Populations.” Youth and Adult Corrections Agency. Department of Corrections. Office of Correctional Planning. Offender Information Services Branch. Estimates and Statistical Analysis Section, Data Analysis Unit. Sacramento California.

Chamberline, R. W. and J. F. Radebaugh. 1976. “Delivery of Primary Health Care—Union Style: A Critical Review of the John F. Kennedy Plan for the United Farm Workers of America.” *New England Journal of Medicine,* 294(12): 641-645.

Chavez, Cesar; John Henning, and Wayne C. Hartmire. 1972. Ballot Argument Against Prop 22—The Agribusiness Initiative. Retrieved from https://libraries.ucsd.edu/farmworkermovement/essays/essays/MillerArchive/046%20Ballot%20Argument%20Against.pdf

Cole, Luke W., and Sheila R. Foster. 2000. *From the Ground-up: Environmental Racism and the Rise of Environmental Justice Movement.* NY: New York University Press.

Daniel, Cletus E. 1982. *Bitter Harvest: A History of California Farm Workers 1870-1941*. Ithaca, NY: Cornell University Press.

De Genova, Nicholas P. 2002. "Migrant 'Illegality' and Deportability in Everyday Life." Annual Review of Anthropology (31): 419-447.

Department of Pesticide Regulation. Exaggeration. 2012. Summary Pesticide Use Report. Retrieved from http://www.cdpr.ca.gov/docs/pur/pur12rep/comrpt12.pdf

Galarza, Ernest. 1977. *Farmworkers and the Agri-Business in California: 1947-1960*. Norte Dame, IN: University of Norte Dame Press.

Galarza, Ernesto; Herman Gallegos, and Julian Samora.1968. *Mexican Americans In the South West. California*: Santa Barbara, CA: McNally & Loftin Publishers.

Braz, Rose and Craig Gilmore. 2006. "Joining Forces: Prisons and Environmental Justice in Recent California Organizing". *MARHO: The Radical Historian's Organization Inc.*: 95-111.

Gilmore, Ruth W. 2007. *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California*. Berkeley & Los Angeles, CA: University of California Press.

Giannini Foundation. 2004. "A Stylized History of California Agriculture From 1769 to 2000." *Giannini Special Report,* 4(1). Retrieved from http://giannini.ucop.edu/pdfs/giannini04-1b.pdf

Global Community Monitor. 2014. "County Orders Additional Study on Gas Leak". Printed October 16, 2014. Retrieved from http://www.gcmonitor.org/category/arvin-ca/

Goode and Ben-Yehuda. 1994. Moral Panics: The Social Construction of Deviance. "Chapter 12: The American Drug Panic of the 1980s". Retrieved from: http://www.psychedelic-library.org/panic.htm

Gordon-Reed, Annette. 2002. Race on Trial: Law and Justice in American History. NY: Oxford University Press, USA.

Greifinger, R.; BJ Anno; and R.S. Chavez (Eds). 2002. "The Health Status of Soon-to-be-Released Inmates: A Report to Congress." The National Commission on Correctional Health Care 1(1): 1-122.

Haney Lopez, Ian. 2006. White by Law: The Legal Construction of Race. New York: New York University Press.

Jones, Lamar B. 1970. Labor and Management in California Agriculture, 1864-1964. Labor History 11:23-40.

Molina, Natalia. 2014. How Race is Made in America: Immigration, Citizenship, and the Historical Power of Racial Scripts. California: University of California Press.

NCFH. National Center for Farmworker Health .2008. "The History of Migrant Health." Retrieved from http://www.ncfh.org/pdfs/HistoryA.pdf

Nash, Linda. 2007. Inescapable Ecologies: A History of Environment Disease and Knowledge. California: University of California Press.

PPIC. 2002. "Welfare and Poverty Trends in California." *Public Policy Institute of California* Retrieved from http://www.ppic.org/main/publication.asp?i=190

Pardo, Mary. 1998. *Mexican American Women Activists: Identity and Resistance in Two Los Angeles Communities*. Temple University Press, Philadelphia.

Pesticide Action Network. 2004. "Pesticide Drift Sickens Residents". Printed January 16, 2004. Retrieved from http://www.panna.org/legacy/panups/panup_20040116.dv.html

Phillips, A. Susan. 2012. *Operation Fly Trap: L.A. Gangs, Drugs, and the Law*. Chicago, IL: The University of Chicago Press.

Prison Law Office. 2014. "Major Cases and Achievements". Retrieved from http://www.prisonlaw.com/cases.php

Quintero-Somaini, Adrianna and Quirindongo Mayra. 2004. "Hidden Danger: Environmental Health Threats in the Latino Community". National Resource Defense Council. Retrieved from http://www.nrdc.org/health/effects/latino/english/latino_en.pdf

Robie, Ronald B. 1978. "The 1976-977 California Drought: A Review." California Department of Water Resources

Rosas, Ana Elizabeth. 2014. *Abrazando el Espiritu*: *Bracero Families Confront the US-Mexico Border*. Berkeley, CA: University of California Press.

Rural Migration News. 1995. “Farm Workers Assistance Programs.” Retrieved from http://migration.ucdavis.edu/rmn/more.php?id=55

Sakala, Leah. 2014. “Breaking Down Mass Incarceration in the 2010 Census: State by State Incarceration Rates by Race/Ethnicity.” Prison Policy Initiative. Retrieved from http://www.prisonpolicy.org/reports/rates.html

Sanders, Elizabeth. 1999. *The Roots of Reform: Farmers, Workers, and the American State, 1877-1917*. Chicago, IL: University of Chicago Press.

Shah, Nayan. 2001. *Contagious Divides: Epidemics and Race in San Francisco’s Chinatown.* California: University of California Press.

USDI. United States Department of the Interior. 2014. “Central Valley Project”. Reclamation: Managing Water in the West. Retrieved from http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project

USGS. United State Department of Geological Sciences. “Current Land Subsidence in the Central Valley.” Retrieved December 2017 from https://ca.water.usgs.gov/projects/central-valley/land-subsidence-san-joaquin-valley.html

United States Commission on Civil Rights. 1968. “The Mexican American”. Retrieved from https://archive.org/details/mexicanamericanp00rowa

United States Census. 1999. “Labor Force, Employment, and Earnings.” Retrieved from http://www.census.gov/prod/99pubs/99statab/sec13.pdf

Vargas Costa, Joao H. (2006*). Catching Hell in the City of Angels: Life and Meanings of Blackness in South Central Los Angeles*. Minneapolis, MN: The University of Minnesota.

Walker, A. Richard 2004. *The Conquest of Bread. 150 Years of Agribusiness in California*. USA: The New Press.

Wacquant, Loic J.D., and William Julius Wilson. 1992. “The Cost of Racial Class Exclusion in the Inner City.” *The Annals of American Academy of Political Social Science*, 501: 8-25.

Weber, David O. 1970. “Health for the Harvesters: Decade of Hope 1960-1970.” National Center for Farmworker Health. Retrieved from http://www.ncfh.org/?plugin=ecomm&content=item&sku=4650

Zimring, Frankline E. and Gordon Hawkins. 1994. “The Growth of Imprisonment in California.” *The British Journal of Criminology*, 34 (Special Issue): 83-96.

IV Chapter Four. The Strength to Heal: Farmworkers with Valley Fever

In some parts of East Bakersfield, the streets are wide and dusty. The sidewalks are made from dirt trails that crawl along the fence lines of homes and in between drive ways. Some houses are beaten-up with chipped paint, torn roofs, and empty garden beds; others are altogether abandoned with slabs of boards sealing the windows and doors. City-Data reports that nearly fifty percent of residents in this neighborhood live below the poverty line, but one would believe that the number of struggling people is much higher. I came to this neighborhood to interview Mary who knew about my study through her sister. As I approached Mary's front door, I noticed the dirt covering the window sills and the wooden porch; even the Plymouth car parked across the lawn seemed to have withstood reoccurring spells of dust storms. Mary approached the screen door as I walked up the steps. When she opened the screen, I saw her slender body held upright with a cane in her hand. She limped as she stepped out to greet me, but when she spoke her voice was deep and stern like the ruby red that colored her lips and her midnight black hair. Mary was diagnosed with Valley Fever in 1998 and since then, she had fought off the disease twice. She was now on her third relapse.

Mary migrated as a child from Texas to the Central Valley with her parents to find work in the agricultural fields. As a young girl, Mary helped her family prepare meals while her sisters and parents worked picking crops. Occasionally, she accompanied the family to the fields but mostly stayed at home cooking. She settled in Kern County when she married

a farm worker with whom she had two children, Mario and Molly. Mary continued working from home and raising her children until an unexpected divorce changed everything. She gained employment as a waitress in various Mexican restaurants. Mary was first diagnosed with Valley Fever while working at the restaurant. She is now fifty-five years of age, living on disability insurance and battling Valley Fever for the third time. She recalls being persistently healthy, never really falling sick until she caught this disease.

Valley Fever has left physical and emotional scars on Mary. Over her left knee and on her right shoulder surgical lines mark where the disease has consumed and disabled her. Her slow movements reflect the pain she still endures. While she was preparing for one of her major surgeries, her son Mario was also diagnosed with Valley Fever. Within 12 months, Mario passed away from complications. She recalls:

> He was a mechanic. Worked for GMC, then Michelin tires. He used to have good jobs. Made good money. He was always on call. He said, "I ain't got nothing to do…I ain't got a wife." They used to call him in the middle of the night to go and he would say "okay mom I'll see you tomorrow." He was really good to me.

Mario's memory was preserved on the living room walls in pictures of him as a young boy and in a display case replete with classic lowrider toy cars that he hand built and painted. The dusty Plymouth across the lawn was one of Mario's lowriders. Mary remembered her son as a good kid who was smart and generous. He was interested in health care, but never had the opportunity to develop a career. Using online websites and news articles Mario was the one who educated Mary about the causes of Valley Fever. He was well read despite his limited education.

At the onset of the disease, Mary's chances of recuperating were diminished by external factors that were not of her own doing. She earned a very limited income and her job did not offer her health insurance. During her first episode of Valley Fever, Mary arrived at the county hospital by ambulance. While at the emergency room Mary was interrogated and remembers the derogatory tone of hospital personnel as they, classified her as a farmworker. Mary tried to explain that although her ex-husband worked in the fields, she had not worked there since her teenage years. She did not convince them, evidently because they constantly referred to her as a farmworker, and claimed she had gotten sick in the fields. As an uninsured person with low income, she was offered only the health services that are meted out to the working poor.

Mary became a regular at the hospital for six years. Her diagnosis was followed by a slow transition into treatment. An immediate obstacle for her was that the prescribed medication was too costly to purchase. During that time, she visited the hospital once a month to stabilize her condition. While there, Mary was never fully informed that the disease had disseminated into her bones. She was not informed about her general health situation. She underwent minor surgeries on her arms and upper back to remove lumps of tissue caused by Valley Fever. The lump that grew inside her knee, however, was persistently misdiagnosed as arthritis. Mary explains her disillusionment:

> I never liked that hospital… I got out of there. But I kept going back and back because I was trying to fix my (Medi-Cal) papers. But by that time, I got carpel tunnel. Yes, my arms started functioning, but they never started talking about my knee… They would say "it's just arthritis, arthritis." They never really told me the truth, you know.

After six years of treatment at the Kern Medical Center hospital, Mary obtained Medi-Cal and shifted to a private doctor. During that time, she had acquired over $20,000 dollars in debt "just on the medication" and was dealing with harassment calls from the local credit bureau for hospitals bills she could not pay. When she obtained Medi-Cal, she secured a second opinion about her health which made a tremendous difference in her overall wellbeing.

> In 2001, I started fixing my papers…but you know how it takes so long and I got (Medi-Cal) until 2005... I said, oh thank god… So, I started looking for another doctor, Dr. Amir, Dr. Mero, Dr. Forbes. That's when Dr. Amir told me "I think that's Valley Fever" [pointing to her knee] and he said, "did you get a lump right there?" Because I had a big scar. He said, "I'm the one who is going to give you surgery on your knee because if you have it, we are going to replace the whole knee." So, I said, yes okay.

In the course of being examined by a private doctor paid for by Medi-Cal, Mary received accurate information about her general health for the first time since she contracted Valley Fever.

> I felt strong enough to go through (the surgery). But we had to postpone because then I got sugar diabetes, high blood pressure. All of that came in suddenly. I was *a healthy person*! And I had to get all of those things down, my sugar, my pressure and cholesterol, and depression… Where I was going to see Dr. Johnson (KMC), I never knew nothing about the diabetes. So, [with Dr. Amir] we started working in the sugar in my body.... he started me on all kinds of pills... Finally, Dr. Amir said "Mary let's try. Are you ready?" And I said oh yes! I'm ready…. He got in there and the first thing he said when he got out "Valley Fever, you have Valley Fever." So, I said, oh god and he said, "I'll come back and talk to you."

From Mary's perspective, the health care center where she first obtained treatment had little capacity to carry out what it was supposed to do. The personnel there did not fully

inform her about the disease she had contracted, about how it had infected her bones, and that she was also suffering from other chronic illnesses. In addition to being wrongfully labeled as a farmworker for unclear reasons, they failed to explore more expensive solutions to the problems with her knee. She had to wait four years for Medi-Cal approval in order simply to receive a comprehensive exam and remove the lymph node in her knee that made it difficult to walk. More painful, however, was Mario's death from the same disease. Mario had equipped himself with meaningful knowledge about the illness, had identified the symptoms early and sought medical treatment immediately. His uninsured status, however, sent him into the same inadequate cycle of care that Mary faced. The cost of Mary's experience with Valley Fever amounted to a sizable financial debt that she could not pay and enormous emotional and psychological stress. Government subsidized health insurance from Medi-Cal partially improved Mary's circumstances, allowing her to access a private specialist and to receive individualized care. Yet, accessing government sponsored health insurance came too late for Mary's son.

Mary's case brings forward what it means to suffer from Valley Fever in the Central Valley while being a racial minority and poor: recovery is experienced as a chain of uncertainty, rife with misdiagnosis, and hampered by the high costs of medication and insurance. Medical racism and the social distance between doctors and patients results in people who are poor and not white being mistreated. The delivery of health care is structured in way that no one can really be held accountable. Mary is expected to be individually responsible for securing her wellbeing, for navigating through the web of public health departments and social security offices, pharmacies, and debt collectors. Mary's experience illustrates that the real costs of Valley Fever are not simply in paying for the

exorbitant price of treatment, but also the physical, mental health, and emotional toll that accompany medical miscommunication, misdiagnosis, and mistreatment.

In this chapter I explore my interviews with Mexican and Mexican American farm working men and women, their experiences with becoming diagnosed with Valley Fever and how they have worked to recover. What symptoms prompted them to seek health care? When did they get diagnosed? What circumstances characterized their experience with health care institutions? What did they anticipate and what was surprising about their experience?

Waiting for Health Care

Participants were prompted to seek medical attention when their symptoms persisted for as few as four days and as much as seven. These symptoms included fevers and profuse sweating, pounding headaches that got worse each day, bruising in the legs accompanied by a rash, and coughing that persisted despite consuming home remedies. Painful symptoms provoked deep concern for their health, making the absence of insurance an issue of great importance. The availability of healthcare serving low-income farm working populations produced constant frustration. Securing a doctor's health assessment at a community clinic as a walk-in patient often meant having to wait anywhere from 2 to 6 hours before being attended to by a health care professional. Many participants were aware that without an appointment they were not guaranteed to meet with a physician. Consequently, others sought Emergency Room (ER) services at a hospital. Going to the ER also meant that they

would have to wait long hours to be seen, but these patients could at least be sure that a doctor would eventually attempt to diagnose their symptoms and offer treatment.

For many participants, the frustration of receiving timely health care was compounded by misdiagnosis of their condition. Most participants described having to make multiple trips to clinics and hospitals over the course of three to eight weeks before securing a proper diagnosis. Tita's experience clearly illustrates participants' difficulty with securing an adequate intervention.

Tita and I met through a mutual acquaintance. Our interview took place in Tita's home, a modern house on a cul-de-sac at the edge of the small city of Arvin. She welcomed me inside and offered a cup of coffee while we talked. Tita described her dreadful experience with the health authorities. After three days of a strong and relentless fever, she drove herself to the local clinic as a walk-in patient. She saw a doctor but was sent home without a diagnosis or treatment: they simply asked her to go home and rest. The high fever remained for a few more days before she returned to the clinic again for help. Tita was tested for Valley Fever, but the results indicated that she did not have it. Desperate for answers, Tita called her medical doctor, Dr. Alvaro, in Guanajuato, Mexico. Her description of her the symptoms and her general location in the state of California enabled Dr. Alvaro to diagnose immediately as suffering from Valley Fever. He mailed her injections to alleviate the cough and the pulmonary infection accompanying her high temperature, but could not send the anti-fungal medication she needed because it was too costly. In a few days, the medicine arrived, after taking it, Tita waited a few more days for the medicine to take effect, but she was still in agony. Her condition prompted her husband to drive to the county hospital emergency services forty minutes away on a Wednesday night. While there,

doctors diagnosed her with pneumonia. She was given medication and sent home. By Sunday night, she was back at the hospital begging to be admitted because she could no longer handle the pain. At the brink of what she described as a near death experience, the hospital officials diagnosed her with Valley Fever and admitted her for a stay that lasted eight days.

> Well, I was discharged, and I wasn't coughing so much. I felt more or less good. We left, and we went to buy the medication. How much do you think the medicine cost? $600 dollars per month…I said, there's no way. I don't have insurance, I didn't have insurance. So, we went to Costco and we would pay per day. We would get medicine for days at a time. And later, because the doctor who looked after me at the hospital was a private doctor and charged $220 per consultation, he said that if I went to see him and paid him the consultation that he would place me in a program for the company to donate the medicine for a couple of months. In the meantime, he would try to fit me into the county program. And now here I pay $74 and I get my medicine donated, and pay $24 for the other medications.

Landing in the system of treatment was difficult to achieve. Over the course of three to four weeks, three misdiagnoses, and one international consultation, Tita finally secured a proper assessment and the necessary treatment to begin healing. In the slow progression to treatment, however, the disease claimed a good portion of her health. While sitting around the coffee table, Tita pulled out a canvas grocery bag she carries with her daily; it is half-full of medications to treat Valley Fever and the secondary effects of it, including diabetes, cholesterol, and high blood pressure. Tita's experience clearly illustrates the red-tape involved in obtaining adequate care. Had the hospital physician not offered Tita to become her primary doctor, to charge a consultation fee that was half the price of the medication, and to offer her a program that provides expensive treatment for free, Tita would have been

left to resolve her illness only with the reduced doses of anti-fungal medication she could afford to buy.

Although many doctors diagnose farmworkers properly, many more patients still face unnecessary hurdles before obtaining adequate care. Clara is participant who did not have the same luck as Tita. I met Clara at the county flea market during the first wave of recruiting participants. She was shopping with three of her children and her husband who held her arm as she slowly walked through the dusty path. Clara agreed to a 30-minute interview while her husband took the children shopping. After explaining that she currently suffered from Valley Fever, Clara also disclosed that the onset of the first symptoms occurred while she was pregnant. She was treating her Valley Fever infection with the help of Emergency Medi-Cal health insurance, which was the only health insurance she qualified for due to her pregnancy and her undocumented status. After suffering a sudden miscarriage, she lost her unborn child, her health benefits, and the prospect of recovering. Clara explained that she had not taken any medication for over a month because she could no longer afford the medicine. She projected it would cost her to pay over $500 out of pocket for treatment. Meanwhile, Clara's symptoms were slowly getting worse. In my field notes, I describe my search for medical options to help Clara on her quest.

Field Notes: I contacted the Department of Public Health. I explained to them that Clara was diagnosed with Valley Fever at a low-cost clinic. She did not have Emergency Medi-Cal insurance and did not qualify for health insurance. They first told me to call Fresno's MIA (Medical Indigent Assistance) program, I was transferred there. When the person I spoke with heard that I was talking about a Kern County resident they gave me the number of Clinica Sierra Vista. I called Clinica and asked the phone receptionist if I could talk to someone about a person who needed help paying for Valley Fever medicine. They transferred me to "Jane". I'm not sure what Jane's role is, but she knew of a clinic that would cover the costs. The only information they needed was proof of income. She told me that Clinica Sierra Vista provides discounts, but that the discounts were not significant for medication. She then put me on hold for about 3 minutes. I was given the name and number of someone else at a clinic in the city of McFarland, a rural community about 30 minutes away from Bakersfield. Jane's instructions were to contact that person ahead of time and to explain to her the situation. According to Jane, the clinic there was offering to pay for medications even when patients did not qualify for insurance, no questions asked. I called Clara to give her the information about the clinic and the person to talk to before she made the journey.

The conversation I had with medical staff revealed the various loopholes patients must navigate to obtain medication. In our conversation over the phone, Clara and I talked through the process of getting help. A week later, Clara told me that she had called to confirm the potential support for treatment and that she made the drive, but she was turned away because the clinic did not help families outside of McFarland. She was sent back to Bakersfield. Nothing was resolved. Despite connecting with several health care workers in various communities and departments and already having an adequate diagnosis, the accessibility of low-cost or reduced cost medication was denied.

Situations like Clara's and Tita's are not unusual. Participants visit clinics two or three times before they are identified and treated for Valley Fever. Only a few participants were diagnosed correctly on their first visit to a physician. Patients who are undocumented and who do not qualify for health insurance a struggle to secure treatment, although most used creative strategies to pay the full price. Programs offering to donate prescription drugs to patients were unknown to many participants until much later in their experience with Valley Fever. Thus, the health care process is best characterized by a constant uncertainty; no one really knows whether he or she will access effective health care and if they do, it is unclear how they will obtain the medicines they need.

The problem of misdiagnoses is a further injury to participants. "Champion" is a farmworker who earned his nickname because of his athletic abilities that gave him an advantage over his co-workers in cutting and packing grapes. We interviewed in his home in East Bakersfield. When I arrived, three police vehicles across the street had their red and blue lights signaling incoming traffic to drive around them, blocking vehicles coming from the opposite direction. Champion's home was surrounded by a cast-iron fence that was painted white; it wrapped around the property. The house windows were secured with the iron rods as well. In contrast to the outside scene, the inside of Champion's home was calm and serene. He invited me in and explained that he suffered the classic symptoms of Valley Fever. He had a cough, heavy sweats, and a high fever that lasted an entire week. When he became ill with the symptoms, he made the decision to stop in the middle of the grape fields and drive to a low-cost clinic because he could no longer handle the physical pain. While at the clinic, he was diagnosed as suffering from allergies. Champion took the medication the clinic prescribed, but it turned out to be ineffective and unnecessary. He returned two weeks

later with more pain. After being escorted to a patient room, he waited two hours before a doctor finally stepped in to see him. The doctor asked who had diagnosed him with Valley Fever. In agony and frustrated with their service, Champion responded: "you have just diagnosed me doctor." No one had told him he had Valley Fever or that he was supposed to take medication for that disease.

Long waits for healthcare and the uncertainty of obtaining the right diagnosis produces a deep-felt distrust of the system itself. Luis describes his decision-making strategy to get medical help at the onset of his symptoms: "I went to two [hospitals], to San Joaquin and the Kern General Hospital… because the last time I waited a long time to be seen by a doctor and over at the General Hospital, I waited a little bit less." Luis may not have arrived at the hospital in an ambulance, but he believes that his condition was grave enough to merit a faster response. The slow process prompted Luis to exit the hospital's emergency room and seek care somewhere else.

Noe, who we met in chapter two, explains that during an appointment to drain the liquid accumulating in his brain, he also felt he was forced to wait a considerable amount of time. He had no choice except walk out of the operating room:

> Well, they gave me an appointment for ten in the morning. I arrive around eight and without eating. Well, they told me to come on an empty stomach. I didn't eat in the house. When I arrive there, they didn't give me anything to eat all day or in the night. The next day, I left and "boom" I came home.
>
> Soledad: So, the doctor told him that he didn't want to see him. "Do you know where I'm going to see you?" he said, "When you're in the operating room, is when I'm going to see you."

After having waited over 24 hours without food or water, and not seen by a nurse or health attended, Noe was expected to ask the doctors for forgiveness before they would resume the surgery.

The overall medical process is very dissatisfying for Champion as well:

> I never liked [the clinic] because they would enter the room and say "why did you come? What are your symptoms? What do you have?" They would check everything and say "ok" and then leave. They didn't give me an opportunity to, or they wouldn't say anything like "how do you feel? Or "this disease comes from. You need to do this, or do that." No. They just left… No, there were no questions. Nor did they give me the opportunity to make questions. I wanted to ask them something, but no, not even that.

Prolonged waiting, incomprehensible medical exams, and misdiagnoses combine to make people seeking a health examination characteristic feel unimportant and disrespected. These findings align closely with research findings about immigrants who depend on emergency room care and their general lack of participation in "preventative" health care (Chavez, Flores, and Lopez-Garza 1992). Participants in this study reveal that few depend on health resources at all, emergency or clinical, precisely because those available are so difficult to access. Red-tape, differential processes for different kinds of and no insurance, clinics that exceed their maximum capacity to serve, and demoralizing experiences continue to push out immigrants from obtaining health care. Tita's resorting to a medical doctor in Mexico who could successfully identify her symptoms was also a prevalent strategy among other participants, suggesting not only their commitment to their health but also their desire for a dignified health care system.

For some participants, the uncertainty of medical care revolves around traveling long distances for treatment. Participants from the small city of Arvin, for example, had to

schedule their doctor and pharmacy appointments in distant cities such as Lamont, or Bakersfield. There is no local hospital and only two health clinics in Arvin to serve a population of more than twenty thousand people. Patients with Valley Fever often have to schedule follow up visits every 30 to 60 days, which can add up to sizable costs. The cost of travel to see a doctor or to pick up prescription drugs at a pharmacy depended on who was driving. Neighbors and friends charged $20 dollars for transportation to and from Bakersfield. Family members did not charge to transport their sick relatives, but they did have scheduling conflicts. The burden of distance means that rural patients are more likely to suffer from lack of resources, such as access to a Valley Fever specialist, reliable public transportation, and access to pharmacies. In this way, rural residents are likely to have hidden financial costs associated with treating the disease.

Champion, Mary, Tita, Noe, and many other participants in this study expected to expend considerable amounts of time and resources to obtain health care. Their experiences beg the question of what else is in jeopardy? What other challenges come from the uncertainty of obtaining health care? Can the distrust of the medical infrastructure and the consequences from not obtaining it cause farmworkers to be vulnerable in other ways?

Working and Recovering

Most participants in this study described recovering from Valley Fever as a costly experience. Many lost a good portion of their income by taking time off from work to seek medical care. Their employers did not provide compensation for their missed days at work. Due to the seasonal nature of farm labor, some participants were also aware that it was

unlikely they could make-up the loss of time on a different date. Instead, many prepared to seek a different position at another company when their job was done. Laboring in the fields while suffering from painful symptoms was the only available option some participants felt they had at the time. Working while sick compounds the cumulative vulnerabilities that participants confront. The social safety nets for workers that many employees in the state of California enjoy do not necessarily benefit farmworkers.

Luis illustrates this reality through his description of struggling with having to work but being so sick he needs to rest. He lives three houses down from Champion who served as Luis' mentor in many respects while healing from Valley Fever, but Luis' undocumented status did not allow him to recover in the same way, Luis' home was humble; it was guarded by a chain linked fence and screen door. The cement flooring spanned though the small living room, the kitchen, and into a private bedroom, where Estella, his wife, was getting the children ready for bed while we interviewed. A four-foot Virgen of Guadalupe portrait decorated the only wall separating the kitchen from the rest of the house. Luis described under what conditions he continued to work, even after being diagnosed.

> I believe in the Virgen of San Juan. I prayed, and I asked her to heal me because I needed to work for my children…. I went to work, but I didn't last very long and so, I left. Within 15 days from when I was diagnosed, I went to work sick, and I was taking the pills just as how they told me to do. But I did not feel well. I had this fever; I have never been through something like this. I have had a fever from the flu and they eventually go away. This last time, the fever lasted for about three weeks…. I am not a person who walks out of work. I struggled but would make it through the day, even if I was the last one out. I barely finished the day. Because I was the driver, I told my friend, hey help me drive. And when I sat down, I fell asleep. My body sweated and shook. My wife would tell me, "don't go to work anymore, don't go, I'll just go." I said that I wanted to go. But she would say that I couldn't go. I finally understood and said fine. I stayed home sleeping. She would leave, and I would stay in the sofa sleeping. How she left me was how she would find me when she returned.

Like many other participants, Luis knew that his body needed to rest; he felt exhausted, chilled, and had a strong fever. Yet, he returned to work only 15 days after being diagnosed to support his wife and their commitment to bring home a dual salary. Resting was a luxury he could not afford. Luis explained that taking a day off would mean dipping into their sparse savings, minimizing family expenses in Bakersfield and in Mexico, and letting go of dreamed of projects. As an immigrant from Michoacán, Mexico, he sends remittances to his son and mother. He plans to use his savings to reunite his son with his family in Bakersfield. Luis has no siblings or extended family. He does not qualify for disability benefits. Working while recovering was Luis' best option to maintain his family.

Returning to work with bad health goes against conventional knowledge about recovery. Healing requires rest, drinking plenty of liquids, and taking the needed medication. But for some farmworkers in this study, it is more logical to take a chance at recovering in the fields. Arturo described his reluctance to leave work until he "collapsed right there" in the fields due to the pain. Rodrigo described himself as "haciendo se el fuerte" (making himself strong) until he went to the hospital instead of work. Because not working could bring one's family into devastating financial circumstance, Luis, like many participants, opted to do the only sure thing available to earn income for his family.

Provider Communication & Farmworker Health

For participants who have authorization to work and who acquire Valley Fever, communication between health care provider and worker is essential to securing an

affordable recovery. Generally, farmworkers are not claiming as many worker's compensation claims as other workers even though they may be at higher risk of contracting Valley Fever than indoor workers. The percent of compensation cases for employees in farming, fishing, forestry, and construction account for only for twenty-two percent of cases, while industries employing indoor workers in sales and office, service, management, and professional positions claimed fifty-four percent of Valley Fever worker insurance claims (Das et al. 2012). Only one participant in this study was knowledgeable about the process of filing a claim to worker's compensation. Most participants, however, knew generally about worker insurance, disability, and unemployment rights.

When health officials are unavailable or unresponsive to signing required paperwork for worker's insurance or temporary disability, participants' healing processes are hampered. Champion was well versed in the procedure needed to claim workers' insurance; he was trained by the United Farm Workers of America in union workshops about benefits to which workers are entitled. When Champion became sick, he drew on this source of knowledge to help him through his need for income while sick. His experience, however, was fruitless. Champion explains:

> They haven't awarded me my disability yet… I do not know what the doctors are thinking. Around 15 days after (being diagnosed), they told me that they were going to give me disability. So, I told them to give me a letter that I could send [to the appropriate office]. After being admitted at the hospital, I went to a clinic, so they could give me the letter. After they gave me a form they told me to fill it out and bring it back. I filled it out immediately… I went back, and they told me to come by the next morning and that it would be done. I went and nothing. "Come on Monday or Tuesday" okay. I went. "Come Friday" okay, I went. Nothing. "We will call you when the form is ready." Well I had an appointment in 15 days. I went 15 days later, and they still did not have it ready. So, I asked them "what is going on? Look, I have more than one month without working. The law indicates that I have 45 days to send a claim. Those 45 days will come, and I will be left with nothing to claim, without benefits, with

> nothing." One needs the money to pay the bills at least, right…. That day I was there with my appointment… "While you're here fill out these papers again." And I asked, what about the one's that I filled out already? "We can't find them" … They lost them. I sent the claim very late and I still have no results.

Champion had to advocate for himself to health staff who routinely failed to meet his reasonable requests. He was still waiting to hear back from the disability office when we interviewed.

Rodrigo is another participant who was aware of his right to disability insurance. He describes an experience similar to Champion's. Rodrigo waited nine months before he secured his benefits. Unlike Champion, Rodrigo's doctor's intervention was key to securing insurance:

> The little bit of money that I had saved, well, I spent it little by little because I didn't work. And at the end, I couldn't find an exit [to my financial problem]. So, then that's when I started asking [the doctor] to send me to work because my economic situation was bad. [the doctor] told me, "there isn't any reason you should be going through a bad experience. You have always worked, right?" and I told him, yes. He said, "Disability should be giving you something reasonable, right?" and I said that I didn't get disability. "Why not?" I said, no they asked me for many kinds of proof and they didn't believe me. "Really?" so he told me, "why don't you send the forms to me? Let me see, bring me the papers and I will personally send them." They needed the signature of the doctor and all of that. And since I had been going to the doctor for some time, because I was sick, I would send the proof but no [one ever approved my case]. They denied me [disability]. So, then the doctor took it upon himself to send the papers. When the doctor sent them, then they began sending me disability [insurance].

Over the course of seeing his physician for nine months, Rodrigo submitted paperwork on his own; however, he was unsuccessful. He had no choice but to resort to the thing he knew best; Rodrigo requested his doctor to allow him to go back to work despite his

condition. Communicating his situation with the physician opened the possibility for him to obtain disability insurance.

Others who were unaware of how to submit formal claims did not receive benefits at all, despite having paid into state treasuries for such rights. Jose from Arvin explains:

> I wanted to fill out the papers [for disability] and I needed the doctor to sign them. I didn't know how to fill them out, so I didn't send them. Because when you go to the doctor due to an injury, you're supposed to take all those insurance papers with you. But when you go to get the papers filled out, they say "no well you fill out the papers, and I will turn them in, so the doctor can sign them." I never took them in because I didn't know how to fill them out and I didn't even know where to get those papers.

A general lack of transparency about where to access worker's compensation and disability forms and how to fill them out was a deterring factor for some participants.

Even when participants entered into the social safety net system for workers, either with Social Security Disability, unemployment payments or workers compensation insurance, most still faced a significant financial struggle. Noe, for example is in his 8th year of Valley Fever treatment, but only qualified for 6 months of disability insurance. Since then, his wife, Soledad, has become the breadwinner of the household. Noe's children pay for some of the medication costs while extended family members who come to visit frequently donate a couple of hundred dollars to the family when they can.

The consequences of an unsupportive social safety net can result in accruing debt. Margarita described her brother's financial challenges during the time he had Valley Fever:

> He was at the point of losing his house, but thank God, he was able to recuperate it… They made an agreement [with the lender] and they are still there…But he is very very much very in debt because he started

> covering his bills with credit cards. He would ask here and pay there, and that's how he got by.

Luis explained the substantial loan he obtained and his difficulty paying it back even after four years had passed.

> We had a little money in the bank and we lost it paying the bills and all of that. I obtained loaned money. I went to a program called *Progreso Financiero* that loans money to people who work in the fields… I asked for $1,600 dollars… Right now, I owe about $450 dollars still.

Arturo Alvarez described his losses:

> I lost it all and still, look at me, I am still recovering. Thank God, I am working right now. …My friend, this man, if it were not for him who knows what would have happened. He helped me get Medi-Cal and food stamps. And still, it wasn't enough. I lost my house.

Rodrigo describes how his co-workers collected money to help him:

> Well I spent everything that I had saved in all my life… Well, I had some money saved up and I spent it all… Since I was a supervisor, various "cuadrillas" [cohorts] cooperated. And they gave me, they helped me. Well they gathered a little something. I was very grateful. It wasn't much, but either way the action, that is what counts… Every year [the company] gives the workers a dinner and they receive $3000 to make the food but they brought it to me. I didn't want to accept the money. And the group said that they didn't want the food; that they wanted to help me, and they all helped. What is more! I was able to overcome this because my family also helped me. In other words, that is why I was able to overcome this, because they helped me. If they had not helped me, God only know what would have happened.

Participants experienced recovery as a financial catastrophe. The few resources that farmworkers rely on to combat temporary struggles are diminished when Valley Fever takes its course. Many families lose their savings acquired over long periods of time just to cover

the minimal household needs in a couple of months. Thus, Valley Fever results in a physical and financial toll, but in also in a stream of sacrifices.

Hidden Cost of Care

Farm working families in which one breadwinner is infected with Valley Fever find they have to re-arrange family responsibilities. Two women who interviewed and whose husbands acquired Valley Fever described what it is like to give care to a slowly recovering partner, to work long shifts, and to come home to enormous responsibilities. Men who were sick and who interviewed, did not describe in detail how their partner took on these multiple roles, but they did acknowledge the burdens their partners shoulder, Soledad describes her turmoil:

> The people, thank god, the people would tell me, "you can do it Soledad." You eat, if he doesn't want to eat, you need to eat. Because you are the one who is suffering. And yes, because when you have someone who is sick in the house, everyone is suffering, not just that sick person.

The symptoms that stressed Soledad included her partner's reduced appetite and interest in food, the lack of physical movement, and in some cases, depression. Additionally, there was the added burden of making ends meet with her sole pay check. Before the onset of the disease, Soledad worked in the fields. When Noe stopped working, Soledad's income alone had to cover the household expenses. Soledad reports that they did not have food to eat at various times, that they negotiated their rent payments, and had to eliminate other necessities. Although their extreme circumstance diminished, they now depend on the collective efforts of family members to make ends meet. The daughter, Sofia, helps the family by regularly taking Noe to doctor appointments and arranges to pick-up the medical

treatment in the city of Lamont. Sofia also takes care of her children in the house and her husband. Soledad's sons help pay for medication with their salaries.

Women whose partners come down with Valley Fever experience healing as a triple-shift: as caretakers, breadwinners, and mothers. The multiple roles of women signal the hidden costs of caring for an ill partner that women take on. As caretakers, women struggle to make appropriate meals. Women also drive to or find rides to various doctors' appointments, as well as pick up medications. As caretakers, women expressed having to monitor fevers, administer doses of medication, bathe their partners, tend to bowel movements, and change the patients' clothing regularly.

As breadwinners, specifically as farmworkers, women woke up early, packed their own lunch, and make food for the family. They returned after eight to ten hours of work. As mothers, they picked-up children from school or the babysitter's location, discipline their children, provide nutritious meals, and help when possible with homework. The labor of women significantly increased and there was no medical professional available to assist during this trying time. The help they received, if any, was from a close family member or friend.

Women expressed concerns about the collateral consequences serious illnesses that extend beyond financial duress. Isabel experienced a moment of panic came when she was diagnosed with Valley Fever because she remembered the tragic outcome of her friend who had died from the same disease. She did not want this tragedy to happen to her. Isabel explains:

> They were a family of six children. The husband worked in construction. Do you know what we use to call that family? The "happy family" because they were always happy; they had a good attitude, and whatever event we had, they were there. That

> family fell apart. The husband was the one who sustained the family financially. The wife worked in the fields. Her boys were young then. At this moment, I can tell you that the older two boys are ruined. They are roaming the streets now. The girls, it looks like one of them [pause], I heard that the wife re-married and [the new husband] sexually abused one of the girls. I have videos of that family, when they were with us celebrating. And the family fell apart as a consequence of that Valley Fever. The wife with her farmworker wages, with five children, lived in a trailer near the mall. So, do you think that she was going to be able to sustain her children with a wage of that kind? When the husband died, she did not receive help from anyone. And since she didn't have papers, she didn't qualify for help; not even for the children because they were not from here. All the children were born in Mexico. So, the lady returned to Mexico.

For Isabel, Valley Fever meant a possible death sentence, a disintegration of her family, and her children potentially steering towards delinquency. The circumstances that happened to the "happy-family" may be unusual, but their impact is profound and resonates with Isabel's concerns. Men and women were acutely aware that death from Valley Fever is possible and that the consequences are grave. Yet Isabel's concerns came through a lens of caretaker, mother, and worker; she was especially concerned with how Valley Fever would render her family vulnerable.

Discussion

Contracting Valley Fever is replete with uncertainty at nearly every step on the road to recovery. Health institutions are designed to provide limited services in ways that discourage patients at the onset of an illness to seek medical intervention. Entering the system of treatment entails routine waiting, with likely misdiagnoses that require two or three visits before receiving treatment for Valley Fever. Confusion about how to obtain affordable medicine extends the lag in time for identifying and treating symptoms. The health care process, which is best characterized by uncertainty, creates a social structure of

unaccountability. No one accepts responsibility for exacerbating the challenges facing farmworkers, for prolonging a proper diagnosis, or for forcing patients to have to burrow through the various programs to obtain an affordable plan for treatment.

The longer the time of suffering, the more that farmworkers' chances of returning to work are reduced. Valley Fever requires aggressive and early intervention, along with appropriate resources to treat and monitor it correctly. Unemployment means that farmworkers must draw from savings, borrow from extended kin or credit lenders, or do away with necessities such as home-ownership, a vehicle, or sending remittances home, simply to pay for the cost of care. The legal residency status of some farmworkers disqualifies them from access to social safety-net programs, making it even more difficult to secure treatment.

The hidden costs of Valley Fever expend precious and limited resources, and place farmworkers into a downward spiral of further vulnerability. Even when women take on multiple caretaking burdens, such as breadwinner, mother, and health caregiver, these are not enough to sustain a family during a long-term illness. Without sufficient and effective social and economic support in highly endemic counties, farm working families face unsustainable circumstances. Rodrigo's expression "no vamos aguantar" (we are not going to last) best fits here.

The experiences of farmworkers with Valley Fever elucidate that this disease is not an isolated phenomenon that happens to unlucky individuals, but rather a shared tragedy. People with power make decisions about what is an "appropriate" wage, how much time patients should wait for treatment, and who is fit to receive social welfare (Molina 2006).

These political decisions shape social structures that are all unfavorable to farmworkers' health and wellbeing.

Sociological concepts about how health conditions become understood through medical language, medical thinking, or a medical framework is known as the *medicalizati*on process. This idea helps us to identify powerful institutions and their role in provide patients with "scientific knowledge" about illness and with the tools to actively negotiate that knowledge to start their medical treatment (Mauldin 2016; Beard 2017). Patients enter the system of treatment through the acquisition of medical terminologies that result in gains and losses, including the relief that medicine provides and the unintended results associated with treatment. While patients play an active role in embarking on the medicalized path, the process itself relies on considerable socialization that enculturates medical thinking into patients, providing them with a "scientific" interpretation about their condition (Beard 2017), including ideas about genetic and biological deficiencies (Mauldin 2016).

In this study, participants reveal that the process to gaining knowledge about one's condition can also be characterized by a surge of uncertainty, the causes, diagnosis, and cures related to Valley Fever are often unclear. When they embark in the system of care, participants assert that it often entails punitive, embarrassing, and undesirable experiences that diminish the humanity otherwise granted to free white middle-class citizens. Some identify the structure of hospitals and community clinics as complicit in forging a deteriorating path toward recovery, rather than as allies to aid people suffering from Valley Fever. Farmworkers forged a collective consciousness about how the process to entering the system of treatment is often a ceremony that situates the authority of biomedicine as the

apex of expert knowledge while treating their observations, lived experiences, and overall competency as inferior and inadequate.

A more precise explanation of how participants in this study contract and recover from Valley Fever is through an *uncertain* medicalization process. Farmworkers enter the system of care through a process of uncertainty otherwise considered unreasonable and not experienced by privileged classes, but commonly shared among farmworkers who are relegated to the undesirable margins of health care. Every step of the medicalization process signals a "feeling of un-expectancy" such as when people are forced to wait for treatment, make adjustments to acquire medication, subject themselves to unforeseeable risks that endanger their health and the health of others, and are forced to temporarily ignore their own views about vulnerability in order to embark on a path to recovery. In other words, agency manifests itself not only with choosing to embark on the path toward medical treatment, as theories on medicalization suggest, but it also involves creatively and critically navigating uncertainty on the way to entering the trajectory needed to heal. The idea of uncertain medicalization process is informed by Mindy Thompson Fullilove's (2013) concept of *the feeling of un-expectancy* which is used to explain how interruption and uncertainty shape the lives of inner city immigrants and African Americans. Fullilove describes how the state's disinvestment in the neighborhoods of poor and vulnerable groups have left residents few options except to maneuver through unpredictable surges of danger and violence. Interruptions in daily life and the constant surge of uncertainty from new problems informs the ways in which residents protect and shelter themselves and how they relate to one another, often in ways that mirror the social dysfunction stemming from external economic and political processes such as unemployment and hyper-criminalizing practices. Various

political processes that permanently mark farmworkers as "unauthorized" further contribute to experiencing daily repression (Macias-Rojas 2017). Restrictions on qualifying for health care coverage or obtaining a driver's license or heightened surveillance in the neighborhood make everyday life feel persistently vulnerable and tractable, or as Nicholas De Genova (2002) describes as *deportable*. Building on these concepts that underscore the role of structural repression in the intimate interactions with health institutions and in the general social life of poor and vulnerable groups, participants illustrate an important facet of embarking on the medicalization process: it can be riddled with surges of uncertainty, unpredictability, and danger.

References

De Genova, Nicholas P. 2002. “Migrant Illegality and Deportability in Everyday life.” Annual Review of Anthropology, 31: 419-447.

Fullilove, Mindy Thompson. 2013. Urban Alchemy: Restoring Joy in America’s Sorted-Out Cities. New Village Press.

Macias-Rojas, Patricia. 2017. From Deportation to Prison: The Politics of Immigration Enforcement in Post-Civil Rights America. New York: New York University Press.

Mauldin, Laura. 2017. Made to Hear: Cochlear Implants and Raising Deaf Children. Minneapolis: University of Minnesota Press.

Molina, Natalia. 2006. Fit to be Citizens: Public Health and Race in Los Angeles 1879-1934. University of California Press.

V. Chapter Five. Situated Knowledge: Risk Exposure to Valley Fever

The narratives that farm workers and other people whose health has been affected by agribusiness activities construct about Valley Fever form a base of knowledge that is unlike scientific assessments of the risk of exposure to cocci. In these accounts, questions about the risk of exposure are not confined to fungi spores, previous health conditions, or genetic factors. For those most directly impacted by the disease, concerns about the quality of the air and water and about degrees of pesticide exposure play an important role in shaping assessments of the risks of contracting Valley Fever. As Julie Sze (2011) notes, community knowledge about environmental health risks are situated in questions about social power and corporate corruption. Participants question how exposure to risk is created, where the risks come from, and why certain groups and not others are exposed.

In this chapter, I organize the interviews to demonstrate three key ideas: 1) the risk of exposure to Valley Fever results from cumulative environmental hazards; 2) participants experience environmental hazards collectively but they are expected to distinguish, decipher, and attend to their injuries individually; 3) despite overt regulations aimed at reducing exposure to environmental hazards, participants experience continuous health injuries as an ongoing challenge. Participants argue that Valley Fever is an environmental health risk that is inseparable from the threat of air, ground, and water pollution, and an illness impacted by the feeble nature and lack of enforcement of the rules and practices that are meant to protect their health. They illustrate the ways in which free market economic thinking produce collective environmental health injuries and leaves individuals on their

own to find solutions. The injuries and consequences of contracting Valley Fever discussed in the previous chapter operate in conjunction with the continuous pollution burdens to produce distinctive ways of knowing about risks and exposure.

Community Knowledge

Valeria, a community organizer for an environmental justice organization in Kern County, guided me through her old neighborhood in the unincorporated town of Earlimart in Tulare County. Valeria believes that environmental conditions in the area are responsible for her daughter Emily contracting Valley Fever at age six. Valeria is not a farm worker, but she has a strong family history of relatives migrating from both Mexico and the Philippines to work in the fields. Additionally, her mother Teresa engaged in relentless activism on behalf of restricting pesticide use and protecting the health of Central Valley residents, farmworkers and non-farmworkers alike. [3] This combined family history of labor and environmental activism has helped Valeria to become an expert on the many health risks that farmworkers and other rural residents encounter from the combination of pesticides and dust.

We met in the city of Delano early in the morning, hoping to beat the Central Valley's daytime heat. During our drive to Earlimart on a narrow road that curled along almond and grape orchards, Valeria stopped the car several times to identify important changes in agricultural technology. She distinguished between old grape vineyards and newer ones; "you can see that the newer ones have a V-shape post so that the vines grow up. The grapes fall with gravity. This is less work for farm workers and it protects workers from

[3] For more information on Teresa De Anda's activism see: rememberingteresa.org

the sun… This one [the old vineyard], notice how they're just rows [the leaves grow along a wire]. The workers have to get beneath the leaves to get the grapes and they have no shade." Valeria's distinction between newer and older farm technologies importantly illustrates that agricultural work is changing fast. Then we passed a dairy farm with cows standing together beneath a large fan hanging over a stall. We drove by an almond orchard where several brown mounds stood as tall as a two-story building. "Notice that big pile right over there," Valeria called out, "those are all almonds. Imagine how many hours people had to work just to make one of those mountains!" Veering off the entrance to Earlimart we stopped to take a picture of the welcome sign reading "Earlimart, population 8,537, elevation 282 feet." The ten-minute ride from Delano to Earlimart made clear that while the new agricultural technologies benefit the worker and the farmer in some ways, farming remains no less labor intensive, strenuous, hazardous, and uninviting than it has been in the past.

We pulled up to the house where Valeria grew up and got out of the car to observe two vast fields aligned next to the quiet street. Across the intersection on our left were fields of almond trees flourishing with white flowers. In front of us was a seemingly endless view of vineyards that were sprouting leaf buds along rows of wire. Between the street and the fields was a narrow five-foot dirt path that farmers used to turn their tractors around into the next row. This street was symbolic of the institutional strength of the agricultural industry; farmers use every inch of land possible for production even when that means families nearby are exposed to the dangers of dust and chemicals.

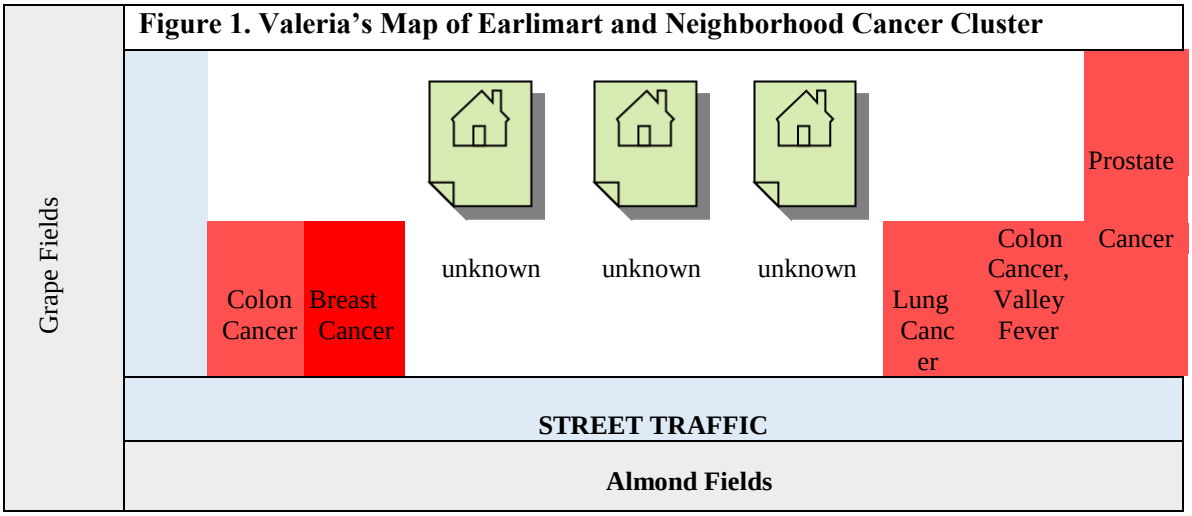
Valeria strongly believes that Emily was exposed to Valley Fever while playing in the front yard of their house in Earlimart. Constantly moving tractors operate near their

home and there are few barriers protecting residents against encroaching dust from the fields. Valeria informed me that when these fields are doused with fertilizers, fumigants, and/or other chemicals, residents across the street shut their windows in hopes of reducing breathing in these chemicals. Pesticides and dust in the air exacerbate the already existing PM_{10} (Particulate Matter 2.5-10 microns) and $PM_{2.5}$ (Particulate Matter less than 2.5 microns) pollution coming from various industries in Kern County, particularly waste processing sites, chemical production plants, truck and automobile traffic, and oil processing facilities, among others. Particle pollution is measured as the sum of all dry and/or liquid matter suspended in the air either through direct release from a source or formed out of a chemical reaction in the atmosphere (Airnow.gov 2016). Pesticides also contribute to "bad" ground ozone, a chemical reaction of Volatile Organic Compounds (VOC's) and Nitrogen Oxide (NOx) (Environmental Protection Agency.gov 2017). According to the Environmental Protection Agency, the health consequences of particle pollution include "irritation of the eyes, nose, and throat, coughing, chest tightness and shortness of breath, reduced lung function, irregular heartbeat, asthma attacks, heart attacks, and premature death in people with heart or lung disease" (airnow.gov 2016). The concentration of particle pollution and ozone in the fields creates serious respiratory problems for residents living near the fields and for farm workers toiling in them.

When Emily was recovering from Valley Fever, the air quality was a deciding factor in whether her daily activities would take place inside or outdoors. Valeria relied on the School Flag Program to make her decision. This system reports air quality for the day through a colored flag hanging on the pole below the American flag. A green flag indicates good air. A yellow flag reports that the air has moderate quality. Orange means that the air

is unhealthy for sensitive groups. Red signals unhealthy air and purple indicates that the air is very unhealthy. Based on the color of the flag, students at school are forced to adjust their outdoor activities (AirNow.gov 2015). Restricting Emily's participation outdoors, even during family functions on the weekends, was necessary to protect her health and ensure her recovery; but "it was like she was being punished, while polluters kept doing their business as usual," her mother commented. Valeria attempted to protect her daughter's recovery by remaining vigilant about the quality of the air,

Having her daughter contract Valley Fever made the toxins in dusty fields more evident to Valeria, but it was not the first time that she had come across environmental threats to her family's health. For many years, Valeria's youngest brother complained to their mother about smelling fumigants outside, his eyes burning from pesticides, and feeling dizzy. Their mother, Teresa, passed away from cancer in 2014. Before then, Teresa fervently advocated for the creation of buffer zones from pesticides near schools and dwellings. The absence of such zones struck those who knew her personally as one cause of her death. Valeria learned that many of her neighbors have suffered from similar acute health problems due to pesticide exposure. As we stood in front of her car, she pointed to each home that suffered from the loss of a loved one to cancer, including two of her uncles who lived nearby. Valeria drew a depressing map of how cancer consumed one resident after another on the same street.



Inconclusive but suggestive public health research has prefigured Valeria's observations. In 1989, the California Department of Health Services identified childhood cancer clusters in various parts of Earlimart and in the city of McFarland, fifteen miles south (Working Group on Farm Labor and Rural Poverty 1990). Health researchers sampled the soil and air for contaminants, but the information that they gathered at the time was not sufficient to prove that the unusually high rates of cancer among children were directly related to the rates of pesticides found in their surrounding environment. The results were inconclusive, in part, due to the lack of records on the types of pesticides and the amounts applied. As Julie Sze (2007) argues, cancer clusters are often inconclusive because experts rely on mainstream research methods requiring a large data set, a high threshold of statistical significances that the scientific community agrees upon, and replicability. The structure of scientific "expertise" is such that it acts as "a biased against causation and common-sense notions of causality because scientific standards are held to a higher standard of proof than nonscientific interpretation" (182). This means that the burden of proof is placed on neighborhoods experiencing environmental pollution who must mobilize community-based

research methods that reveal causation, even if the techniques and strategies may be rendered "meaningless" outside of conventional research knowledge.

Valeria explains that pesticides used during these decades and earlier remain in the local drinking water. Traces of nitrate, arsenic, and the pesticide Dibromo chloropropane (DBCP) are regularly found in groundwater wells in Earlimart, Delano, and McFarland (see the Delano-Earlimart Irrigation District Report 2007). Valeria's discovery of the patterns of chronic disease in one residential block displayed advanced knowledge about the power politics of pesticide drift. It also justifies a cumulative pollution burden framework that connect farmworkers' experiences with her own and identifies pesticides as a leading factor in assessing the risk of contracting Valley Fever.

Valeria is not against farming, but she is in favor of securing the health of residents who live near or work in the fields. She explains, "people need to eat healthy foods and at the same time people [farmworkers] need to work." Valeria contends, however, that pesticide exposure and bad health are directly correlated. She referenced a recent study about pesticides. Researchers determined that pesticides damage the cerebral nervous system, which was found consistent with the growing rate of autism and learning disabilities among Latino/a school age children in the Central Valley (see Californians for Pesticide Reform 2012). Despite the knowledge about the risks of pesticides to people's health, Valeria noted that agribusinesses continue to use millions of pounds of pesticides each year. In 2011, farmers in the county applied over twenty-eight million pounds of pesticides (28,160,997), making applications of pesticides near public schools in California a serious public health concern (California Department of Pesticide Regulation 2012 and 2015; Isabella Z. 2016). Agri-businesses are required to adhere to public regulations on

environmental concerns. Yet when pollution occurs, individuals are left on their own to resolve the injuries to their health.

Mari is a Mexican woman in her mid-forties who shares views similar to Valeria's. Mari explains her concern about the coupling of pesticides and Valley Fever during our conversation in the office of the Committee for a Better Arvin (CBA), a grassroots organization that graciously allowed me to conduct interviews in their conference room. The office simulates a board room with an oblong table that is large enough to fit eighteen people. A window opens out into a dusty field across the street. The city's high school is barely visible across the open land, and a couple of oil rigs rhythmically move their anvil heads up and down as they extract the crude oil from beneath. We scheduled our interview in this office. While I waited at the table for Mari, from the window I could see her crossing the street. Mari arrived at the office on foot with her daughter and her grandson who slumped inside of a stroller. She wore a brown skirt at knee length, a fitted shirt with purple flowers that hugged her thicker waist, and yellow flip-flops. Her hair was tied back in a bun. With her children examining the pictures on the wall of CBA protests and newspaper clippings, Mari explained how she encountered both pesticides and Valley Fever while working in the fields. She begins her interview by describing an aerial pesticide application nearby that poisoned her:

> I was taken to the doctor right away because I was working in the fields when I began feeling sick. What happened was that we were *piscando* [picking/harvesting]. We were working and in the fields just in front [of us], they started fumigating. I cannot remember what was growing in the fields. I breathed in the fumigants. All that day and since then, I began to feel bad. I could not work any longer. I just kept laying down and stayed laying down. The supervisor told me, "you know what, you are sweating too much. You better rest and if you begin to feel a little better then you

> can continue working. And if not, you will have to wait here until we are done so that we can take you home." …I was diagnosed with Valley Fever in Lamont. The day that I got it, I felt several things. I had a lot of coughing, a high fever…When I went to the doctor they told me that I had Valley Fever because the red spots [on my legs] had turned black. The doctor came in [to the patient room] and said, "you have Valley Fever" when she saw the rash on my legs, the marks.
>
> Author: Let me see if I understood. You were working in a field when someone sprayed the fields nearby? How close were you from that field?
>
> Mari: It was an airplane spraying. It was across the street. The smell [of the chemicals] was strong. I figured that since that moment, I began to feel bad. I got a flu. I had a high fever. I had all of that. When they took me to the doctor, they gave me plenty of medicine because I had that flu. [They said] that I had part of it in my lungs… I don't remember what they said but that I had a lot of it. And I asked them, what am I going to die from? Because they had given me a lot of medications.

Mari clarified that other workers complained of smelling the chemicals also, but she was the only person who collapsed in the fields that day. Mari believed that exposure to pesticide drift made her sick and made her vulnerable to Valley Fever symptoms to the point of physical damage. The day she was exposed to pesticides, her church brother drove her to a clinic twenty minutes away. The initial doctor who saw her was puzzled by the symptoms and sent for another physician to conduct a second exam. Mari was diagnosed with Valley Fever, but no one addressed the pesticide poisoning that she experienced. After the pesticide drift incident and the eruption of her Valley Fever symptoms, Mari did not return to work for five months.

Mari did not see her contracting Valley Fever as simply based on her exposure to fungi spores. Rather, she contended that the aerial spray of fumigants played an important role in the painful condition erupting. Throughout the United States, approximately 20,000 farm workers suffer from pesticide poisoning each year, although many more cases are

likely to be unreported (Farmworker Justice 2013). In theory, agricultural employees are protected under the Worker Protection Standard (WPS), a federal regulation that requires employers to apply the minimum safety precautions when using pesticides on farms (Environmental Protection Agency 2017). The federal law stipulates that workers are not allowed to enter fields where pesticides have been applied recently and that the fields must undergo a Restricted Entry-Interval (REI) of 12 to 48 hours, depending on the crop and the method of application (Environmental Protection Agency 2017b). In California, the Pesticide Regulation Department requires that applications be prohibited if "there is a reasonable possibility of harm to people or property" (CDPR 2017). In Mari's case, however, it is unclear whether these minimum safety standards were applied because certain chemicals fall under exceptions to these rules. Nonetheless, for Mari and her co-workers, the conditions pose a considerable danger to their wellbeing.

When I asked Mari to explain where she thinks Valley Fever comes from, the exposure to cumulative environmental pollution burdens was central to her answer:

> Well it comes from everything that is collected in the air, in the smog. Everything that accumulates, the pesticides and all of that. They are in the wind, the air, all of that. That is what gets trapped together and what I believe we breathe. And from all that comes from the garbage dump site, where people throw away their trash. You know, sometimes all sorts of their aromas come all the way here. I believe it is all those things that makes people sick…. People start to feel sick. Your body starts hurting, your chest and lungs, and your head hurts. That is when you begin to ask, what is wrong with me?

For Mari, exposure to Valley Fever fungus spores did not occur in isolation but rather in combination with other sources of pollution that occur locally. At the time when Mari and I interviewed, the city of Arvin was frequently plagued by releases of odors from an old recycling waste center known as Community Recycling and Resource Center (CRRC). The

facility was in the preparation stages for transitioning into a site for *Recology*, a company that would begin to ship in organic recycling materials from Los Angeles and essentially "clean-up" the mess left behind by CRRC. In 2011, city officials closed the CRRC waste facility. The Committee for a Better Arvin organized against CRRC and put pressure on the public officials upon learning about the death of two brothers working for CRRC -- Eladio and Armando Ramirez, who died breathing hydrogen sulfide while clearing a blockage in an eight-foot-deep drainage tunnel (Camacho 2015). From 1993 until 2007, the CRRC contributed to Arvin's poor air quality by failing to provide an odor management plan, releasing unknown gasses into the air at odd hours of the night when regulators were not working, and by processing unauthorized substances that caused toxic sludge to spill into ground water. There was also little oversight since it was operating under an expired license for nearly 10 years. When Mari described her vulnerability to Valley Fever, she pointed to the spraying of pesticides near her place of work, the poor air quality coming from smog, and the inadequacy of regulators to monitor waste operations. Mari's health was affected by these forms of pollution happening nearby. The environmental health injuries were collective, but she was expected to resolve them individually.

Elisa was a farmworker in Arvin who resolved her history of accumulating health injuries by moving to the state of Utah where the quality of life seemed less hampered by environmental pollutants. Elisa and I connected over the phone upon a recommendation from an active member of Committee for a Better Arvin. Elisa's husband, Jorge, caught Valley Fever in 2003, six months after moving from Oxnard to Arvin. Elisa explained that the company that Jorge worked for in the coastal community of Oxnard transferred their

operations to the Central Valley. Jorge and Elisa left with the company to pack fruits and vegetables in the outskirts of the city of Arvin. Elisa explains how Jorge fell ill.

> He first had flu symptoms. He would sneeze and sneeze, then he had a bad cough and it was getting worse. He went to the doctor and they said it was just a flu. Within a few days later he had a higher fever and many chills. So, he kept taking the medicine that the doctor had prescribed him. But it was not going away, and he returned to the doctor. They told him that he had a strong flu and possibly bronchitis. They gave him more medicine for that. He began to feel stronger pains behind his head and on his back. That is when we decided to go see a doctor in Tijuana. The doctors could not figure out why he had such a strong fever, but they said that they were going to run very advanced tests. We went for the weekend, so by Monday [in Arvin] he still had a very strong fever. The chills and the pain on his back, he could not handle it any longer. That is when the doctor [in Arvin] ran some x-rays on his back. The doctor asked him 'are you working in the fields?' and he said "yes, I'm working at a packing house where they pack peaches." So, the doctor said, "Well, you have Valley Fever. The bad news is that you have an advanced stage of it in your lungs." That's the reason Jorge's back hurt so much. He had so much trouble breathing, he could not breathe. The doctor explained that it was kind of like a virus and that it can attack the lungs and head, and he said that Jorge had it in both. Within two weeks, Jorge lost 30 or 40 pounds, I think. He was sick. Until recently, he was still taking medication. He feels better now. But for many years, he was taking medication. Jorge asked the doctor, "How long am I going to have to take medication?" And he said, "Look, I'm going to tell you the truth. While you do not leave, you are going to have this disease because this disease is found in this place. This place has Valley Fever. Until you do not leave to a place that is fresher, a place that is not like here, you are always going to have to take medication."
>
> *Author: When the doctor said it was in the Valley and that while here he had to take the medicine, did the doctor explain anything else?*
>
> He said that the chemicals that they use there [in the fields], all the dust that is there, since there is so much dust around the fields, maintained the virus alive. The chemicals that airplanes spray the fields with and the dust from the fields, since there is so much wind, that dust and the heat, all contribute so that the virus in him stays active. So, the treatment that he receives maintains the virus asleep. He said, "if you do not want to take any more medication and you have the possibility of leaving this place, then I suggest that you better leave." It has been since 2003 until recently that he has taken medication for Valley Fever. So, that is almost 13 years. The thing

> is that the medicine is just to control or maintain the Valley Fever virus count low, but at the same time it is damaging his liver.
>
> *Author: Did the doctor recommend that you go to Utah, a specific place, or how did you end up in Utah?*
>
> No. The truth is that I came to visit some relatives who moved here and when I came, I saw that the environment was nice, and I liked it. I asked him [Jorge], why don't we move over there? We did not have any plans to leave anywhere because we had our home and everything in Arvin. Leaving to another place meant that we had to start all over. And we are older in age now and one thinks about starting over as a little heavier to bear, more difficult. But I came first, and I liked the environment. Nothing looked contaminated. Arvin is a ditch. I suffered enough. I also suffered from high blood pressure and depression. And over here [Utah] I felt calm and well. I told him [Jorge] you should come over here so that you can see how the environment is and how it could help you recover. He said he would look, and he came for a month. He said that he had felt well. He came here in November and in January he stopped taking his medication.

To gain clarification, I pressed Elisa about how Jorge was feeling since refusing to participate in taking medication that controls the Valley Fever count in his body. Elisa explained that every day Jorge looked better and had more strength.

Like Valeria's testimony about using the School Flag Program to monitor her daughter's outdoor activities, Elisa watched how the pollution accumulating around them affected Jorge's recovery and how it damaged their overall wellbeing. In Spanish, Elisa described Arvin as "un hoyo." The literal English translation is "hole" but the connotative meaning of "hoyo" is a hovel, a small and unpleasant place due to ongoing pollution that seemed unregulated and unenforced. I did not have to imagine Arvin only metaphorically as a hub for pollution, however. When I drove into the city to recruit participants for this study on the long stretch of road along Bear Mountain Blvd, I often noticed tractors applying pesticides in the open fields and creating dust clouds with each movement. Although they were nearly a quarter mile away from the main road, the pesticide drift was close enough to

stain my windows with white specks. When I left meetings of the Committee for a Better Arvin in the night time, without fail I could smell the stench of spoiled food and rotting mud. The unpleasant scent came from the old community recycling center. For Elisa, the environmental pollution in Arvin contributed to Jorge's physical ailment and stifled his recovery. Clean air and an opportunity to be well were vital to his healing.

Valeria, Mari, Elisa, and other people like them have attached meaning to the cumulative environmental health risks in relation to Valley Fever. It is not easy to quantify and isolate each pollutant from the vast and diverse operations. It is even more difficult to demonstrate that the problem with Valley Fever stems from the systematic production of pollution. Yet, the community based knowledge employed by Valeria, Mari, Elisa, and others enable vulnerable populations to develop resourceful strategies to protect their health. Elisa moved away to a safer environment. Valeria continues to organize against collective exposures to pesticide drift. These are efforts to improve health derived from an analysis that focuses on social ecology rather than physiological susceptibility alone.

Individual Strategies

Farm workers aware of the problem of dust exposure and its connection to Valley Fever have taken their own initiatives to protect their health and the health of others from deadly dust. I met "El Tigre" through his wife Lupe in Arvin. We interviewed at their house on a Saturday morning to discuss how Valley Fever had affected them. When I arrived, Lupe was waiting in the driveway ready to greet me. She smiled warmly and approached to shake my hand. Lupe explained that she was renting a bed in the basement. We walked together toward a one-story white and blue wooden house, taking a sharp turn on the side of

the house where the basement stairs were located. I could feel warm air on my face as we climbed down; the humidity began to cling to my skin. Entering the basement, a bare light bulb from a floor lamp brightened the room. Through the corner of my eye and past the shade, I made out the concrete blocks that comprised the walls of the basement, as well as piping on the ceiling that hung tight and secure. In the dark room, there were two beds neatly arranged against the wall. A small dinner table stood in the middle of the room. A stove and refrigerator hid underneath the staircase, and a large doorframe led into another hallway to the other half of the house. Lupe placed a chair for me and offered me a soda to drink while she took a seat on the bed next to El Tigre.

El Tigre's real name is Victor. He found work in the Central Valley three years ago after spending several years in Oxnard, California working in the agricultural fields there. When he arrived in Arvin, he accepted a job pruning almond trees. He heard about Valley Fever from other workers who warned him of the symptoms and the risks. It was not hard to believe that harvesting almonds could lead to this disease. The elaborate process of harvesting includes shaking almonds out of the trees that disperses all the dust that has settled on top of them, placing piles of nuts on the ground using blowers and sweepers that separate debris, and removing the leaves from the almonds by vacuuming them up and packing them up. At each stage of the almond harvest, a big tractor creates giant clouds of dust. El Tigre pointed out that the tractor used had no protective shield for the driver, leaving the worker vulnerable to breathing whatever substance may have accumulated in the dust. Moreover, there was no process to hose down the dust with water while the worker made his way through the fields, leaving the worker and other workers nearby vulnerable to breathing the visibly threatening dust.

Being the vociferous person that he is, El Tigre expressed his concern to his supervisor. "I didn't want to get Valley Fever in the almond fields, so I told the boss that I was leaving to pick grapes with the other group instead." For an entire harvest season, El Tigre worked cutting grape bunches from the vine and placing them into baskets on the floor. He would then walk the heavy baskets to the tables located at the front of the row where someone else would pack them into plastic containers and stack them into other baskets to be shipped off to warehouses. After the season ended and work slowed down significantly, El Tigre's boss sent him and a small crew of workers to an empty field behind the Tejon Outlets, a shopping center located at the junction of Highway 5 and Highway 99. Their task was to clear the area behind the shopping center of debris, including the infamous tumble weeds that grow abundantly in this section of the Central Valley. Since the grape season had ended, he accepted the temporary job to help make ends. El Tigre remembers raking up the debris with a distinct smell hanging in the air, which he associates with Valley Fever. Within a week, he and another co-worker contracted Valley Fever. While being paid a fraction of the price for an odd job requested by wealthy land owners, El Tigre paid the full cost and suffered the ramifications of long-term unemployment, medical bills, and bad health.

In another case, Isabel, who we met earlier in chapter four, describes her own precautions to protect herself and others against Valley Fever. Isabel caught Valley Fever while working outside in the fields. The need to provide economically for her family drove her to return to work in the fields after a yearlong recovery. Having gained experience with this environmental disease, she took extreme precautions while working. We sat outside at a park bench where she elaborated on her strategies to cope with dust:

> The doctor told me "you can live your life regularly; you just need to simply take care of yourself. If you go the fields, you cover your face in a certain way. Take precautions; cover yourself and a little bit more. You are healed now. You are fine. But you can have a relapse the same as anyone else." I asked him, so can it come back? "Yes." So, then I went back to work and I took my precautions. I do not know if you have seen how the women cover their faces in the fields. I wore a face cover beneath [the scarf], a mask… When I was there, the people would look at me strange. And sometimes I think they would make fun of me because it looked like a beak. "What is wrong Isabel? Do you want a kiss, or do you have a beak?" So, I would get embarrassed for having to explain to everyone that I had Valley Fever. In the fields, I can tell you that there are a lot of naive people that do not know how things are, they do not know... I returned to work in the fields. I worked one year and a second year. During the third year I could not work any longer because I lost my voice again. There were moments that I could not even talk because of the dust. So, then I got scared and I stopped. I did not go back, and I left… The supervisor knew about my disease. I told the manager that I could not pack fruit or cut it… I cannot do that work because there is too much dust.
>
> One time they put plastic over the vines and they did not warn me. You know how they cover the whole grape aisles with plastic so when the rain comes the grapes do not get wet, right? They did not warn me. I went to work. They made a change of plans that day; they were going to cover the grapes. Well, I was already there. There was no way for me to go home. Just seeing at the dust, my head started hurting. It hurt all day. I had to give this man a mask who was at the very front of the line placing the plastic [over the grapes] because he was the one who was exposed to the most dust. His whole face was full of dust. The sweat, he was sweating because he was working with speed, so all his shirt was wet, drenched. He had clumps of mud from all the dust. The man was sneezing and sneezing. I went to my car and I gave him a breathing mask. You see these people, and they have no idea of all injuries that the dust could cause. It is the necessity [to work]. But a lot of people working in the fields are breathing the dust full of dirt and there is no information about what could happen. And if they did have it, well, they would just have to take it because the necessity is bigger.

Both Isabel and El Tigre were aware of the dangers of dust exposure while working in the fields. They both requested accommodations from their supervisors to work in a less dusty environment. They identified the lack of protections that their labor entailed, but they were bound to the conditions of the job as their bosses defined them. Unexpected and rapid weather changes made the tasks less predictable and therefore, less accommodating to

Isabel's health. The end of the harvest season left El Tigre with no recourse except to become an irregular low wage laborer. Workers like El Tigre and Isabel found that no efforts beyond their own were made to shield them from toxic dust. El Tigre's and Isabel's experiences elucidate that although supervisors and employers know about the relationship between dust and Valley Fever, workers are the only ones who attach real importance to it. Employers did not offer workers protective breathing masks, nor did they reduce workers' exposure to dust by providing closed cabins in machines or wetting the dirt with water as tractors lifted clouds of dust into the air.

Discussion

When I asked participants about their exposure to Valley Fever, they revealed the moral crimes committed against them in the form of pesticide drift and hazardous air quality that exposed them to the dangers of the disease. State and local policies that regulate pesticide applications, buffer zones, and acceptable levels of particulate matter and noxious air establish thresholds that ignore their cumulative and continuous injuries on populations likely to be exposed. Medical experts who situate the risk of exposure of Valley Fever in individuals who have health problems dismiss the concentration of environmental health hazards in neighborhoods and occupations inhabited by Latino/as, Blacks and other racialized minorities as natural and stemming from poor health choices by individuals (Lipsitz 2006). Participants, however, possess a knowledge bank that treats health as dynamic, as a multidimensional condition that is sensitive to and affected by various events, contexts, and politics, identifying cumulative environmental health hazards as central to the risk of exposure to Valley Fever.

Although participants in this study are not credentialed experts on environmental health hazards, they are positioned to create new knowledge about the places and tasks associated with contracting Valley Fever because they experience their everyday lives as "raced subjects in concert with deadly health consequences" (Lipsitz 2006, 27). Participants' dust management strategies while attending to job requirements, providing their own breathing masks, and advocating for alternative tasks are preferred over waiting futilely for employers to adopt safety practices and implement the protections in place. Participants are self-aware that their strategies are not always successful; yet, they can reduce their chances of exposure to dust and pollution when their employers are unwilling to do so.

Mobilized residents who are engaged in the politics of environmental health and scientific knowledge can produce meaningful outcomes. As Julie Sze (2007) notes, community-based environmental health research can meaningfully improve traditional risk assessments created by expert authorities in environmental science and medicine. When communities work together with scientific experts, they create better knowledge through an improved understanding of the intersections of disease and race, class, and place. Collaboration with community-based research aim to improve rather than discount science by expanding what is assessed, raising questions such as "who is producing the risk, who benefits from this production of risk, and why certain groups and not others are exposed" (Sze 2007, 181).

The authoritative experts in science and medicine regularly neglect to integrate laypersons' knowledge. They dismiss evidence that comes from people with limited educational backgrounds and an absence of scientific training. Consequently, scientists and

public health experts resort to understanding the role of laypersons as objects to be studied in research rather than as subjects capable of being active participants (Epstein 1995). It is not that laypersons have no knowledge, but rather for experts, layperson knowledge is qualitatively inferior compared to the rigor of science. Steven Epstein (1995) warns that this consensus on the production of scientific knowledge dangerously portrays lone scientists as the sole developers of new knowledge. This top-down approach dichotomizes "experts" from "citizens" along class and racial hierarchies (Sze 2007; Wynne 1996).

The genuine participation of "lay" persons in research can meaningfully reshape biomedical research and reinvigorate therapeutic regimens (Epstein 1995). Using the AIDS movement as an example, Epstein documents how people with AIDS inserted themselves into the biomedical research agenda and the public health decision-making process. The AIDS movement provoked self-help groups, health educators, journalists, advocacy organizations, people with AIDS or HIV and other members of the affected community to engage with how patients received care and how treatment regimens reached the affected communities. This system of seemingly counter-knowledge was not in opposition to expert knowledge, but rather complemented the evolution of science.

Julie Sze (2007) notes that popular epidemiology, the process through which laypersons gather statistical data, creates new knowledge, and assembles the resources that experts can meaningfully advance and improve to science. Popular epidemiology in the form of health surveys and alternative environmental research projects can expand the categories that are considered important for inquiry and the methods for interpreting new information (Sze 2007). The "bucket brigades" and health surveys implemented by environmental justice activists of Richmond, California and in Cancer Alley in Louisiana

have taken air samples of “bad air” and submitted the samples to a laboratory for various tests (Sze 2007). The “grab samples” and the labs that are privately contracted by residents produce data about toxic releases that are in par with what regulators and companies use to document air quality. Perhaps most important, popular participation in research can promote new research questions that experts would otherwise regularly ignore.

The participation of ordinary people in projects of popular epidemiology can help to identify “many cases of bad science” such as studies fueled by secret investigations or studies that never reach local officials. They can reveal a general unwillingness to investigate disease clusters, and raise questions about the demands for “standards of proof that may be unobtainable or inappropriate,” as well as experts’ unwillingness to accept new ideas about toxic causality (182). At the same time, revealing the limitations of science can encourage residents to seek alternative sources of information and analysis, and can yield valuable data from unexpected and unanalyzed sources.

Julie Sze’s (2007) study about how residents employed their own research methods reveals how residents generated new data on asthma in New York City. Through a Community Based Environmental Justice Research (CBEJR) framework that combined a “multifaceted analytical world view,” a social and environmental justice perspective, local insights, and professional scientific techniques, residents produced new information about the environmental causes of asthma in low-income neighborhoods of color (178). Moreover, this community centered process deepened the analytical links between race, poverty, health, and the environment in ways that expanded scientific knowledge. Community led science paved a path toward new environmental health policies. The data was used to oppose neighborhood conditions created over long periods of neglect from

various political processes and to influence zoning regulations and other decisions made by local political bodies. To have residents conduct their own scientific research contradicts the assumed role of "experts" in government, health, and biomedical fields; yet, the knowledge garnered from this community-based process leads to improved policies and ultimately better science.

In Kern County, the environmental justice movement relies on community-based knowledge and popular science to influence environmental policies; yet, they have faced mistrust from experts governing the politics of land-use. In 2012, the Committee for a Better Arvin (CBA) adopted the "bucket brigade" to collect data on air quality. Using a specialized kit consisting of a sterilized bucket, a plastic bag, goggles and vacuum tubes, CBA volunteers engaged in air sampling near sites known for their noxious air, along with a health log about what they saw, what the smelled, and how they felt. The air samples were mailed overnight to a special lab for analysis. In a Valley Public Radio article explaining the Bucket Brigade, CBA president, Sal Partida, describes his frustration with "experts" who express their underlying mistrust of the CBA volunteers and its methods. Partida states, "The air district is questioning the validity of the bucket. They say, 'how do I know that you didn't get that bad air contaminated somehow. Or how do I know that you're qualified to take that sample. Or that you did take the sample where you said you took the sample and not somewhere else.' They're always questioning it" (Moore 2012). CBA's deployment of community based science, what they locally refer to as "citizen science," contests the binary opposition between "experts" and "citizens." It essentially destabilizes the explicit power relationship of the authority of science and the implicit compliant role of citizens. Despite dismissive responses to the Bucket Brigade from local public officials, this method proved

to be necessary. The lab results detected that the Community Recycling and Resource Center facility had four times the level of hydrogen sulfide than the Office of Environmental Health Hazards Assessment sets for acute exposure to the gas, and eighteen times higher levels than that set for chronic exposure (Moore 2012). The health consequences of breathing hydrogen sulfide include nausea, headaches, eye irritation, coughing, even the loss of smell and permanent damage to the eyes; it also can provoke instantaneous death (US Department of Labor 2017). Hydrogen sulfide was responsible for the death of the Ramirez brothers at the Community Recycling and Resource Center; but we know less about how the continuous exposure to this dangerous gas has impacted residents. Community based science transformed the practice of pollution monitoring in Arvin by empowering residents to identify, document, and report noxious air to state and federal officials, which has served to build a community agreement between CBA and the company *Recology* toward improving air quality.

The citizen-science employed by Kern County's Environmental Justice community reveals that Valley Fever is not an environmental health problem that incidentally or randomly produced racial disparities, but rather that Kern County has an environmental racism problem that deliberately and systematically undermines the health of poor and non-white residents. Participants such as Mari, Isabel, and Elisa attribute the cumulative injuries to their health as central to Valley Fever. They know that they are forced to resort to strategies that frame the problem as individual and isolated events, but they also know that they will face continuous environmental health injuries.

The Environmental Justice movement of Kern County draws its power and sophistication from the legacy of the United Farm Workers of America union (UFW).

Between 1969 and 1973, UFW members approached health not solely as a measure of the presence or absence of a specific biomedical threat, but rather as obstructed by the indecent working and living conditions. Union members believed it was necessary to eliminate spraying pesticide in the fields while people picked the harvest, but that it was just as important to earn livable wages, access safe drinking water, have proper sanitation in the labor camps, live in decent housing, and have healthcare providers who were affordable, culturally, and linguistically accessible, and to have the power to bargain about these issues at the negotiation table with growers (Chamberlin and Radebaugh 1976). The UFW's framework of healthcare was revolutionary in the sense that it believed in creating conditions that allowed for people to live and work with dignity. The respect for the knowledge of farmworkers and of a diversity of experts was central to advancing this vision of care.

References

Airnow.gov. 2015. "Air Quality Flag Program: Know Your Air Quality to Protect Your Health." Retrieved July 2015 from https://www.airnow.gov/index.cfm?action=flag_program.index

2016. Particle Pollution. Retrieved January 5, 2017 from: https://airnow.gov/index.cfm?action=aqibasics.particle

California Department of Pesticide Regulation. 2012. "Summary of Pesticide Use Report Data 2012, Index by Commodity." Retrieved August 2015 from: http://www.cdpr.ca.gov/docs/pur/pur12rep/comrpt12.pdf

2015. Concepts to address pesticide use near schools. Retrieved February 2017 from: http://www.cdpr.ca.gov/docs/legbills/pesticide_concepts.pdf

2017. California Department of Pesticide Regulation. http://www.cdpr.ca.gov/docs/dept/comguide/drift_excerpt.pdf

Californians for Pesticide Reform. 2012. “Protecting their potential: Ensuring California’s school children are safe from hazardous pesticides.” Pesticide Action Network. Retrieved from http://www.panna.org/sites/default/files/ProtectingTheirPotentialApril2014FINAL.pdf

Camacho, Alfredo. 2015. Recology looks for community input pending take-over of troubled composting facility. Published January 5, 2015 in *South Kern Sol*. Retrieved from http://www.southkernsol.org/2015/01/05/recology-looks-for-community-input-pending-takeover-of-troubled-composting-facility-jan-8/

Environmental Protection Agency. 2017. “Federal insecticide, fungicide, and rodenticide act of 1996.” Retrieved from https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act

2017b. “Restrictions to protect workers after pesticide applications.” https://www.epa.gov/pesticide-worker-safety/restrictions-protect-workers-after-pesticide-applications

Epstein, Steven. 1995. “The construction of lay expertise: AIDS activism and the forging of credibility in the reform of clinical trials.” Science, Technology & Human Values 20(4): 408-437.

Farmworker Justice 2013. “Exposed and ignored: How pesticides are endangering our nation's farmworkers.” Retrieved January 2017 from https://www.farmworkerjustice.org/sites/default/files/aExposed%20and%20Ignored%20by%20Farmworker%20Justice%20singles%20compressed.pdf

Farm Safety. 2017. Occupational Safety and Health Administration. Retrieved from https://www.osha.gov/OshDoc/data_General_Facts/FarmFactS2.pdf

Healthy Kern. 2010. “Kern County Community Health Needs Assessment.” Healthy Kern County, Better Health Through Community. Retrieved February 2017 from http://www.healthykern.org/index.php?module=Tiles&controller=index&action=display&id=97819548502862692

Isabella Z. 2016. California high school implements advanced warning system to protect students from pesticide drift. Published July 8, 2016. Natural News. Retrieved February 2017 from http://www.naturalnews.com/054594_pesticide_drift_California_schools_childrens_health.html

Lipsitz, George. 2006. “Unexpected Affiliations: Environmental Justice and the New Social Movements.” Works and Days, 47/48 (1&2): 25-44.

Moore, Joe. 2012. “Arvin residents take on air pollution with “bucket brigade.” Published October 16, 2012. Retrieved from http://kvpr.org/post/arvin-residents-take-air-pollution-bucket-brigade

Sze, Julie. 2007. Noxious New York: The racial politics of urban health and environmental justice. The MIT Press: Cambridge, MA.

Wynne, Brian. 1996. “May the sheep safely graze? A reflexive review of the expert-lay knowledge divide.” In Risk Environment and Modernity: Toward a New Ecology. Pubs Scott Lash, Bronislaw Szerzynski, and Brian Wynne. Sage Publishing.

Working Group on Farm Labor and Rural Poverty. 1990. Childhood cancer clusters: Department of health and services studies in the San Joaquin Valley.” Published in The Rural California Report. Retrieved from: file:///D:/UserFolders/Downloads/Volume2No5.pdf

VI. Chapter Six: Valley Fever in the Carceral State

> *Author:* The ambulance is coming?
>
> *Mike*: Yeah. It looks like that old man was stabbed two days ago and no one called the police. He's bleeding to death behind the liquor store.
>
> Personal Exchange at Martin Luther King Park, January 2015.

At 8:30 am on a Saturday morning, I was volunteering with the members of the Victory Outreach ministries, feeding a home cooked breakfast to people who were living in extremely poor conditions and in an area surveilled frequently by the Bakersfield Police. We were setting up a picnic table at Martin Luther King Jr. Park, clearing away the empty beer cans and used drug needles when suddenly a volunteer who I will call Mike approached the folks forming the meal line, asking whether they had seen an old man get stabbed a couple of days ago by the store across the street. A tall and slender Black man who lived in the park reported that he had seen him laying down but thought he was getting over a drug induced high. Others recounted that the victim had a history of using drugs behind the liquor store and that is why they did not intervene when they saw him sprawled out. No one had any idea that he was bleeding to death for over almost two days. A bedraggled older man motionless on the floor did not spur questions from the neighbors, the store workers, or even the police who patrolled the area.

Martin Luther King Jr. Park is the heart of an over-policed and under-protected neighborhood in Bakersfield. Police officers regularly pick up and drop off drug addicts at the park. One volunteer calls it an "informal agreement" that keeps roaming drug users off

the streets and out of jail. This strategy is consistent with the national decline in access to drug rehabilitation programs. Less than a quarter of people in prisons and jails have access to daily drug treatment despite having higher rates of drug addiction than the public (Taxman, Perdoni, and Harrison 2006). Dropping off people with addiction problems in the park purports to allow police officers the ability to better monitor the surrounding neighborhood for returned offenders or gang and drug activities. Yet, stopping and frisking poor people of color is often a search for technical parole violations rather than investigating serious crimes, providing a significant number of the returning inmates to prisons (Petersilia 2003). The informal agreement dangerously reduces a public health drug crisis to individuals with problems who make bad choices. Negative experiences with police make calling 911 for help a dangerous move that many do not wish make.

Within a two-mile square radius in every direction of the park there is a concentration of social services including the Department of Social Services, drug and alcohol addiction rehabilitation centers, religious ministries, temporary housing shelters, and a community clinic. The California Department of Corrections and Rehabilitations (CDCR) contracts with the Turning Point Corporation to provide housing for prisoners during their last months of serving their sentences just three blocks west of the park. Turning Point is also one of two centers funded by the state that offer psychological and mental health support for returning inmates. Three blocks east from the park, and behind the smoke towers of the Crystal Geyser factory, are the Housing Authority apartment complexes that provide temporary and long-term housing to extremely low-income families in Kern County. Most businesses nearby are small and locally owned. Liquor stores, Mexican bakeries and meat markets, as well as dollar thrift stores serve residents south of the park.

To the north, larger industrial plants closed and were left abandoned in the wake of de-industrialization. On the Cal-Enviro Screen tool, Martin Luther King Jr. Park falls within the 80th percentile pollution burden score, which means that fewer than 20 percent of the census tracts in California suffer from worse cumulative environmental and social burdens.

Although the nearby social services signal the city's moral commitment to protecting its vulnerable residents, social welfare programs established as anti-poverty measures were rolled back significantly in the 1980s due to moral panics about poor people making bad choices (Krieger, Rehkof, Chen, Waterman, Marcelli, and Kennedy 2008). Reduced levels of state support accompanied wage stagnation, decreases in taxes on income, inheritance property, and capital gains for the wealthy, but a concomitant rise in payroll and sales taxes and fines and user fees for the working class and the poor, as well as assaults on affirmative action and failures to enforce laws about fair wages and safe working conditions, fair hiring and fair housing, and environmental protection (Lipsitz 2006). Declining government support coupled with socioeconomic disparities limit the opportunities for people inhabiting neighborhoods near Martin Luther King Jr. Park, while also making them prime targets for the prison system (Neubeck and Cazenave 2001). Scholars describe neighborhoods with these characteristics as "sacrifice zones," pointing to their continuous abandonment and isolation from economic development, their dearth of employment opportunities and their abundance of dilapidated housing, environmental health risks, and strategic police surveillance and harassment (Bullard 2005; Sze 2006).

Sacrifice zones are common places of residence for returning inmates. The overwhelming majority of former prisoners are non-violent offenders, Black and Latino/a,

and come to prison generally with irregular histories of low-wage employment, limited vocational skill levels, and disproportionate numbers of disabilities and health impairments (Golembeski and Fullilove 2005). Some ex-felons become eligible for deportation. Others become ineligible to hold public office or vote, receive student loans, acquire professional licenses, or access social welfare benefits and public housing (Lipsitz 2012). The intersecting mark of racial minority status and criminality further limits employment opportunities (Pager 2003). Some parole regulations forbid former prisoners to live with or even be in contact with other parolees, which limits their connections to family members and friends who could otherwise provide housing, possible employment, and social stability (Golembeski and Fullilove 2005). Returning home to bleak social resources and unending surveillance simply channels returning ex-offenders back into the criminal justice system.

The social and environmental conditions that ex-offenders are likely to experience raise serious questions about how prisoners who acquire Valley Fever will fare in their recovery upon their release. The processes that isolate and target residents in sacrifice zones cause preventable and premature death. People of color not only enter the prison system with worse health conditions than white prisoners, but they are also less likely to access care for chronic illnesses during incarceration and after release (Schnittker, Massoglia, and Uggen 2011). Inside and outside of prisons, people of color who require medical care face systemic racial bias, regardless of any individual health professional's attitudes about race (Van Ryn, Burgess, Dovidio, Phelan, Saha, Malat, Griffin, Fu, Perry 2011). The rate of HIV infections is nearly three times greater for prisoners than for the non-prison population (Golembeski and Fullilove 2005). Many former prisoners are released back to their communities without ever knowing of their infection.

In this chapter, I explore the politics related to prisoners' exposure to Valley Fever using reports about outbreaks in Japanese internment camps during the Second World War and from recent court documents about Valley Fever endemic prisons. I seek to understand how the authorities of prisons and prisoners' health have participated in making and unmaking exposure risks among incarcerated populations. The comparison of both epochs of mass incarceration demonstrate that the disease itself does not discriminate, but rather that public policies, institutions, and practices do.

Prisoners of World War II and Valley Fever Outbreaks

On February 19, 1942, President Franklin D. Roosevelt signed Executive Order 9066, ordering the military to remove every resident considered a national security threat. The populations so designated were German, Italian, and Japanese (both immigrants and citizens). According to the Commission on Wartime Relocation and Interment of Civilians (1982), however, Italians and Germans were later excluded from the list based on economic expense, sheer maneuverability, and political leverage. Within the first month of the presidential order, approximately 2,000 Italian and German resident-aliens and citizens were detained; most of whom were soon freed from custody through hearings. However, over 110,000 Japanese residents in the U.S. were displaced from their property and herded into detention camps labeled "assembly centers" for nearly four years. Two-thirds of the Japanese interned were stripped of their rights and property as American citizens. Public campgrounds, race tracks, and military bases were repurposed overnight as detention camps,

while larger centers were immediately approved and funded for their construction. The urgency in which facilities of confinement were created ignored the material, emotional, and health impacts, as well as the considerable economic, social, and political implications on the lives of people who would be immediately affected by internment (Jensen 1997).

The War Relocation Authority (WRA) recorded 30 cases of Valley Fever infections at the Gila River Relocation Center in Pinal County, Arizona (Jensen 1997). Gila River Relocation Center had been approved to accommodate 14,000 Japanese American and immigrant prisoners on March 18, 1942 (Wyatt 2012). By December 1942, before major construction was completed, over 13,000 people of Japanese descent were held at the site. The majority of detainees were pulled from California's Central Valley, from Tulare, Turlock, Stockton, Fresno and the southern San Joaquin Valley, areas that are currently considered highly endemic with Valley Fever (Jensen 1997). No one suspected that the removal of vegetation to build barracks at Gila River would increase toxic dust exposure. The army engineers built the wooden barracks in such haste that many had holes and were poorly sealed.[4] It operated in extreme temperatures, at times reaching 120 degrees in the shade. The Gila River facility hospital had only twenty beds and was described as "woefully inadequate" by the Chief Medical Officer Jack Sleath. Gila River Relocation Facility was one of the largest war detention centers and it was also the least prepared to provide adequate medical care, healthful residential habitation, and protection against exposure to dust.

[4] The rooms measured 100 to 200 feet long and 20 feet wide and were divided into four to six individual "apartments" that were demarcated by a single sheet of wood as high as the first story. The barracks not only made privacy impossible but also were inadequate to protect internees from environmental health risks. See Jensen (1997) for full description of the detention site conditions.

Claiming their unpreparedness to deal with the colossal number of detainee health needs, the U.S. army sought the support of the United States Public Health Services (USPHS) to provide health care to Japanese internees. The USPHS had previously screened Chinese immigrants to determine their eligibility for immigration or deportation (Shah 2001). Their further involvement in the internment camps suggests that the War Relocation Authority (WRA) relied on the state's "expertise" in dealing with Asian populations. Unable to provide adequate personnel, the USPHS summoned interned Japanese American and immigrant medical professionals to implement health care measures — organizing care in the midst of a persistent lack of supplies, equipment, and staff (Jensen 1999). Often it was the detainees who by necessity became experts on the illness.[5] In an interview with the medical physician who resided at the camp, Dr. George Baba described his experience with Valley Fever:

> The barracks were so poorly constructed that every time any wind came up, the dust would come up through the cracks and they'd inhale it and come down with cocci … they'd come down with what sounded like the flu, and some would get better, but some wouldn't. At Gila, we seemed to have had all the cocci manifestations every [sic] written up. They would get skin conditions called erythema nodosum … cocci meningitis, cocci arthritis, cocci pneumonia, and cocci flu … we were sending sputum and blood to Dr. Smith, a public health doctor at Stanford, who became an authority on Coccidioidomycosis … I think we got to be fairly expert on cocci, too, but there was nothing you could do, except make the diagnosis.
>
> Jensen 1997, 226.

According to Dr. Baba, the detention camps were hazardous for prisoners and ill equipped with medical supplies; to his estimate, nearly every prisoner came down with

[5] The San Francisco Virtual Museum in its article "Evacuees Operate Factory Vegetable Farm at Rivers" reports that the hospital and medical services at Gila River Relocation Center employed one white doctor and eight white nurses for the entire camp. However, ten detained doctors and six detained nurses were summoned to provide care. Additional nurse's aids were trained as needed. See http://www.sfmuseum.org/war/relocate.html

Valley Fever. Still the WRA claimed that only camp was infected with Valley Fever and that only 30 cases were reported.

Dr. Charles E. Smith from Stanford and the Armed Forces Epidemiological Board were called to evaluate Gila River Relocation Facility. In his report, Smith (1958) established that the facility was in effect endemic with Valley Fever. Smith offered skin tests, serological facilities to examine blood samples, and advice to medical support staff. Prisoners at Gila River were left with the task of diagnosing and treating their own symptoms, however, having to improvise because of the lack of medical supplies and sanitation, and protecting themselves from the abundance of conditions that continuously exposed them to Valley Fever.

The conditions of confinement at Gila River Relocation Center exposed prisoners to other health hazardous conditions. The War Relocation Authority report noted that nurses resigned their positions regularly due to the extreme weather, a sign of the deleterious conditions that impacted white medical staff and prisoners (Wyatt 2012). Yet, prisoners of war further suffered from diarrhea, heat exhaustion, asthma, and tuberculosis due to poorly built barracks, dust exposure, and improper sanitation (Jensen 1997). Despite many internees having received more consistent medical care while confined than they had previously, many more suffered from illnesses that were never known to them before internment (Jensen 1999). The health problems that the detainees encountered at Gila River suggest that the conditions of confinement and the deficiencies of the WRA health care system were directly related. Cases of Valley Fever were not isolated to Gila River

Relocation Center as the WRA reports, however. Michelle Gutierrez (1989) identified an outbreak in the Poston War Relocation Center in Yuma County, which provides evidence against the WRA' claim that the problem of Valley Fever was minimal and controlled.

The demonization of Japanese detainees served to legitimize their further subordination. During the same period of U.S. involvement in WWII, approximately 13,000 captured German and Italian prisoners of war were sent to Camp Florence in Pinal County, Arizona. Camp Florence was built in 1944 and was located less than fifty miles east of the Gila River Relocation Center. It served to confine captured enemy soldiers, providing them with health care at a special sanatorium for prisoners of war suffering from tuberculosis (Hirschmann 2007). The removal of the camp's natural vegetation to make way for barracks also resulted in Valley Fever outbreaks among the German and Italian prisoners.

The destiny of prisoners at Camp Florence who acquired Valley Fever was drastically different from the Japanese detainees at Gila River. Soon after operations began at Camp Florence, the U.S. Army sought the expertise of the Surgeon General's Office to analyze the outbreak of Valley Fever among prisoners of war. Dr. Charles E. Smith, the authority on cocci infections from Stanford University, was also called to the camp to make an assessment. According to Smith's estimates, about two-thirds to three-quarters of prisoners of war at Camp Florence were expected to suffer from Valley Fever within the first year of their arrival (Hirschmann 2007). Smith urged the U.S. army to establish a Control Program at the Florence Camp hospital that entailed repeated testing of Coccidioidomycosis among prisoners, including efforts at early detection and prompt

treatment at the clinics. Moreover, Smith suggested constructing green spaces and cemented areas to reduce dust exposure, as had been accomplished in army bases in the Central Valley of California. The risk imposed on German and Italian inmates concerned the military because these conditions violated the Geneva Conventions for humane treatment of prisoners of war (Smith 1958). Soon after Smith's report, measures were taken to remove prisoners diagnosed with tuberculosis from further hazards. However, in May of 1946, Camp Florence was officially closed when the German government invoked the Geneva Convention to protect the remaining prisoners suffering from Valley Fever. The Valley Fever outbreak among German and Italian prisoners sparked corrective measures while the fate of Japanese internees provoked no similar response.

What accounts for the vastly different experiences of prisoners with Valley Fever at the Gila River Relocation Center and at Camp Florence? Was it simply the progress of medical knowledge about Valley Fever in Pinal County and the evolution of health practices that made the urgency to address this disease more important in Camp Florence? Both centers of confinement operated within the same county. Both held prisoners who were considered "enemies" of the state, albeit most prisoners of Japanese descent were naturalized citizens and had never shown acts of disloyalty. The camps operated within the same period of time, overlapping between 1944 and 1946, and had approximately the same number of prisoners. The evidence suggests that European prisoners of war were beneficiaries of medical attention, resources, and expertise not extended to Japanese internees. Not only were development plans set in motion to reduce incidences of Valley Fever at Camp Florence, but vulnerable populations were also removed from the area.

When European prisoners of war suffered the hardships of Valley Fever, international law was mobilized to protect their safety. Conversely, detainees of Japanese descent had few options. They had to rely on their individual and collective agency, on the expertise of primary care physicians imprisoned among them to detect and, when possible, to treat Valley Fever. Preventative measures on their behalf were not taken. These two carceral facilities point out that it was far safer to be a captured foreign combat enemy of the U.S. than a racialized citizen of the nation.

The Labor to Exile: Forced Segregation of Asian Immigrants and Americans

By the onset of WWII, German, Italian, Polish, and other eastern and southern European immigrants in the U.S. were assimilating into the white social order where purity and properness are infused into their racial categories and spatial occupancy. According to historian Mai Ngai (2004), the Naturalization Act of 1870 had already required that citizens fall within only two racial categories, Black or White, leaving Asian out of the boundaries of naturalized citizenship. Eastern and Southern European immigrants aligned themselves categorically and geographically away from Black people and more closely with Northern Europeans, allowing them to fit within the white racial category and qualify for naturalized citizenship. Between 1907 and 1924, 1.5 million immigrants, mostly immigrants from Europe, obtained citizenship.[6]

[6] See Mai M. Ngai. 2004. The 1924 Johnson-Reed Act restricted immigration from eastern and southern Europe through quotas that were based on two percent of the American population considered foreign born in 1890. Western and northern Europeans constituted 84 percent of the foreign-born population, while eastern and southern Europeans were 16 percent of the 155,000 immigrants permitted per year. Immigrants from the

German Americans assimilated into the white category during the period of World War I (1914-1918) (Ngai 2004) which was in part, fueled by Anti-German sentiment to mobilize support for the War. American patriotism vilified the German language, culture, and customs. Coercion became reason to culturally assimilate and to mobilize formerly demonized European immigrants to secure a measure of ethnic inclusion into whiteness. Efforts to determine German and Italian national disloyalty during WWII were perceived as an impossible task because of the sheer number of Europeans who were naturalized citizens and who had become embedded into white American political, economic, and religious institutions (Commission on Wartime Relocation and Interment of Civilians 1982). Yet, Japanese Americans who spoke English, worked side by side with European Americans, ran businesses, attended public schools, and populated diverse neighborhoods were nonetheless viewed as suspect, disloyal, culturally backward, and deserving of quarantine in internment camps.

The anti-Japanese immigrant treatment during the Second World War was rooted in a series of Anti-Asian political attacks and forced racial segregation (Haney Lopez 2006; Ngai 2004; Shah 2001). In California, Chinese immigrants became successful entrepreneurs and workers in farming, laundry, mining, and railroad work. The moderate economic success of Chinese immigrants and their cultural cohesion provoked visceral disdain among white Americans. White Americans portrayed Chinese immigrants as an invasive and harmful group, slandering the Chinese as riddled with disease, immorality, and vices (Shah 2001). In San Francisco, when one Chinese person fell ill from a contagious disease, all persons of Chinese descent were banned from entering the county hospital and instead were

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Western Hemisphere were excluded from any numerical quotas due to the increasing need for agricultural labor and trade interests with Canada and Mexico.

sent to the isolated center known as Smallpox Hospital. The Board of Public Health regularly tore down makeshift hospitals in Chinatown that immigrants themselves built to compensate for the discriminatory health care. When funds were collected to build a proposed Chinese hospital outside of the San Francisco city limits, city authorities prohibited its construction on the basis that Chinese physicians (and presumably Eastern medicine) would become a nuisance to the rest of society. The attack on the health of Chinese immigrants was further mobilized in 1876 with the Page Act. Cast as a moral law, the Page Act purported to terminate prostitution and forced labor without explicitly stating its targets at Chinese immigrants because of potential accusation of violating the Burlingame Treaty (Zhu 2010).[7] The law, however, prohibited the immigration of Chinese women, creating entire communities of Chinese bachelors. In 1880, Folsom State Prison opened as the second California state penal facility, serving as a detention site for minor and major criminal offenses. Among the first 44 inmates transferred to Folsom Prison from San Quentin, prisoner number one was Chong Hing a Chinese immigrant who was convicted of arson charges. The first prisoner executed was Chine Hane, who was convicted in Sacramento for taking the life of a rival member of the Tong Society (Chaddock 2015). Folsom prison served as a site to "assimilate" Chinese, Japanese, and other immigrant workers into the American society through punitive prison labor (Bookspan 1991). The cultural work that soiled Chinese Americans and immigrants as contagious and as criminals contributed to the forceful re-establishment of a white racial order and an enduring anti-Asian politic.

[7] The Burlingame Treaty protected international trade between the Chinese Empire and the United States and guaranteed immigrants the same rights and privileges, immunities, and exemptions as citizens. It further prohibited limitations on Chinese immigration. The Page Act was signed seven years after the Burlingame Treaty and seven years before the Chinese Exclusion Act of 1882. See Ming M. Zhu (2010).

When pathologization and criminalization did not work, city authorities relied on ordinances to enforce segregation. In 1890, the Bingham Ordinance sought to remove all Chinese Americans from the center of San Francisco and to re-locate them in an area designated for "slaughterhouses, tallow factories, [and] hog butcheries" (Shah 2001, 71). Although the ordinance was passed by city supervisors and deemed legal by the advising attorney, its enforcement was halted after the police incarcerated a group of Chinese men. The case came to the courts. Circuit Judge Lorenzo Sawyer found the Bingham ordinance to be in violation of the 14th Amendment, the Burlingame Treaty, and the Civil Rights Act of 1866 (McCain 1994).[8] In Sawyer's opinion, the ordinance was neither intended at ending vice or curtailing immoral occupation, but rather sought to "forcibly drive out a whole community of twenty-odd thousand people, old and young, citizens of the United States born on the soil, and foreigners of the Chinese race, moral and immoral, good, bad, and indifferent, and without respect to circumstances, from a whole section of the city, which they have inhabited and which they have carried on all kinds of businesses appropriate to the city mercantile, manufacturing, and otherwise, for over 40 years" (as cited in McCain 1994: 230). In the *Yick Wo v. Hopkins* (1886) case, the U.S. Supreme Court ruled that a city practice to deny laundry operating licenses to buildings made out of wood disproportionately targeted Chinese-American launderers. Although the city cast their intentions under the umbrella of meeting safety codes, the policy was found unconstitutional because it violated the rights granted under the 14th Amendment to Chinese immigrants and American citizens, specifically denial of due process, equal protection of the law, and the

[8] The Civil Rights Act of 1866 guaranteed that "all persons within the United States shall have the same right in every state and territory to make and enforce contracts, to sue, be parties, give evidence, and to the full and equal benefit of all laws and proceedings for the security of persons and property as is enjoyed by white citizens, and shall be subject to like punishment, pains, penalties, and taxes, licenses, and exactions or every kind, and to no other" (McCain 1994: 230). See Charles J. McCain (1994).

right to pursue life, liberty, and happiness (Lopez Haney 2006). By 1882, California politicians garnered sufficient political impetus to convince the U.S. Congress to pass the first racially motivated immigration policy (Ngai 2004). Under the Chinese Exclusion Act, all Chinese laborers were barred from entering the U.S. (Lopez Haney 2006).

The legal expulsion and exclusion of Chinese Americans and immigrants was followed by a series of court rulings clarifying who was entitled to the benefits of citizenship and whiteness. The Supreme Court cases *Takao Ozawa v. U.S.* (1922) and the U*.S. v. Bhagat Singh Thind* (1923) challenged the limitations on who was eligible for naturalized citizenship. In the Ozawa case, Ozawa argued that his entitlement to naturalized citizenship rested on his subscription to American ideals, religious beliefs, formal education in the U.S., and impeccable English (Haney Lopez 2006). Moreover, his white skin resembled that of European immigrants. During this case, the court struggled with defining what constituted the white race, the scientific concept of whiteness and the congressional and judicial precedents on race that established whiteness and citizenship (Ngai 2004). The court concluded that Ozawa was not scientifically white and therefore, could not secure naturalized citizenship. In the Thind case, appeals to scientific evidence *were* presented. Thind offered evidence that his race and language derived from "the pure Aryan race." In this way, he argued that he fit into the scientific category of whiteness and was thus, eligible for naturalized citizenship. The court ruled that it was not the courts' responsibility to define who was considered white, that, "whiteness" was based on the popular conception of whiteness. The Court ruled that the founding fathers did not intend for Asian Indians to be considered white, but did extend whiteness to Europeans. Therefore, Thind could not be

white (Ngai 2004). In the court's opinion, Thind was a "white man's burden…Whatever may be the white man's burden, the Hindu does not share it, rather he imposes it" (as cited in Ngai 2004: 45). The court ruled that only those who conformed to the popular conception of whiteness were white by law, saying in effect that whiteness is whatever white people think it is and is not.

Japanese immigrants were explicitly targeted between 1900 and World War I, shortly after the annexation of Hawaii and the migration of thousands of low wage Japanese farm workers to the mainland (Ferguson 1947). In 1901, the California State legislature adopted a resolution urging Congress to extend the Chinese Exclusion Act to Japanese immigrants and to limit Japanese immigration in order to protect American labor. Other measures aimed to segregate public education for Japanese children. The Gentlemen's Agreement (1907) between the U.S. and Japan limited the distribution of passports to non-laborers who had established a former address and to people joining parents, wives and children living in U.S. territory. Although fervent anti-Japanese sentiment pervaded congress, President Theodore Roosevelt opposed Japanese exclusion and segregation based on international agreements with Japan.[9] The California Alien Land Law of 1913, however, made Japanese exclusion implicit by prohibiting "acquiring, possessing, enjoying, or transferring real property or any interest therein" to people ineligible for naturalized citizenship (Ferguson 1947: 67). These policies forced the decoupling of "Asian" from "American" (Ngai 2004) and further entrenched the belief that Japanese, Chinese, and Indian Asians were culturally, racially, spatially, and legally unassimilable.

[9] See Ferguson (1947) discussion on the exclusion of Japanese immigrants in California.

The national anti-Asian policies made it impossible for whites to imagine state sanction protections for Japanese detainees during WWII. When the Attorney General of California (and future Chief Justice of the U.S. Supreme Court), Earl Warren, explained the differences in war policies towards Germans and Italians on the one hand and the Japanese on the other, he explained "we believe that when we are dealing with the Caucasian race we have the method that will test the loyalty of them… But when we deal with Japanese we are in an entirely different field and cannot form an opinion that we believe to be sound" (Ngai 2004: 176). Warren's assertions about questionable national loyalty as the reason for mandating Japanese American detention was based on the loyalty that whiteness implied and the threat to whiteness that Asians symbolized. In support of this capricious ideology, General John L. DeWitt, the commanding general of the Western Defense Command, argued that the "Japanese race is an enemy race" and that even among the Americanized citizens, "the racial strains are undiluted" (176). These kinds of narratives re-enforced the erroneous principles that Japanese and other Asian immigrants were an undeserving race and fit for inhabiting repugnant places with inadequate health care.

Racialized policies were perhaps made more conveniently attractive by the fact that California agricultural landholdings by Japanese Americans grew from 61,858 acres in 1905 to 281,687 acres by 1913. U.S. Senator and former Mayor of San Francisco, James Phelan, advised that Japanese farm lands in Merced County had "destroyed the area for white settlement and the desirable element" (as cited in Ngai 2004: 39). Alien land laws and ultimately internment served to dispossess Asians and provide whites with unfair gains and unjust enrichments. Land holdings, wealth, and economic power among Asian immigrants

and their children challenged white Americans' core ideas about race and place. The Japanese internment camps and the segregation of other Asian American and Asian immigrants in deplorable housing, toxic environments, and medically unprepared locations, however, fit the racist imagination perfectly.

With Japanese residents out of the public's view, enormous effort was expended in a social engineering project to mold detainees into facsimiles of assimilated white Americans. The War Relocation Authority directors, Milton Eisenhower and his successor, Dillon S. Myer, managed detention centers as places to test and prepare the prisoners for national loyalty. Under the leadership of the former superintendent of the Navajo Indian Reservation, E.R. Fryer, and head of the Navajo school system, Lucy W. Adams, segregation and confinement of Japanese Americans became based on "planned communities" in places ripe for disease and illness (Ngai 2004; James 1987). WRA authorities planned "Americanization projects" to speed the assimilation of Japanese Americans using activities that would teach detainees about democratic self-government, school, and work (Ngai 2004). The main objective, however, as they had been for Native Americans, was to rid Japanese detainees of their traditional cultures, native language, and kinship structures of leadership. These tactics led to the controversial loyalty questionnaire that caused further segregation and renunciation of citizenship.

Fixing the conditions that exposed Japanese internees to Valley Fever and other illnesses would have contradicted the principles grounded on the cultural, racial, legal, and spatial exclusion of Asians. The white spatial imaginary is a complex set of cultural and structural processes that reinforce a racial order of privilege in the organization of space

(Lipsitz 2011). The white spatial imaginary produces unjust and unequal geographies of opportunity where whiteness secures services and maximizes rewards for itself "at the cheapest possible price," while minimizing its obligations to non-whites (30). The white spatial imaginary idealizes moral geographies that are pure and proper, that "infuse places with implicit ethical assumptions" about what are suitable social (dis)connections among and between race and place. It simultaneously ignores complex social problems rooted in racial spatial inequality and passes down the price of privilege to the "less powerful and less wealthy populations" (30). The cultural work used to create the white spatial imaginary relies on moral panics about non-whites through demonization and their threat to whiteness. Its structure comes from the actions of elites and private corporations that purport to operate in the interest of the public, and the legislative, executive, and judicial branches of government that preserve "hierarchy, exploitation and inequality in society at large" (43). The vastly different experiences of prisoners of war with Valley Fever at Gila River Relocation Center and at Camp Florence reflect the hidden values between races and proper places, moral panics about the threat of Asians to white health, and a National Security narrative that legitimized forced exclusion.

In the current era of mass incarceration, the fate of inmates in state and federal prison facilities replicate the experiences of Japanese internees at the Gila River site in important ways. Exposure to Valley Fever in state penitentiaries is infused by implicit ethical assumption about what is suitable for groups of people who are demonized as dangerous and criminal, but also cast as morally and spatially unassimilable and undeserving.

Mass Incarceration and Valley Fever

> CDCR has been working to mitigate Valley Fever for years," Luis Patino [a spokesman for the state Department of Corrections and Rehabilitation] said. "We have put in place numerous measures in our prisons to reduce the amount of dust, and the movement of dust, particularly into buildings. We have also moved inmates deemed at higher risk and who chose to move out of the two prisons in the Valley Fever endemic zone. We have also worked with state and federal public health partners to study further methods of reducing the incidence of Valley Fever in Avenal and Pleasant Valley prisons. To date, more than 2,100 inmates were moved from two prisons and mitigation efforts continue.
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> *Ellis, John. 2015.*
> *Fresno Bee Newspaper.*

Journalist John Ellis quotes Luis Patino explaining the efforts of the Corrections Department to reduce Valley Fever among inmates. Patino would have the general public believe that "numerous measures" in the prisons have been of longstanding, that the facility operators are conscious about the potential threat of mobile dust not only outside but also indoors, and that they are considerate of the fears of inmates who desire a quick transfer out of an endemic prison facility into safety. Eager to demonstrate their operations and accountability for the wellbeing of thousands of inmates, Patino's words aggrandize the CDCR as a rational facility invested in carrying out the exact sentence determined by the judicial process for each inmate and nothing more.

The experience of Bob, a sixty-year old African American man from Southern California incarcerated at Avenal State Prison facility, however, contrasts with the practices described by Patino. Bob states:

> When I first arrived in Receiving and Release [at Avenal State Prison], there nobody ever told us about Valley Fever, how you can catch it, what to do, or stuff like that… I had went in and I was sitting in line waiting to be housed and I seen the doctor. And you know, police officers and all the staff walking around, and they give us a little orientation. But they never mentioned anything about Valley Fever. So, you know, when I caught it, it was strange to me… I went to the doctor and the doctor he's sitting back on the door. He didn't tell me nothing about it. He just said, "you probably have pneumonia" or something like that, and that "you'll be okay," right. And all the inmates kept telling me "Bob you got Valley Fever, man. You know that's what's riding this prison here. There's a lot of people who've been here and gotten sick." Some of them had Valley Fever to the point that they were walking like they had polio... I went from 250 pounds to 190 pounds in a week and a half… So, like I said my friends and associates there they were getting on me about it. And they said, "man, come on. Go in there man, like you know what you're talking about. That's bull. That's bull crap. You go and take your butt up in there and don't come out of there." So that's what I did... The next thing I know I fell out inside the doctor's office and they rushed me to the hospital. I stayed in the hospital for like maybe a couple of months trying to be nursed partially back to good health… I was just, you know, I was stunned by how the doctor, right, he knows the symptoms of Valley Fever because he has dealt with so many people there, the prisoners that had caught the Valley Fever. So, I don't understand still why, how come this guy, the doctor, act like he don't know what's going on… Things never went right after that … I asked them to ship me out of there because the place was destroying my health. ... I think I was 52, 53 years old at the time. You know, I never had high blood pressure. I've never been diabetic. I never had anything wrong with me, period. And I went, I did that there, and I fell sick. But the most sad part about it is that they never told us about Valley Fever in R & R when we first came there. If they would have, I would have taken different precautions when going outside. But since they never told me…

Bob's experience upon arriving at Avenal State Prison contrasts dramatically with the "numerous measures" that Patino trumpets. Exposure and inadequate treatment for Valley Fever infections caused Bob's temporary sentence for crime to become a life-long sentence

to a slow social and potentially, physical death. He now relies on medication to maintain the infection under control, as well as to regulate other parts of his body that are deteriorating from the disease and the medicine that he has to consume in order to stay alive. How can a prison facility claim to implement preventative practices while it remains silent about the causes of the disease, its symptoms, and potential consequences? Is Bob's unfortunate calamity due to his alleged health conditions or presumed genetic susceptibility because he is a Black man? What is accomplished when Bob's fellow inmates are more capable of identifying Valley Fever symptoms than the facility's authorized medical examiner? Can inmates really "choose to move out" of an endemic prison facility if they must wait until they are infected with Valley Fever to prove that they are at risk? Bob's infection and those of countless other inmates, as well as related deaths, are a result of the Department of Corrections administration's practices that minimize its obligations to prisoners privately while aggrandizing its protections publicly.

What constitutes adequate health care for populations marked with racialized criminality is recurrently considered, but problems are rarely resolved. The CDCR claims to have first become aware of the rising rates of Valley Fever and the associated deaths among inmates of color and those medically compromised at Avenal and Pleasant Valley State Prison in 2005 (United States District Court, June 24, 2013). Yet, in the period between 2005 and 2013, the CDCR implemented few measures to protect inmates' health. In 2006, the court appointed as Receiver J. Clark Kelso to direct the operations and improvements of the prison health care system to meet constitutional standards and work on investigating

Valley Fever at Pleasant Valley State Prison.[10] Kelso's study resulted in the posting of laminated signs about Valley Fever symptoms for inmates and prison staff in state prisons located in endemic zones. They also relocated inmates with pulmonary conditions and heavily immunosuppressed conditions from endemic prisons using the Cocci Exclusion Policy.[11] By 2012, the CDCR and the Receiver re-modified the Exclusion Policy to include a more elaborate medical classification system and a "Valley Fever transfer list" for inmates who obtained approval by a physician. The health hazards assessed in prisons located in VF endemic zones certainly concerned the CDCR, but the solutions advanced rarely resolved the problem.

Inmates of color were frequently treated as expendable. By 2013, only three inmates were listed on the transfer list (United States District Court, June 24, 2013). According to the report filed by Kelso on May 1, 2013, the CDCR had long known about the racial disparities of Valley Fever but refused to use race as a criteria for reducing risk. When compared to white inmates, African Americans have a ninety percent increased risk for cocci infections at the Pleasant Valley and Avenal prisons, where they comprise approximately twenty-four percent of the population. Latinos comprise forty-two percent of the prison population and have a thirty percent increased risk of cocci infections compared to whites. All "other" racial minorities have a 100 percent increased risk.[12] Although the

[10] U.S. District Judge Thelton Henderson appointed a federal medical receiver, J. Clark Kelso, in 2006 to make prison healthcare meet constitutional standards. Judge Henderson presides over the *Plata v. Schwarzenegger* case in which medical care in California's adult prisons was found to be unconstitutional. Henderson put the prison system into receivership after the State failed to make court-ordered corrections. See California Correctional Health Care Services: retrieved from http://www.cphcs.ca.gov/faq.aspx

[11] The eight endemic facilities established by the Center for Disease Control and Prevention (CDC) are: Avenal, Pleasant Valley, California Correctional Institutions, California State Prison Corcoran, Kern Valley, North Kern, Wasco State Prison, and the Substance Abuse Treatment Facility. See San Quinten Newspaper "Valley Fever Prompts Prison Court Order" published August 2013.

[12] The age group older than 56 years had a sixty percent increased risk when compared to 17-35 years old category, and so age was also seen as reliable criterion to use in reducing incidences of Valley Fever among

study concludes that African Americans and "other" racial minorities are disproportionately at risk, and that race can be used as a reliable criterion to reduce cases of Valley Fever, at that time, the CDCR refused to use racial categories as a basis to transfer inmates out of endemic prisons. Even the recommendation to construct ground coverage throughout the prison property, the same strategy used during WWII in military bases and in Camp Florence, Az., was never implemented because the CDCR claimed it was not feasible' due to an initial cost that "could potentially exceed $750,000 in addition to ongoing maintenance costs" (United States District Court, June 24, 2013: 5). The California Department of Public Health, academic and clinical experts on Valley Fever, and Kelso convened in 2006 to examine the health crisis further. Within a year, they issued an additional report with 26 recommendations. The CDCR and the Receiver adopted only four of the suggestions, two of which they had already implemented the previous year.

The environmental health analysis ordered by the court could have produced important conclusions about the working and living conditions of confinement facilities, but it was delayed, devalued and later, discarded. In December 2008, the CDCR's Occupational and Public Health Section requested the first formal health hazard evaluation from the National Institute for Occupational Safety and Health (NIOSH) at Pleasant Valley and Avenal State Prison to "'examine Valley Fever cases among prison employees—not inmates'" (San Quentin News Staff 2013: 5). In May 2009, one week prior to the site assessment, the state of California "unilaterally cancelled the plan site visit by NIOSH" (United States District Court, June 24, 2013: 7). In court documents, NIOSH explains that

inmates. However, age was also not utilized in this way until 2015. The age group 36-55 years old comprised nearly fifty percent of the prison population at both Pleasant Valley and Avenal state prisons and had an increased rate of forty percent.

the state's Office of the Governor motioned to create an advisory group within the CDCR to decide "'whether or not pursuing the health hazard evaluation further would be valuable to the State of California'" (7). Shortly after, the CDCR disbanded the office that was responsible for overseeing occupational health issues and relocated this responsibility into another undisclosed office. NIOSH writes that "this development along with the lack of support from CDCR management precluded moving forward with the health hazard evaluation" (7). Even after contacting the union leaders of the California Correctional Peace Officers Association (CCPOA), NIOSH was forced to close out the request because neither the union nor the CDCR management supported the environmental health analysis.[13] Analyzing and disclosing the source of health hazards for prison staff became a trivial matter precisely because they would have revealed the environmental threats injuring prisoners' health.

Studies conducted by the California Prison Health Care Services and the California Department of Public Health observed that the risks at Pleasant Valley and Avenal facilities, as well as other institutions where prisoners resided, were certainly worth evaluating. In 2011, 535 of the 640 cases (83%) of Valley Fever reported in California prison facilities occurred at two institutions: Pleasant Valley and Avenal State Prison (as cited San Quentin News Staff 2013). Between 2006 and 2010, the Pleasant Valley State Prison had a rate of fifty-two times greater, and Avenal a rate of nearly ten times greater, than the county with the highest rate of Valley Fever in California. The rate of infection at Pleasant Valley State Prison in 2005 was 3,000 cases per 100,000 inmates (Pappagiani 2007). During the course

[13] This study was revisited in 2014 and completed in 2015. It is now publicly available on the Center for Disease Control and Prevention website.

of 15 years, over 200 inmates died from Valley Fever at the Avenal site alone and the health of 1,000 others was affected (as cited in San Quentin News Staff 2013). In 2005, UC Davis registered 233 serum samples delivered for analysis at their medical center from the Avenal facility, although it was unclear how many more cases were documented in Avenal's medical facility at that time. From 2008 to 2010, 355 inmates required outside hospitalizations due to Valley Fever, at a cost of $23.4 million dollars per year (as cited in United States District Court, June 24, 2013). These frightening numbers of cases do not account for the impact to family, friends, and taxpayers. The public cost for providing medical care to ex-felons suffering from Valley Fever remains absent. Moreover, the cost of the death of 200 loved ones sentenced to prison due to their exposure to a preventable illness remains incalculable.

Although the CDCR's measures are portrayed by its spokespersons as accommodating, the measures have proven to be inconsistent and ineffective. By 2013, none of the eight institutions in endemic zones "showed a consistent decrease in rates" (United States District Court, June 24, 2013: 8). The court's Expert Report concluded:

> While CDCR transferred some medically high-risk patients, conducted soil sampling and environmental mitigation measures (in 2011 paid for by the Receiver), educated inmates and staff, distributed dust mask [Footnote], installed new door sweeps and higher efficiency air filters, and created a program to measure wind speeds, these efforts have been far from timely, thorough, or effective. [Footnote: inmates were limited to one N95 mask per month. These masks are intended to be used for no more than 8 hours].

The inadequate measures established a pattern of inaction. The CDCR requested prolonging the transfer of at-risk inmates out of endemic facilities and "to do nothing about it at this time" for racial minority groups, as well as inmates older than 55 years of age until

an environmental health hazard assessment was conducted. Judge Henderson denounced the request as an insufficient response to the urgency of protecting inmates' health (18). Moreover, the court pointedly identified that the CDCR requested the power to retain inmates based on the need for an evaluation that would require months and that they themselves had canceled for no apparent reason five years earlier.

The expert witness, Dr. John Galgiani, was called to evaluate the measures implemented by the CDCR. In the Expert Report, Galgiani similarly concluded that Cocci infections were treated inadequately:

> [T]he plaintiffs' expert, Dr. John Galgiani, an internationally known cocci expert, stated in his declaration that his review of four deaths related to cocci indicated that medical staff at prison in the cocci endemic zone are still slow to recognize the early signs of illness, particularly in African-American men, and are slow to begin timely and proper treatment for the disease. We agree. We reviewed health records that raised similar concerns.
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> *United States District Court June 24, 2013, 12.*

Galgiani points out that racialized minorities were among the most affected but also the least adequately diagnosed, treated, and cared for. Although the CDCR staff may have conscientiously acted against the threat of mobile dust, they regularly trivialized and ignored crucially needed procedures to protect prisoners, especially for prisoners of color. Moreover, it was unclear how the Receiver determined the criteria for being racially at-risk, making the rates of infection among Latinos seem less concerning for no apparent reason. The CDCR measures were anemic at best, with little consideration for the debilitating and potentially lifelong consequences of Valley Fever for prisoners living in endemic facilities.

On June 24, 2013, Judge Henderson ordered the CDCR to grant inmates relief from Valley Fever at Pleasant Valley and Avenal State Prison. The CDCR was ordered to

expand their list of exclusionary factors and adopt a policy within seven days "so that no prisoners in the known at-risk groups of African-Americans, people of Filipino descent, Inuits, persons with diabetes, HIV, or immunocompromised state," as well as people identified at risk by the American Thoracic Society (ATS) such as due to pregnancy, be admitted into Pleasant Valley and Avenal state prisons (1). Moreover, the court ordered the Receiver to request the Centers for Disease Control and Prevention and NIOSH to evaluate and determine whether any other group or criteria needs to be excluded. The order further required that within ninety days all at-risk groups be transferred out of Pleasant Valley and Avenal State Prison facilities. Finally, it was ordered that all CDCR medical and nursing staff obtain additional training in "recognition, diagnosis, and treatment of cocci" (25). In Judge Henderson's order, the primary importance was to avoid unnecessary illness and death among inmates and provide the constitutionally required level healthcare for inmates immediately.

The U.S. District Court order prompted the removal of approximately 3,200 inmates from Pleasant Valley and Avenal facilities (St. John 2013). This would become the first substantial turning point in the history of Valley Fever and mass incarceration. For the first time, prison health officials were required to mobilize the exclusion of vulnerable populations from endemic prison facilities.

Altering the hazardous environmental conditions at the nine state prisons located in endemic zones were often cast as unachievable due to the high costs. Yet, In January 2015, the CDCR announced that it was committed to spend over $5 million dollars to conduct skin tests to identify whether inmates had previous exposure and thus, immunity, at only two facilities. The skin tests were administered at Pleasant Valley State Prison and Avenal State

Prison. Inmates who tested negative meant that they had no previous exposure and thus, could be prohibited from entering any of the nine state prisons in endemic zones. The CDCR updated their exclusion policy indicating that only African Americans and Filipinos were exempted from admission into Avenal State Prison and Pleasant Valley State Prison. Moreover, these racialized groups were entitled to waive the skin test without compromising their ineligibility for admittance to either facility. However, if they were tested and the test was positive, they could be eligible for incarceration at either facility. The logic used by the CDCR entails identifying narrow categories of bodies in danger, testing only some prisoners for immunity, and then sorting a few others out of endemic prisons. They shifted environmental risks away from vilely poisonous places toward virtually powerless people.

The history of Japanese internment camps with Valley Fever provides us with an example of how prisons with current outbreaks of the illness follow a similar pattern. The underlying assumption of the problem of Valley Fever in prisons today is that the differences in rates of illness have more to do with individuals than with racist and punitive institutions. Even when extensive evidence demonstrates the CDCR's slow response to protect prisoners from exposure to dust, the problem of Valley Fever is stubbornly portrayed as a problem of prisoners. Unless prisoners have medical eligibility that bar them from placement in endemic prison facilities, they are destined to serve their sentence in a place with no environmental health assessment, poor structural changes that altered such conditions, and lacking in health professionals who can identify, diagnose, and treat Valley Fever correctly.

California Environmental Quality Act and Prison Construction

The strategy of individualizing the risks associated with confinement in Valley Fever endemic prisons is consistent with the patterns used at the wake of mass incarceration to build prisons. The state of California followed a "fast-track" development strategy which involved a series of state policies to fund and construct "Prison Alley" (R.W. Gilmore 2005). The Corrections Department no longer relied on the legislature to provide public funding for prison construction. Rather, the CDCR introduced to voters a $495 million dollar bond issue (1981) and a $300 million dollar bond issue (1984). The moral panic instilled by the political agenda of "war on drugs," fueled the alleged need to treat a public health problem as criminal offense (R.W. Gilmore 2005). According to the CDCR Annual Report (1987), the multi-phased planning, design and construction methodologies, was used to save time and money in the anticipation of the growth in the numbers of prisoners from a new tough on crime policies. By 1985, the proceeds from the bond sales gave the CDCR $117 million dollars to construct Avenal State Prison alone (CA Financial Legislation Report 1985). As new policies targeting minor offenses and drug use, and as space became available due to the 1977 California drought that laid thousands of farming acres to rest, the prison population grew (R.W. Gilmore 2005). Multi-unit carceral facilities were produced quickly and effectively. Private development corporations that purported to operate in the interest of the public safety had the political approval and the legal financing to construct a gigantic and seemingly permanent structure that guaranteed benefits to investors for generations on end.

Faced with a major lawsuit from Avenal property owners who disapproved of the prison construction near their homes, the California State Legislature passed Assembly Bill 2251 known as the "Prison Funding Bill" to exempt the CDCR, including the Avenal State Prison, from complying with the California Environmental Quality Act (CEQA) (R.W. Gilmore 2005). CEQA requires that state and local agencies report on the environmental impacts of their development projects and, when appropriate, provide the agency's plan to mitigate those impacts.[14] AB 2251 not only allowed the CDCR to bypass this legislation but further stipulated that alternative measures were needed to determine environmental impacts (Financial Legislation Report 1985). The bill did not mention Valley Fever, but it did prohibit groundwater use at Avenal for prison purposes because of its high concentration of sulfate, nitrates, and sodium (U.S. Department of the Interior 2012) and required that it secure an alternative water supply (California Natural Resource Agency).[15]

In court (*Phil Sagaser et. al. v Daniel J. McCarthy),* the property owners pleaded six causes of action against the CDCR, including "violations of CEQA provisions, due process and equal protection violations, failure to furnish information from public records, and a threatened waste of public funds" (Sagaser v. McCarthy 1986). They called for injunctive relief to prohibit the use of groundwater (California Natural Resource Agency; U.S. Department of the Interior 2012). In the first ruling, the judge favored the CDCR. The plaintiffs filed an appeal to better argue for compliance with CEQA regulations. In the appeal, the court ruled that although the plaintiffs had filed prior to the passage of AB 2251,

[14] California Environmental Quality Act (CEQA) is a direct result of the first federal environmental protection statute passed in 1969 known as the National Environmental Policy Act (NEPA). In 1970, the California legislature passed and Governor Reagan signed the CEQA statute. The process typically involves conducting an Environmental Impact Report (EIR) prior to construction. See California Natural Resources Agency at http://resources.ca.gov/ceqa/more/faq.html

[15] Currently, the city of Avenal shares its limited treated water resources with Avenal State Prison. See U.S. Department of the Interior "Central Valley Project Interim Renewal Contracts for the Cities of Avenal, Coalinga, Huron and the California Department of Fish and Game 2013."

the assembly bill was retroactive and thus, exempted the Department of Corrections from complying with CEQA regulations. Moreover, because the bill required that Avenal secure an alternative water supply, adequate environmental accommodations had been made to protect inmates. The appeal was thrown out of court. Prison investors did not have to pay for devaluing private property near prisons, for implementing an environmental impact report, or for evaluating the potential consequences to prisoners or residents.[16]

The CDCR deliberately ignored complying with CEQA citing the alleged urgency to "relieve" the prison system from severe overcrowding which reached nearly 150 percent above maximum capacity at the time, and to "secure" the public safety against violent crimes (Court of Appeal California 1986). Appealing to the need for prison staff, inmate, and public safety, the Avenal facility continued on the "fast-track" development for housing 3,034 inmates (CDCR Annual Report 1987). The construction of prisons combined with policies that targeted low-crime offenders led to the highest rates of incarceration in U.S. history. By 2005, the Governor of California, Arnold Schwarzenegger, declared that Avenal had a capacity for 5,768 inmates and was operating with a population of 7,422 (See "Prison Overcrowding State of Emergency Proclamation" 2006). The CDCR first illegally overrode the CEQA policy requiring an environmental analysis and then the judicial branch of government authorized it to continue ignoring this regulation in the name of relieving overcrowded facilities, which it nonetheless continued to maintain over the course of twenty years. When the law did not favor the interests of "fast-track" prison investors, legislators changed the law to authorize the CDCR's investors' strategies. The environmental impacts of rapid prison construction were conveniently disregarded to better fit those interests.

[16] See also Luke Cole and Sheila Foster (2000) analysis of Delano I and Delano II prison facilities in Kern County.

Discussion

The extent that Valley Fever outbreaks at Gila River Relocation Camp materialized as a public health concern rested in the agenda to reinforce that the detainees were the problem and that the solution was assimilating them into whiteness. Dusty barracks and anemic healthcare services for prisoners of war manifested along the lines of what authorities believed to be appropriate for racial minorities who were accused of national disloyalty, carriers of contagious illnesses, culturally backward, and illegitimately appropriating land. The state further repressed detainees by having them diagnose and treat their own symptoms. Rather than reducing Valley Fever exposure at Gila River, authorities invested in cultural extortion tactics or "benevolent assimilation" measures to mold detainees into what they believed were better models of white American culture.

Today, carceral institutions operate within a framework where the criteria of risk are shifted from poisonous places to people. It is far easier to implement ineffective strategies and spend millions of dollars on one skin diagnosis test that confirms individual immunity than it is to eliminate sources of risk exposure and endemic facilities that could protect the health and wellbeing of hundreds of thousands of people and the public healthcare system from the pain and costs associated with Valley Fever.

The community of Martin Luther King Jr. Park demonstrates that returning habitual drug addicts to the park is a poor public health model for rehabilitation, and an unfortunate

pattern replicated in carceral facilities. Solutions purported to be objective and based on scientific evidence focus on fixing the individual. Without an analysis of the social and environmental conditions that inmates who contract Valley Fever face, we miss visualizing other possible causes, consequences, and potential cures.

References

Bullard, Robert D. 2005. *"*Environmental Justice in the Twenty-First Century." Pp. 19-42 in *The Quest for Environmental Justice: Human Rights and the Politics of Pollution,* edited by Robert D. Bullard. San Francisco, CA: Sierra Club Books.

Bookspan, Shelby. 1991. *A Germ of Goodness: The California State Prison System, 1851-1944.* NB: University of Nebraska Press.

Braz, Rose and Craig Gilmore. 2007. "Joining Forces: Prison and Environmental Justice in California Organizing." *Radical History Review 99:* 95-111.

Chaddock, Don. 2015. "Unlocking Prison: Go Behind the Granit of Folsom Prison." *Inside the CDCR News Letter*. Retrieved from: http://www.insidecdcr.ca.gov/2015/01/unlocking-history-folsom-prison/

Cole, Luke and Sheila Foster. 2000. *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement*. NY: New York University Press.

Commission on Wartime Relocation and Interment of Civilians. 1982. "Personal Justice Denied: Japanese Americans during WWII." National Archives. Retrieved 2015 from: https://www.archives.gov/research/japanese-americans/justice-denied/

Ellis, John. 2015. "Inmates Sue Saying They Got Valley Fever While in State Prison." *Fresno Bee Newspaper,* June 6.

Ferguson, Edwin E. 1947. "The California Alien Land Law Act and the Fourteenth Amendment." *California Law Review,* 35:1 (61-90).

Golembeski, Cynthia and Robert Fullilove. 2005. "Criminal (In)justice in the City and its Associated Health Consequences." *American Journal of Public Health 95(10): 1701-1706.*

Gutierrez, Michelle. 1989. “Medicine in a Crisis Situation: The effect of Culture on Health Care in the World War II Japanese American Detention Camps.” MA thesis, California State University, Fullerton.

Haney Lopez, Ian. 2006. *White by Law: The Legal Construction of Race.* New York, NY: New York University Press.

Hirschmann, Jan V. 2007. “The Early History of Coccidioidomycosis 1892-1945.” *Clinical Infectious Disease 44(9):* 1202-1207.

James, Thomas. 1987. “The Education of Japanese Americans at Tule Lake, 1942-1946.” Pacific Historical Review 56:1 (25-58).

Jensen, Gwendolyn G M. 1997. “The Experience of Injustice: Health Consequences of the Japanese-American Internment”. PhD Dissertation, Department of Anthropology, University of Colorado.

1999. “System Failure: Health-Care Deficiencies in the World War II Japanese American Detention Centers”. *Bulletin of the History of Medicine,* 73.4: 602-628.

Kloos, Helmut. 1973. Valley Fever (Cocciodioidomycosis): Changing Concepts of a “California Disease.” *Southern California Quarterly 55(1):* 59-88.

Krieger, Nancy, David H. Rehkof, Jarvis T. Chen, Pamela D. Waterman, Enrico Marcelli, and Malinda Kennedy. 2008. “The Fall and Rise of U.S. Inequalities in Pre-Mature Mortality: 1960-2002.” *PLOS Med 5:02*: 227-241.

Lipsitz, George. 2006. *The Possessive Investment in Whiteness: How White People Profit from Identity Politics.* Philadelphia PA: Temple University Press.

2011: *How Racism Takes Place.* Philadelphia PA: Temple University Press.

2012. “In an Avalanche Every Snowflake Pleads Not Guilty: The Collateral Consequences of Mass Incarceration and Women’s Fair Housing Rights.” *University of California Los Angeles Law Review, 59:* 1746-1810.

Levine, H.B., Demosthenes Pappagianis, and J.M Cobb. 1970. “Development of Vaccines for Coccidioidomycosis.” *Mycopathologia et. Mycolia applicata* 41(1-2): 177-185.

McCain, Charles J. 1994. The *Search of Equality the Chinese Struggle Against Discrimination in Nineteenth Century America*. Berkeley, CA: University of California Press.

McIntosh, Hugh. 1981. “Valley Fever Drug Not Challenged Medicine.” *Bakersfield Californian Newspaper, July 26* pp. B3.

Ngai, Mai. 2004. *Impossible Subjects: Illegal Aliens and the Making of Modern America*. NJ: Princeton University Press.

Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology 108(5): 937-975.*

Pappagiani, Demosthenes. 2007. "Cocciodioidomycosis in California State Correctional Institutions." *New York Academics of Sciences* 1111: 103-111.

Petersilia, Joan. 2003. *When Prisoners Come Home: Parole and Prisoner Reentry.* New York, NY: Oxford University Press.

San Quentin News Staff. 2013. "Valley Fever Spurs Court to Order the Removal of 3,200 Prisoners." San Quentin Newspaper, August 2013, pp.5.

Sagaser v McCarthy. U.S. 176 CA. App 3d 288. (1986).

Shah, Nayan. 2001. *Contagious Divides: Epidemics and Race in San Francisco's Chinatown*. Berkeley, CA: University of California Press.

Schnittker, Jason, Michael Massoglia, and Christopher Uggen. 2011. "Incarceration and the Health of the African American Community." Du Bois Review 8(1): 133-141.

Smith, Charles Edward, M. D. 1958. "Communicable Diseases, Transmitted Chiefly Through Respiratory and Alimentary Tracts." Preventive Medicine in World War II: iv. Retrieved from U.S. Army Medical Department, Office of Medical History: http://history.amedd.army.mil/books.html

St. John, Paige. 2013. Los Angeles Times Newspaper "State to Move At-Risk Inmates." Retrieved 2015 from http://articles.latimes.com/2013/apr/30/local/la-me-prisons-valley-fever-20130430

Sze, Julie. 2007. *Noxious New York: Racial Politics of Urban Health and Environmental Justice*. Cambridge, MA: Massachusetts Institute of Technology.

The San Francisco Virtual Museum. 2015. "Evacuees Operate Factory Vegetable Farm at Rivers." Retrieved 2015 from: http://www.sfmuseum.org/war/relocate.html

United States District Court. *Notice of Filing of Report and Response of Receiver Regarding Plaintiffs Motion re: Valley Fever.* Case NO. C01-1351 THE. (May 1, 2013).

United States District Court. *Order Granting Plaintiffs Motion for Relief re: Valley Fever at Pleasant Valley and Avenal State Prison*. Case NO. C01-1351 THE: xii. (June 24, 2013).

Van Ryn, Michelle, Diana J. Burgess, John F. Dovidio, Sean M. Phelan, Somnath Saha, Jennifer Malat, Joan M. Griffin, Steven S. Fu, Silvia Perry. 2011. "The Impact of Racism on Clinical Cognition, Behavior, and Clinical Decision Making. *Du Bois Review* 8(1): 199-218.

Wyatt, Barbara. 2012. “Japanese Americans in World War II: A National Historic Landmarks Theme Study.” *National Historic Landmarks Program, National Park Services, U.S. Department of the Interior.* Retrieved 2015 from: http://www.nps.gov/nhl/learn/themes/JapaneseAmericansWWII.pdf

Zhu, Ming M. 2010. “The Page Act of 1875: In the Name of Morality.” *Social Science and Research Network.* Retrieved 2015 from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1577213

Visher, Christy A. and Jeremy Travis. 2011. Life on the Outside: Returning Home After Incarceration, 91(3): 102s-119s.

VII. Chapter Seven. Exposure and Release: Former Prisoners Experiences with Healing from Valley Fever

In 2015, the environmental news magazine *The Grist* featured a story about Eteaki, a Polynesia man from the archipelago of Tonga who was incarcerated at the California State Prison (CSP) in Lancaster where he contracted Valley Fever. Eteaki was serving a sentence of eight months in prison after admitting to a possession of an illegal firearm. His health deteriorated significantly when he was exposed to Valley Fever at the prison, but officials responded with no diagnosis, holding him in isolation at the clinic where he suffered from high temperatures, excessive sweeting, coughing, and rapid weight loss for over 20 days. He was admitted to a local hospital where Eteaki received tests and was diagnosed with Valley Fever. Upon completing his prison sentence, he was released to his family. However, he quickly discovered that his medication for Valley Fever cost over $1,000 per month because the severity of his illness required a double dosage. Unable to afford the medicine, Eteaki sought help from CSP, but his request was denied. He sought financial assistance from the U.S. Social Security Administration and the Medi-Cal Office, but they turned him away because his wife had modest savings and was employed. Unable to afford the medicine, Eteaki consumed fewer pills than he was prescribed. Along with the deterioration of his health, the family's wealth disappeared. Now he faces the long term consequences of financial debt, a debilitating illness, and a criminal record.

In addressing the Valley Fever crisis, the California Department of Corrections and Rehabilitation (CDCR) has been more concerned with advancing its own institutional

interests and reputation than providing health care in a principled fashion. Litigation and court cases such as *Plata v. Schwarzenegger*; *Coleman v. Schwarzenegger; Ashker v. Governor of California* have made public that "tough on crime" policies making prison sentences longer have resulted in reduced health coverage for prisoners. Courts have required wardens to reduce overcrowding due to its hindrance to medical treatment, to correct the inadequate provision of mental health care, and to stop the use of solitary confinement as a technique for delivering health care. Yet, interviews conducted with former prisoners who acquired Valley Fever in a penitentiary, with relatives of former prisoners suffering from Valley Fever, and members of the Victory Outreach ministry who volunteered to participate in this study, as well as through an online blog for relatives and friends of prisoners, reveal that the CDCR creates the illusion among the public that it meets its health care responsibilities, but it also evades them systematically in practice.

In this chapter about prisoners' experiences with acquiring and recovering from Valley Fever, I explore how people came to know about Valley Fever and the strategies they devised to deal with its effects during and after incarceration. How did prison authorities influence the health of people exposed to Valley Fever in an endemic prison? What is accomplished when prisoners return home with Valley Fever obtained while serving their sentence in a poisonous institution?

Entering the Prison System of Treatment

Former prisoners in this study report that when they entered a Valley Fever endemic prison they were neither aware of the risk of contracting the disease nor made fully aware of it during their hold. Unfortunately, it was not until prisoners developed flared symptoms of an infection that they gained knowledge about the disease. When prisoners were unable to obtain information from health experts inside, they sought their support networks on the outside. Chiagozi provides an illustration of how knowledge about Valley Fever is lacking in prison facilities.

Chiagozi is an immigrant from Nigeria. He landed at Taft Federal Prison between 2003 and 2005 due to a plea bargain for tax fraud. Chiagozi spent most of his time in Southern California since entering the country, but had never before heard about Valley Fever until his incarceration at Taft. He relates:

> I was initially in Taft when later on I discovered that people were sick, you know, people of color mostly were sick with all kinds of stuff. Then later on, I discovered what Valley Fever is. I don't know what Valley Fever was until I got there. So initially I thought I had a bug bite in my left eye and I was treating it, like okay it was not a big deal…Then I was sweating cold at night, my body was in fever, not knowing it was Valley Fever. So, I was medicating myself with vitamins from the commissary and all kinds of stuff, you know. But I waited a long time to go see the doctor. I was sick… I went to go see the doctor and I was treated for Valley Fever… I waited about 2 days or 3 days that they put me on medication.

Although Chiagozi observed that people of color disproportionately suffered from illnesses at Taft, he was unaware of the existence of Valley Fever and its related symptoms. It was only after seeing a doctor for what he thought was a severe eye infection that he became aware of the risks of exposure to Valley Fever in the prison facility.

Similarly, Bob, a Black man in his early 60s from Compton, California was not appropriately informed of his risk for contracting Valley Fever. In 2009 he was incarcerated at Avenal State Prison. Bob explains his experience:

> I went in and I was sitting in line waiting to be housed. And I seen the doctor and you know, police officers and all that staff walking around. They give us a little orientation. But they never mentioned anything about Valley Fever… [T]hey never told us about Valley Fever in "R and R" [receiving and release] when we first came there… I went to the hospital, that's when I started learning more because they sent me to an outside hospital.

Chiagozi and Bob were institutionalized at two separate facilities. Taft Federal Prison (TFP) is located in the southern region of Kern County and has a mean incident rate of 1,070 cases of Valley Fever per 100,000 population (MacLean 2015). Avenal State Prison (ASP) is located in Kings County and the facility's mean incident rate is 2,195 cases per 100,000. The TFP is a low-security-level facility and is administered by the Federal Bureau of Prisons. The ASP is a medium-security-level site and is administered by the California Department of Corrections and Rehabilitation. Despite these important institutional differences, their locations, and levels of security, Bob and Chiagozi shared a common experience. They were not informed about Valley Fever while being admitted into the endemic facility. In fact, it was not until they both developed painful symptoms and were screened by a physician that they became aware of the disease.

The prison health care regime is powered by "expert knowledge" that often keeps inmates away from knowing about the risks of the illness. Joaquin, a Latino man in his mid-50s, illustrates how prison authorities limit information. Joaquin was transferred to Pleasant

Valley State Prison (PVSP) in 1996. The PVSP facility has a mean incident rate of 4,017 per 100,000 population, it is considered the most endemic state prison (MacLean 2015). He was serving a sixteen-year sentence. The technical skills he had acquired over the years allowed Joaquin to work as a plumber for the PVSP facility. He regularly cleaned enclosed areas outside of the cells, sometimes between walls where the piping was located. When asked about the warning signs at Pleasant Valley, Joaquin replied "No, they didn't warn us. There was something on a board of the loft. They went ahead and took it down. But a correctional staff took that down." The signage about Valley Fever caught Joaquin's eyes. He remembered this because he later recalled having these symptoms and being turned away from the prison clinic:

> I thought my body was fighting something, but I didn't know what… As a matter of fact the day before I went to see the doctor, the day before I actually had signed up to go see a doctor, and I saw a nurse. And the nurse that was there, she examined me and said nothing was wrong with me. So, I left back to my cell.

Joaquin was sent back to the general prison population without a thorough exam. When he returned to work, his boss witnessed his deteriorating health and intervened; he demanded that a doctor see Joaquin immediately because he was not his usual self. Joaquin was then diagnosed with Valley Fever.

Ronnie, a Black man in his 50s who knew people in prison who contracted Valley Fever, recalls the limited communication about the disease inside prison facilities. When I asked him if he knew whether information about the disease was shared in prison, he recalled:

> … not with the proper people. But, you know, they send [information] to certain channels. They go to the doctors' office and when they get to the doctors' office it's hard to see the doctor because they nurses, they there

> more than they should be, and they speak with you with a bad tone of voice.

Ronnie explains that the prison knowledge regime's practice of channeling information about Valley Fever through a chain of command of "experts," means that the symptoms, causes, and cures are kept away from those who are most impacted by them. Prison health professionals' response to prisoners' complaints about their health are generally slow and discredited.

People who are incarcerated find it necessary to set up a parallel communication network to convey information about the disease, to protect their health by devising strategies that communicate the risks of Valley Fever and how to support saving their lives.

Prisoner vs. Patient Centered Model of Healthcare

Shira Shavit (2016) notes that inmates' health needs are regularly treated in isolated cages or behind bars rather than in private rooms where inmates could more effectively disclose their symptoms to physicians. The structure of care in prison reflects an inmate-centered care model rather than a patient-centered one. Patients' privacy and confidentiality about their medical conditions are regularly infringed upon.

A prisoner centered model of healthcare created from the top prompts cellmates to become diagnosticians and care takers. They mobilize Valley Fever sufferers to evade the

punitive environment. Rather than suffering their illness in silence or alone, prisoners speak with each other about their symptoms. They share stories about how Valley Fever has claimed the lives of other prisoners. They critique the inadequate prison health care model together as they witness the patterns of ineptitude that characterize it.

Ronnie from Bakersfield reports that when he made phone calls to his friends inside of Wasco State Prison, he found out about how people inside suffer from Valley Fever. "I wasn't really close to know their symptoms but I heard them on the phone, talked with them on the phone, saying they had Valley Fever," he recalls. Ronnie's communication with other prisoners led him to suspect that one of his close friends died from the disease without ever being diagnosed. Ronnie explains:

> I know a buddy, he's a buddy that died of Valley Fever, he was in the penitentiary…They didn't really say so [that it was Valley Fever]. You couldn't be sure of that because they [prison staff] not gonna give you the details of what happened. But we know that he was dead in there with the people that was there… Yeah he was dead.

Ronnie sees a connection between the prison health staffs' failure to diagnose prisoners and the loss of his friend. For Ronnie, it is likely that the inadequate prison health care system at the very least contributed to his friends' death.

When nurses and doctors turn away inmates who demonstrate symptoms of Valley Fever, it falls to seasoned inmates to become teachers to incoming prisoners. They discuss the disease's common symptoms, share stories about the experiences of former inmates and prison staff members who contracted Valley Fever, explain how to advocate for a proper diagnosis using the "right" language. Bob illustrates this point.

When the prison health care provider diagnosed Bob with pneumonia and asked him to return to his cell, Bob's cellmates urged him to speak to the health staff a second time because they strongly believed he was being misdiagnosed:

> My friends and associates they were getting on me about it. And they said "man come on go in there man, like you know what you're talking about it. That's bull. That's bull crap. You go and take your butt up in there and don't come out of there." So that's what I did.

Seeing Bob with night sweats, a continuous cough, exhaustion, and loss of weight, all within a couple of weeks, mobilized his fellow inmates to reject the initial diagnosis. In addition to informing Bob about how to campaign for a second examination, his cell mates reminded him that people died from Valley Fever because they did not obtain the proper care on time. The stakes were high for Bob; he could have been forced into the unfortunate fate that befell other prisoners. With this newly acquired information, however, Bob obtained a proper diagnosis. He was admitted into the general hospital soon after.

When contact with other inmates was allowed, cellmates nursed the sick back to health. Joaquin was incarcerated between 1996 and 1998. At that time, all inmates taking medication were required to stand in line during the morning to receive their dose. Inmates were allowed to obtain only a single dose which had to be consumed at the distribution site. Any break with this regimen was punished with solitary confinement. In order to obtain the proper medication, he was forced to stand in the distribution line. He described feeling weakness throughout his body and had a difficult time standing as he waited to get his medication. Joaquin recalls that his fellow inmates provided support with their shoulders,

holding him up in the line. Without the assistance of his cellmates during this critical time, Joaquin might have experienced a drastically different health outcome.

Some participants related that cellmates helped them obtain more nutrition to heal than that offered by prison staff. Chiagozi explains that Valley Fever limited his mobility to attend scheduled meal hours at the commissary at Taft Federal Prison; "sometimes, it affected my walk and I was tired. Sometimes, I couldn't go eat. So, I had to send people to the commissary to buy me food." Rosemary, an elderly African American woman, reports her son Don's experience in a maximum-security prison. She learned that Don was offered only a cold sandwich to eat when he was too sickly from the infection to get out of bed. She sent extra money to Don so that his cell-mates could buy him additional food. Rosemary emphasized the importance of good nutrition for a proper recovery, but this was not a priority for the CDCR. Joaquin, Chiagozi, and Rosemary express great frustration with a health care model that promotes punishment over recovery, a regrettable emphasis on "prisoner" rather than "patient."

The deficiencies and shortcomings of the prison health care model prompt some prisoners to seek remedies through litigation. Bob, who was admitted to Coalinga State Hospital, was nursed back to good health while chained to a bed for two months. When he returned to Avenal State Prison, Bob's physician was given specific instructions on how to care for his health. Yet, Bob relates that within six weeks of returning to ASP, he was re-admitted to the Coalinga hospital because the prison medical staff failed to provide adequate treatment upon his return. Prison health authorities exchanged his medication for a less

expensive formula. Bob "did a lot of writing and trying lawyers" to determine whether he had a case strong enough against the prison health staff who wrongfully altered his medicine. He filed a lawsuit charging the Avenal State Prison authorities with negligence, deliberately ignoring the treatment plan devised by a Coalinga hospital facility. Bob is now represented in a class action lawsuit and in an individual litigation. He is one of the nearly one thousand inmates and former prisoners forced to seek legal redress due to the CDCR's inadequate provisions against Valley Fever exposure, diagnosis, and treatment (personal exchange Ian Wallach 2014). Although the health of many prisoners may never be fully restored, Bob's case illustrates that litigation offers one way of holding the criminal justice system accountable.

Supporting Prisoners in Endemic Facilities

Knowledge about Valley Fever and its risks can guide prisoner's decisions. Often, obtaining new information becomes imperative to knowing about individual risks and community resources. In the online "Partners of Prisoners" network site, Lizzie exchanges valuable knowledge about Valley Fever. In her discussion, Lizzie writes about her beloved's incarceration, "neither one of us had ever heard of Valley Fever, until now." She asks for information from others on the website to pass on to her loved one. In the same discussion, Lonewolf offers her experience and some help:

> When my BF [boy friend] first mentioned it to me last week, that he wanted me to find out what [Valley Fever] was because he hadn't known of it before and now the guys are talking about it, I Googled it and found a document that was part of a court order that said they were not housing inmates who were immunocompromised in the "high risk" areas…

Lonewolf expresses a similar fear for her partner's health. She writes, "I guess it's just really hard because he is so sick with the other things, and the thought of one more illness, that is really avoidable by keeping him up north… is just more than I can take." Lonewolf pastes a link on the site so that others can access the court document.

"Jane59" who seeks information about Valley Fever in the Partners of Prisoners chatroom writes that after a week in Receiving & Release, her partner is seeking her help to obtain information about Valley Fever through personal letters. Jane59 writes:

> He hears it is common around that area. My CM [partner] was diagnosed with Sarcoidosis a few years back. It's a rare but very horrible disease that takes over your lungs, respiratory system mainly. When he was in county before transferred to reception, the disease flared, and he got pneumonia. He was hospitalized for a week. Because of his sarcoidosis, there is also permanent damage to one of his lungs. We both know that suffering from this disease means he is far more prone to catching VF as well and then it's all downhill from there. He asked me to send him info to show at the prison in hopes that maybe they could mainline him sooner to another area or do something to avoid it before it happens, if it happens.

For Jane59, Valley Fever threatens to derail CM's health because of his medical history. The best solution would entail avoid sending him to an endemic prison. Yet, he is already there. Jane59 seeks information for her partner to argue successfully and convincingly to prison authorities to transfer him out of the hazardous site. Without the correct information, CM may be stuck in a place where he will be severely affected. Lonewolf, Lizzie, and Jane59 illustrate the Valley Fever is an avoidable tragedy. The steps needed to protect their partners' health means having to support each other through exchanging relevant information about medical exemptions and other issues related to the disease.

Support for prisoners in highly endemic facilities can also come from community organizers. Rosemary reports that Don was incarcerated for over 20 years before being exposed to Valley Fever. Approximately one year before his infection, he was transferred to Pleasant Valley State Prison. When Rosemary and I conversed over the phone, she was searching for an appropriate in-home medical set-up for her son who would soon be joining her; the disease had rendered him immobile. Don was supposed to come home two months earlier. The in-home care that she had managed to organize, however, was inadequate for Don's health needs according to the prison release staff she spoke with. Rosemary was now deciphering how to navigate the complex prison and public health care system at the same time. Luckily for Rosemary, she was able to secure help from a local prison abolitionist group located near her home in Los Angeles. The organization has supported her search to meet Don's health needs. Establishing a proper medical set-up did not come easily for Rosemary who is retired and subsisting on disability payments. Because of the prison abolition group's knowledge, Rosemary has worked around the shortcomings of the prison health care system and will see to son's return.

The unavailability of information about the disease within the prison hinders their ability to negotiate the risks, to identify its symptoms, and to advocate for adequate treatment upon the first signs of infection. In 2009, Elijah was sent to Taft Federal Prison from the Metropolitan Detention Center in downtown Los Angeles. In hopes of maintaining his health in good condition, Elijah spent as many as four hours a day walking around the track and field at the Taft prison. Before prison, Elijah was a licensed medical doctor. Today, Elijah is immobile and can only speak for short periods of time due to damage to his

lungs and his body. He requires a nurse at his bedside for most of the day. His son Andrew now serves as his legal guardian and was the interlocutor during our interview over the phone. Andrew describes his father's experience:

> He would request medical attention several times, but it was just Tylenol or something. I think he was taking quite a bit of Tylenol… His friend Rosa, who is now his caretaker, she would visit him very frequently and she noticed that he wasn't doing so well. She thought he might have liver jaundice or something like that, but we weren't sure.

At the first sign of his body's deterioration, Elijah who is a trained health professional, sought medical help from prison staff, but he was turned away. Andrew could not estimate how long it took before his father's health worsened; however, he points out that "[i]t was a steady decline" and that "he developed all of the symptoms while at Taft." Andrew was informed that his father was suffering from Valley Fever after Elijah was sent to the Bakersfield hospital:

> At some point he had collapsed, and I don't know if they took him to the hospital right then and there or what exactly transpired. At some point he was taken to the local hospital, I believe it was in Bakersfield. Yeah, he was in the emergency room and I guess he was in a state of subsist, where the infection ran all over his body and right through [pause]. They did a spinal tap and there was a lot of pressure built up in the cerebral fluid. When they did a spinal tap they relieved a lot of the pressure. So, he immediately felt better. His hole was so closed that he had hydrocephalus. I went to visit him in the hospital and he was almost one hundred percent better… they said he caught Valley Fever. They diagnosed him with Coccidioidomycosis fungus.

The prison staff's reoccurring misdiagnoses delayed Elijah from entering treatment right away, even though he complained regularly, and his family and friends noticed his worsened health. Elijah's expertise did not make a difference in his advocacy for adequate healthcare.

In less than a year, Elijah was transferred to Terminal Island in Long Beach due to the poor status of his health. He spent "a lot of time in the hospital" and was chained to the bed while incarcerated during the next few months. Andrew explains that while at Terminal Island, his father relapsed with all the same symptoms he had endured at Taft:

> So, he was scheduled for release back in 2012, I believe. But because of his health condition I think they ended up transferring him at that point to Terminal Island in Long Beach, California. He was there, and they had a lot of a trouble because they didn't transfer over his medical records or his medication. He really wasn't doing so well over there. And they made him walk around like all over the place and he collapsed. He was having problems with memory. He had to go to the hospital numerous times, cutting what shut his brain to keep the fluids from building up, the brain tissue or the meninges. He was in the hospital here and there. He saw doctors and infectious disease specialists… The staff wasn't entirely briefed about his condition. He wasn't given care, appropriate care… They ended up keeping him an extra four months when he got released. His original sentence was four years, but I guess good time credit resulted in a total of three years. He stayed a total of three and half years. But he spent a lot of time in the hospital while incarcerated for a few months.

Although the prison health authorities eventually attempted to restore Elijah's health, their belated attention caused irreversible injuries to his health. Not only did Elijah complete his sentence for the crime he was convicted, but he was further punished with physical immobility, speech impairment, and a lifetime dependence on medication, on a caretaker, and on a legal guardian to make decisions for him. Furthermore, Elijah lost any prospect of continuing his career now that his physical health was permanently compromised. These are the kinds of incalculable costs for which the CDCR takes no responsibility. The price amounts to much more than what prisoners are committed for.

In this next section, I explore what happens when inmates who contract Valley Fever return home. I explore how community re-integration is further complicated by illness.

Former prisoners not only deal with re-criminalization in the employment search process and accessing social support services, but also are threatened by the uncertainty how their illness will affect their future opportunities.

Returning Home with Valley Fever

The massive exodus of prisoners faced with the task of community reentry includes people who acquire Valley Fever while incarcerated. In the United States, nearly 7 million people are released from prison and jails each year (Hammett, Roberts, and Kennedy 2001). Approximately 93 percent of all inmates will eventually return home (Petersilia 2003). The sheer volume of reentering prisoners has spur questions about their experiences as reintegrating residents and how communities are prepared to deal with their return.

The official discharge procedure for California Correctional Health Care Services (2015) stipulates that inmates could be given up to thirty-days of medication if it is "necessary to protect life, prevent significant illness or disability, alleviate severe pain, or mitigate side effects of other essential medications" (1). In the best-case scenario, returning offenders with Valley Fever, such as Eteaki, are handed a plastic amber medication vial with a thirty-day supply. They alone are then responsible for securing their health after their release. This process evades answering whether the illness was acquired in prison, has collateral damage to inmates' health, or is a terminal disease; such factors are irrelevant to the amount of time the CDCR is obligated to support the former prisoner.

The CDCR is unlikely to prepare people with Valley Fever for a successful reentry. When inmates are released into the public, they are sent without a medical discharge plan (Shavit 2016). Some inmates find that their Medicaid coverage has lapsed if they have been incarcerated for over twelve months. Others are not offered health insurance at all. There is no formal process for a follow-up appointment with a primary care physician or to transfer medical records after release. Given that inmates are more likely to acquire illnesses while in prison than in the general public and more likely to suffer from undiagnosed medical and mental health problems (Petersilia 2003), depriving inmates of healthcare upon release threatens their medical needs and overall health.

Returning offenders with critical condition of health and without the security of receiving ongoing treatment with a primary care physician, come home to communities already impacted by cumulative vulnerabilities. Formerly incarcerated people return home where housing arrangements are unstable, unemployment is high, environmental pollution is constant, police represent peril rather than a promise, and healthcare is inadequate (Ansell 2017; Bender, Cobbina, and McGerrell 2015; Lipsitz 2012; Phillips 2012; Clear, Rose, and Ryder 2001). When people are denied the kind of restorative opportunities that protect their health, the impacts are felt in their families, in the community, and in the criminal justice system.

Released with a criminal but not a medical record transfers the responsibility of healing from public institutions to private residents. The shifting burden from prisons to people first became visible to me as a volunteer with the Victory Outreach ministries in Bakersfield. I met Brother Ernie and Brother Castro, two former prisoners, over the course

of six months when I helped prepare a home cooked breakfast for residents living near Martin Luther King Jr. Park.

Brother Castro is the official quality control person who tests the coffee and food before we pack it up and deliver it to the park. He was born in McFarland nearly 50 years ago, a small town twenty minutes north of Bakersfield. His mother was born in Oklahoma and his father in Mexico. Castro's hair is thick, dark, and slicked backed. His eyes and nose are sharp like an eagle. He has a small tattoo on his left cheek bone with roman numerals. An eye drop is tattooed near his right eye. The images are hard to distinguish because they have faded and blurred. Castro usually wears jeans, a white t-shirt and a black Ben Davis jacket. He carries his coffee mug like priests carry the bible.

Brother Ernie is the food carrier who checks on everyone preparing breakfast and then, loads the food in the vans. He was born in Oakland and moved to Kern County with his mother when he was a young man. Ernie is almost fifty. He has dark wavy hair that is slicked back with a fine comb. He has tattoos on his arms, but most striking are the eyes tattooed over his eye lids. His thick mustache resembles the Mexican rebel Emiliano Zapata. Daniel's choice of clothes are short sleeve collared shirts with kaki Dickies.

We had our formal interview at Kern Public Library, the main branch located in downtown Bakersfield. They confessed that neither of them had ever stepped inside the place. Together they look like two "vato-locos," original gangsters meeting up. It did not strike me odd until the librarians examined us with their beady eyes from head to toe as we crossed the reference desk. Escaping the criticism, we conducted our interview in the

outside patio near a water fountain. Being surrounded by brush and flowing water eased the tension off a bit.

Brother Ernie was incarcerated several times throughout his youth and served his various sentences in six different penal facilities. He was "in and out of prison" for theft, drug possession, and eventually assaulting a police officer. Castro recalls Kern County as a place plagued with racism by police officers who systematically harass young men of color. According to Castro, the Kern Police Department has lost respect for human life. Unlike the time when he was a young boy, police officers feel above the law and are unaccountable for taking the life of other men. Brother 1Ernie agreed as he told his own story:

> There is no respect. They just don't care. You cannot even call them. It is either- Whom I am going to call to help me? My friends or the cops? Who is going to do you right? Who is going to treat you better? People right now, they scared to call the cops when anything happens because the cops, it is their career, to pull themselves up. They don't have to be there to help you. I don't know what's going on here in Kern County, but they can live, talk to whoever they want. They broke my leg one time…
>
> Author: And what happened that day?
>
> Ernie: I took off running. They hit me and broke my leg… He maced me when I was in back of the car. When he maced me, because when I was in pain I was tapping at the window 'hey I need to go to the hospital.' They said it's over here. They opened the door and he maced me.
>
> Author: In the car?
>
> Ernie: In the car and handcuff. So I am at the hospital and I am still trying to yell for help, and my leg is in pain. He has me on a chair and they give me no attention… So I am yelling, and yelling, and he [the nurse] is all, "open your eyes." I couldn't. *Nombre* [No way]. Because if you open your eyes when they're maced they hurt, they burn. They told me, "open your eyes." He is hitting me on the side of my stomach. "Open your eyes." I am like, I am not opening my eyes. Finally, they are giving me a minute of attention. They told me that my leg was fine. There was nothing that was broken. They sent me to jail like that because I went to jail. I was

> in jail like for three days until they took me back [to the hospital]. My leg was broken. Because they don't want to treat you. Once the cops take you there and they say you are ok, you are ok because they are not going to give you medical attention.
>
> Author: At the hospital, there are doctors, nurses, all the staff--
>
> Ernie: They are with them; it's the same thing.

Brother Ernie explains that he spent three days in jail before a doctor properly examined him. For Ernie, the police knowingly injured him and did nothing to provide him with a physical examination. The chances of obtaining an adequate health exam was unlikely because the medical professionals and criminal justice officers were on the same side.

Brother Castro and Brother Ernie did not contract Valley Fever symptoms while incarcerated or while living and working in the Central Valley; however, both faced the difficulties of transitioning back into the community after release such as establishing an alternative life to drug dealing, theft, and other activities that led to their incarceration. Neither felt the support of relatives to get their lives on a good track. During an informal conversation, Brother Castro revealed how his father attempted to place him in rehabilitation by "kidnapping him" and dropping him off at a men's group home in Delano. Castro recalls feeling abandoned and given an ultimatum to change his ways or risk being excommunicated from his family. This abrupt intervention was not successful for him.

Brother Ernie's story of feeling separated from his family is similar. When asked where he was incarcerated, Brother Ernie replied "Me? Wasco Central Valley, Jamestown [Sierra Conservation Center], Susanville [High Desert State Prison], Delano, Shafter, McFarland. With the peep's [people] of McFarland, I have been to three of those. Yeah,

Coalinga. There is another one." Ernie explains that this path through the prison system came as a result of losing his father and eventually his entire family.

> My dad was in the army. My mom went with him but they needed to move back to Phoenix and left everything. At age of 10 my dad was killed. He was a teacher at Arizona State University. It's on the computers; look for a computer because we are on there. The programs, those were beautiful programs. So when that happened, we moved to Bakersfield. This was in 86, we move here… So as that happen, it broke our family apart, everything. So, I was looking for this father figure. Where I hung out, everybody was older. My mom married several times, like 4 marriages. So I didn't like that. So, I started looking for friends, start selling drugs, selling dough [drugs], hanging out.

Brother Ernie's story speaks of long periods of isolation from the community and from his family as it came apart with the death of his father and the absence of his mother. During his release from six different prison facilities in California, he managed to get through daily life one way or another. He explains, "I will be honest with you. Everything I have, three years ago I stole it... When I got out of jail, I got a cellular phone with no battery and a toothbrush. Because on the streets, that's all you carry, it was a toothbrush." For Daniel, reentering the public was a task that required surviving with the bare essentials. Carrying a toothbrush and stealing other necessities were part of his transition into the community. These survival skills, however, landed him back in prison several times.

Ernie is now on a path to recovery. The Victory Outreach members showed him how to get on his feet.

> Yeah, I will not trade it for nothing, the way I live now. When I got out [of prison], I went to a men's home. I was there eight months… And once you get to the men's home, I knew I could change. I had to put aside my family, put aside my babies' mamas because there was nothing at that point that I could leave them. The best thing that I could do is put myself up [in the men's home] and focus on God. I start going to church, going to church, going to church. I worked in the grape fields for eight months, and it was faith for my recovery, going to church every day. I didn't miss

> any day at church… Yeah, and I was blessed with the job, like five dollars or more an hour. That's what they give you.

In the three years participating in the ministry, Ernie attends church twice a week, leads men's healing circles, and volunteers at the church's events. Ernie is settled down, married to someone who also attends the ministry. Recovery occurred for Ernie because he found the support he needed to straighten out his life in the ministry. Without the support, his reentry would, once again, have taken a different path.

When asked about prison healthcare, both Ernie and Castro enthusiastically replied that it was good and overall better than the healthcare available to them in town. Ernie expressed, "[In prison] they do take care of you. Their dental is awesome. I didn't know much about teeth, but they fix yours. Yeah, there's a waiting line, but it's worth it." Accessing a physician in the city of Bakersfield, however, is a discouraging process because the available clinics are underfunded and overcrowded.

> Castro: It's a broken system to me. It's like, there is so many people, that they don't become patients any more, they become case numbers. It's like, *fiu, fiu, fiu [*makes hand gestures to indicate passing out numbers]. Give me a pill and let's go. You know? Like me, I don't go to the doctor either, if I am sick. I even have, I applied for M.I.A. Do you know that is?
>
> Author: Oh yeah, that assistance program?
>
> Castro: According to this, in January of last year, the Obama thing switched it over. So I have to get Medi-Cal. They gave me Medi-Cal. Ok cool I have it for a while and then I have to renew after so many months and I didn't do it because, I don't like to do all this paper work and stuff. So, I don't get it anymore. But I never used it. Because you know, if I get sick, I will ride it out too. I just, you know, because I don't like to sit there for five hours.
>
> Author: Oh. You have to sit and wait?
>
> Castro: Oh yeah, that's one of the main things. I don't want to sit there for 5 hours with a bunch of people, everybody yelling, screaming. Kids are, you know, sick with the flu and bla, bla, bla, and, you know. I am number 14, and you know?...

Ernie: I'm number 80.

Castro: Yeah, and I get number 112, and no…

Author: What clinic is that?

Ernie: That's the KMC [Kern Medical Center]

Castro: The KMC. The emergency room!? Yeah, that's 7 to 8 hours.

Ernie: To do that!

Like many low-cost clinics in the community, Kern Medical Center KMC is structured to attend patients based on medical priority, where individual cases with less life threatening conditions take the least priority. This often means that sick patients have to wait five hours among people and children who are also ill and on the brink of losing their patience, only to be quickly seen and "given a pill" for symptoms. Rather than to be treated as a less deserving person, Castro chooses to opt out of receiving health services all together, therefore allowing others to take his place instead. Castro would rather "ride it out" or endure illness and allow his body to heal on its own. Although Castro currently has a stable job and a stable housing location, securing health insurance is such a painstaking and confusing process. If there is support available to him, no one has disclosed that information. Castro elucidates that the imagined targeted patient of the Affordable Care Act is an educated middle class consumer living in a stable location that can keep records and manage their own health care like a business. This is not the reality for people like Ernie and Castro whose lives are routinely disrupted.

Ernie's and Castro's stories reveal the struggles of prisoner reentry. As men with criminal records, they face hurdles to secure housing, employment, and healthcare. Ernie and Castro have access to clinics that are regularly overcrowded and underfunded. Similarly

to other low income populations relying on these clinics for services, securing an appointment can mean having to wait. Even if they do obtain care at the cost of invested time, they are often treated with less importance. The healthcare after incarceration can result in a demoralizing experience.

Working with Valley Fever

Participation in vocational training or career technical education has steadily declined among prisoners (Crayton and Neusteter 2008). Overcrowded conditions, as well as the reduction in funding for job skills development programs in penitentiaries have reduced the opportunities for prisoners to polish already existing skills and to obtain new ones (Petersilia 2003). When prisoners are released, they are less prepared to successfully enter the job market. The participants in this study elucidate that Valley Fever further complicates the prospect of landing a stable job.

After a long battle with Valley Fever, Joaquin was released from prison with apparent physical strength, no respiratory problems, and no sign of his former condition. Yet, the damage that Valley Fever caused to his body materialized after securing a job in an outdoor setting. Joaquin explains:

> When I went there (the prison clinic) I saw a doctor, by the way because my supervisor took me. I said what was wrong. I described what was wrong. They already had enough cases of Valley Fever. And usually, what I was told was "you contracted pneumonia." It was [in audible] of your lung. They sent me to ECC, a name of a medical place right there in Pleasant Valley [State Prison]. So, when I went there they took an x-ray.

> They saw a white-ish grey-ish spot. They said it was pneumonia. And they gave me a pneumonia shot and they took my blood and they sent it to UC Davis, up there.
>
> It turned out it was Valley Fever and they said that my tetra hyper something levels of the spores was 15 or 32, something like that. So, they started me a treatment on antibiotics, which was that flucanaze, or that fluca is what it was called. And I was like 6 months, 8 months to a year of just taking that. It was 2 [pills] in the morning, 2 in the day, and I had 2 and 2. But, uh, it was a long process.
>
> Today, my tetra-- or I forget the correct word, but my level is down. And, it's there now. I mean I was working in a farm and all that medication, the long term use of it messed up my stomach. Smells, stuff like that, odors, my stomach gets so sensitive. I feel like dry heaving in my chest. I'm going to throw up. And then my head, dizzy. I mean, things weren't working, so I did something else.

Even though the physician declared Joaquin healed from the disease, he was still struggling with its long-term consequences after release. Joaquin felt its secondary effects acutely while working; dizziness, sensitive stomach, and nausea destabilized his secured employment. The failure of prison authorities to protect prisoners from exposure to VF and to offer continued healthcare precisely for undisclosed secondary effects, makes Joaquin's return home an unsettling process, limiting his options to earn a stable income and feel physically well.

Nicholas, an African American man from the Sacramento area was sentenced to 14 months at Taft Federal Prison. When asked how Valley Fever has affected his life after release, Nicholas explains the uncertainty he encountered:

> Now I got to do something because you can't be on disability forever. The thing is that they kill you with your record and now even your disease. You

> have to fight two things at the same time. It's hard to get a job. It's too much liability for your employer.

Nicholas received state disability insurance after his release from Taft Federal Prison in 2014. Although he no longer has a Valley Fever infection, he is now physically unable to move for long periods of time due to the severe damaged to his lungs. He still runs the chance that a doctor will declare him able to work, making the search for employment a discouraging task. Few employers will want to hire someone who has physical limitations and a criminal record. Similar to Joaquin, Valley Fever has limited Nicholas' opportunities for a successful recovery.

Bob was released from Avenal State Prison (ASP) with a Valley Fever infection. At the time of the interview, the disease had rendered him incapacitated for an unknown amount of time. Bob shared that his new life depended on securing medication to fight off Valley Fever and securing other medicines to help his body function regularly. Bob explains:

> You know, I'm still on the medication for the rest of my life. I can't have a bowel movement by myself. I have a medication that I have to take in order to loosen up my bowels so that I can use the restroom because the side effects of the medication of the Valley Fever, it dries you up on the inside. And they don't let me have a regular bowel movement like you or what else might go to the restroom. So, I have to take this medication to clean myself out sometimes. And the doctor told me "Bob you might as well get use to this because you are going to be on this stuff for the rest of your life. There is no cure for Valley Fever. There's no cure for it." Some people get it worse than me. Some people just get a little something. And I think that I am one of the ones that got it really *really* bad because, like I said, I spent in the hospital for like 2 months. Things never went right after that there.

Now released from prison, Bob explains his medical burden:

> I still go to the doctor every two weeks to three weeks. I see the doctor because they have to constantly be drawing blood from me to find out the level of the cocci, of the Valley Fever. So, they draw the blood from me and then they run tests on it and they tell me my levels. My levels have almost been just the same.

Bob will need to monitor his blood for a re-infection for the rest of his life. He needs economic and moral support to drive to the doctor's office two times a month, but also the financial means to pay for the lab work and the medication.

Joaquin, Nicholas, and Bob illustrate that a Valley Fever infection acquired in prison does not imply the prospect of fully healing. Long term injuries can emerge upon reentry. Some infections require medication for an uncertain amount of time. Others require persistent monitoring, additional tests, and medication to "control" the levels of Valley Fever for the rest of the persons' life. When prisoners with Valley Fever return home, their healing process is undermined by a skeletal transition to community based health care. A thirty-day supply of medication, or in some cases, a complete termination of their care does not fully support former prisoners' recovery needs.

Discussion

The various experiences shared by former prisoners with Valley Fever and their kin suggest that prison health care follows a restrictive and punitive model. Prisoners must convince experts that they are at risk of contracting Valley Fever, sometimes having to wait until the disease has jeopardized their health significantly to receive medical attention. Repetitive and fruitless visits to the prison clinic suggest that authorities have demonized

prisoners as untrusting. The conditions of prison health care do not facilitate privacy or confidentiality. Prison healthcare is often provided behind bars, in isolation cages, or even through lengthy bureaucratic processes. When prisoners struggle or fail to show up to the medication lines, they can be threatened with being placed in solitary confinement. The absence of a health care system that accommodates prisoners' health needs has forced other prisoners to provide caregiving for sickly patients. When inmates are seen primarily as prisoners rather than patients, the emphasis will be on confinement and control.

Returning home with Valley Fever can make stabilizing one's life more challenging than what is already anticipated for returning offenders. It is up to the patient to obtain medical records, secure a physician, provide records and manage payment for medical treatment, transportation, and the loss of time to obtain care. Even when prison physicians have declared people "recovered" and ready for release, the lasting effects of Valley Fever can limit job opportunities, often leading to relinquishing good jobs and the benefits that go with them. The thirty-day supply of medication that some prison authorities provide is only a recommended maximum allotment. Yet, people who are released with Valley Fever infections need support to navigate the public health care system and facing the challenges of returning home with Valley Fever.

Because of the unforeseeable injuries that Valley Fever and the prison health care model caused to their health, former prisoners are determined to be active guardians rather than passive spectators of neglectful social and environmental conditions. Participants' experiences raise important questions about the utility of operating facilities in endemic zones. As we saw in the previous chapter, the CDCR is now mandated to implement steps to protect prisoners from Valley Fever. What remains unclear is whether such interventions

can meaningfully protect prisoners' health not only in prison but also in the public. Moreover, how will a revamped prison healthcare system measure up against exposure to a potentially incurable, unpredictable, and fatal disease?

References

Bender, K. A., Cobbina, J. E., McGarrell, E. F. (2015). Reentry Programming for High-Risk Offenders: Insights from Participants. International Journal of Offender Therapy and Comparative Criminology, online April 2015 (30).

Brennan Ramirez LK, Baker EA, Metzler M. Promoting Health Equity: A Resource to Help Communities Address Social Determinants of Health. Atlanta, GA: Centers for Disease Control and Prevention; 2008.

California Department of Public Health. 2014. The Epidemiology of Coccidioidomycosis—15 Different Counties 2007-2011. Kings County: California.

Clear, Todd R.; Dyna R. Rose, and Judith A. Ryder. 2001. Incarceration and the Community: The Problem of Removing and Returning Offenders. Crime and Delinquency, 47 (3), 335-351.

Crayton, Anna and Suzanne Rebecca Neusteter. 2008. Prisoner Reentry Institute, John Jay College of Criminal Justice. Retrieved from https://www.prisonlegalnews.org/news/publications/pri-crayton-state-of-correctional-education/

Ferry, David. 2015. "Valley Fever is Taking a Toll on California Prisoners and it's the Government's Fault," February 3, *The Grist*. Retrieved from http://grist.org/living/valley-fever-is-taking-a-toll-on-california-prisoners-and-its-the-governments-fault/

Frampton, Mary Louise; Ian Haney Lopez; and Jonathan Simon. 2008. After the War on Crime: Race, Democracy, and a New Reconstruction. New York, NY: New York University Press.

Hammett, Theodore M.; Cheryl Roberts, and Sofia Kennedy. "Health-Related Issues in Prisoner Reentry." *Crime & Delinquency*, 47(3): 390-409.

Lipsitz, George. 2012. In an Avalanche Every Snowflake Pleads Not Guilty: The Collateral Consequences of Mass Incarceration and the Impediments to Women's Fair Housing Rights. UCLA Law Review, 59(1746).

Petersilia, Joan. 2003. When Prisoners Come Home: Parole and Prisoner Reentry. Oxford: Oxford University Press.

Phillips, Susan A. 2012. Operation Fly Trap: L.A. Gangs, Drugs, and the Law. Chicago, IL: University of Chicago Press.

Shavit, Shira. 2016. "Transitions Clinic Network: Transforming the Healthcare System in Partnership with Justice-Involved Individuals." Presented at the UC Criminal Justice & Health Consortium, University of California San Francisco.

Sieter, Richard P. and Karen R. Kadela. 2003. Prisoner Reentry: What Works? What does not? And What is Promising? Crime and Delinquency, 49(3): 360-388.

Visher, Christy A. and Jeremy Travis. 2011. Life on the Outside: Returning Home After Incarceration. The Prison Journal Supplement to 91(3): 102s-119s.

Woods, LaKeesha N.; A. Stephen Lanza, William Dyson, and Derrick M. Gordon. 2013. The Role of Prevention in Promoting the Continuity of Health Care in Prisoner Reentry Initiatives. American Journal of Public of Health, 103(5): 830-838.

VIII. Chapter Eight: Conclusion

This qualitative case study explores how farmworkers and former prisoners describe contracting and recovering from Valley Fever. I analyze participants' collective knowledge about this environmental disease. I examine how vulnerable groups understand Valley Fever, the strategies they devise to navigate its cumulative effects, and how poverty, prisons, and pollution influence their health. I am critical of the biomedical model, particularly of how it frames the causes, consequences, and potential cures as genetic and behavioral. I offer a social ecological perspective about Valley Fever to illustrate how people, policies, and practices make farmworkers and prisoners disproportionately vulnerable to illness.

To meet the goals of this study, I conducted field research in the Valley Fever endemic area known as Kern County, California. I deployed an *observant participation* research strategy as recommended by João H. Costa Vargas (2008) during the period of August 2015 through June 2016. I recruited and conducted a total of thirty-nine in-depth interviews with farmworkers and with formerly incarcerated adult men and women of color, with relatives and kin of former prisoners, with prison abolitionists and environmental justice activists, and with an attorney filing lawsuit on behalf of over 1,000 prisoners affected by the disease. To augment my understanding of the social ecology of Kern County, I attended weekly meetings with five local environmental justice organizations. I participated in activist-led "Toxic-Tours" and demonstrations, and volunteered as a grant writer for one of the groups. I also volunteered at a prison and community based Christian faith ministry, where I assisted with preparing and delivering a free home cooked breakfast

to residents near Martin Luther King Jr. Park once a week, a neighborhood affected by poverty, prisons, and pollution. Archival research including court opinion papers and articles filed in various public libraries, as well as internet discussion forums for kin of prisoners were used to obtain a broader view of the Valley Fever crisis. The various research sites revealed residents' expert knowledge about poverty, prisons, and pollution and how they collectively contributed to the cumulative risks that lead to contraction of Valley Fever and impede recovery.

In the first chapter, I explore participants' deployment of a cumulative, collective, and continuous framework for understanding health risks. Participants shed light on how poverty, prisons, and pollution created through unequal social relationships and social structures cause disproportionate injuries to farmworkers and former prisoners' health. Such an approach provides a social ecological lens and a roadmap for reducing and alleviating the hidden dangers associated with Valley Fever.

Chapter three explores the agricultural industry of California and the public health care system to illustrate how the conquest and exploitation of natural resources of the Central Valley have jeopardized the health of non-white farmworkers. Fueled by the desire to farm cheaply, policies and practice produce deplorable living and working conditions, differential health care for non-whites, and a constant threat of dispossession, deportation, and incarceration for non-whites and immigrants over generations. I argue that the UFW health clinics established in the late 1970s provide a strong model for contemporary Valley Fever health experts to emulate. The UFW perspective on illness focused on alleviating the collective and cumulative injuries to health such as poverty wages, deplorable housing, the threat of deportation, racial discrimination, and pesticide exposure. Health was envisioned

as a collective commitment that was shaped by public and private agreements. Union members and health professionals actively negotiated with growers for the elimination of toxic hazards and oppressive unsafe conditions, some of which regulators such as the U.S. Environmental Protection Agency soon followed.

In Chapter four, I explore farmworkers' experiences of contracting and recovering from Valley Fever. When farmworkers embark in the system of care, it is often with punitive, embarrassing, and undesirable experiences. Even though farmworkers are committed to securing their wellbeing and are responsible health consumers, many are subjected to waiting long hours or even weeks for care, and to prices for medicine they cannot afford. They are thus disillusioned with a medical system that is riddled with uncertainty. This chapter is critical of the biomedical model and the public health sector that identifies genetic factors and individual behaviors as the causes of susceptibility to Valley Fever, rather than attending to the dangerous social ecology causing injuries to vulnerable groups' health.

In Chapter five, participants illustrate that Valley Fever is inseparable from environmental pollution. It is an illness impacted by the feeble nature of the rules and practices that are meant to protect their health, forcing participants to develop their own strategies of defense against contaminated air, water, and soil. The experiences of participants elucidate that free market economic thinking produces cumulative environmental health injuries while also leaving individuals on their own to find solutions.

Chapter six compares the current Valley Fever outbreak in carceral facilities to outbreaks in camps for prisoners of war during the Second World War. Japanese American and immigrant prisoners forced into the Gila River Relocation Center experienced the

federal governments' disinterest in reducing prisoners' exposure to Valley Fever and their recovery. Detainees were forced to diagnose and treat their own symptoms with the limited resources available to them. Infrastructural and medical interventions, as well as parts of international law that prevented illness or potential death, however, were reserved for German and Italian prisoners of war located nearby. I argue that the California Department of Corrections and Rehabilitation today follows some of the same racist patterns as the authorities in charge of the Japanese Detention Centers. Prison authorities' infrastructural solutions were slowly implemented, and their delivery of health care was infused with racial discrimination. These strategies shifted culpability for health risks away from vilely poisonous places toward virtually powerless people.

In Chapter seven, I explore how former prisoners describe their experience with Valley Fever and what happened upon their return home. Participants illustrate how prison health authorities failed to protect their health, leaving them to struggle on their own for their self-preservation. Moreover, acquiring Valley Fever yields hidden health consequences that become visible after release, but former prisoners are not aided in their transition between prison and public health care. Ex-offenders are essentially given a life sentence of chronic illness added to whatever time they serve for a crime.

Limitations

As a case-study, the design of this research intends to capture only a slice of the larger experience of vulnerable groups who contract and recover from Valley Fever. It is not a full regional analysis and is not inclusive of the various groups considered vulnerable.

Other Valley Fever Endemic Counties and vulnerable populations may reflect their own unique histories of exploitation of land, people, and resources that may or may not simulate those found in this study. This case study does reveal, however, the influence of prison institutions, government health care policies, resource extraction companies, and the various practices that shape the macro and micro conditions injuring the health of prisoners and farmworkers otherwise missing from Valley Fever research.

The timing of this study has its own limitations. Policies and reports about Valley Fever are currently changing. Some participants shared their stories from "distant" memories, as far back as 1998 at the height of the "war on crime," a national welfare reform effort, and on the heels of California Proposition 187 which limited public services to unauthorized immigrants. Others described how they were still negotiating their recovery with the support of the Affordable Care Act. In order to better address the limitation of timing, it would be a good idea to design a study that selects a specific reference point for analysis. These findings could capture, for example, how the implementation of public policies or health care developments affected vulnerable groups' experiences with Valley Fever.

Lastly, different approaches to this study would highlight other facets of the same phenomenon. One unexplored area is the varied experiences of women, particularly as they relate to the division of labor at home and at work, the value of support networks, and the shift of family structures due to poverty, pollution, prison, and illness. Also, we know less about people who contract Valley Fever in Kern County but who move to urban cities, another state, or another country. This may especially be revealing of the experiences of

migrant seasonal workers and recently released prisoners who resettle in communities away from the Central Valley.

Contributions to Research

Participants reveal that we need to move forward with broader conceptualizations about health, illness and the environment as they relate to Valley Fever. The knowledge of vulnerable groups identifies biomedical solutions as too narrow and shows that public health recommendations for protection against Valley Fever fall short of considering vulnerable groups' circumstances, specifically their experiences with poverty, prisons, and pollution. The contributions of farmworkers, former prisoners, and community activists who work daily to alleviate the burdens associated with these various issues importantly illustrate how inequality and racial discrimination can influence contracting and recovering from Valley Fever. Together participants form a collective expert knowledge about the disease that is absent from dominant conversations about causes, consequences, and potential cures. Given the urgency of finding solutions for Valley Fever, it would be imperative to engage participants' knowledge meaningfully in future projects.

Future Direction

The connections between farmworkers and prisoners can be explored further. A future direction for this study is to return to the communities impacted by poverty, prisons,

and pollution. The rapid growth of the prison population has contributed to sewage spills into ground waters that service local communities and prisoners as well (CURB 2016). Carceral facilities and rural communities in the Central Valley are surrounded by agricultural pesticide drifts, chemical waste evaporation from oil well water ponds, ammonia gases from dairies, and dust that contributes to the gestation and dissemination of Valley Fever (CURB 2016; Abolitionist Law Center 2013; R.W. Gilmore 2007; Braz and C. Gilmore 2006; Cole and Foster 2000; Pardo 1999). Unlike other residents of the region, prisoners are stripped of their right to use water for flushing the toilet. They are restricted to bathing three times a week, even though more gallons of water are consumed for maintenance than for personal use by inmates (Rothfield 2008; Pemberton 2015). The health impacts of pollution in prisons are usually not detected until a significant number of people reveal symptoms of poisoning, despite clear evidence in the hands of state officials about the risks and access to funds allocated by the state to clean up hazards (CURB 2016). The health of both the prisoners and the residents outside the prison walls is injured by the hegemony of knowledge regimes that focus on prescribing biomedical treatments to relieve painful symptoms and return bodies to working health, rather than restoring the healthful ecologies of homes and communities, of securing safe living and working conditions, and of establishing resources that ensure good health.

Analyzing the cumulative and continuous vulnerabilities injuring prisoners' health in the Central Valley is an ascendant line of research (CURB 2016; W. Gilmore 2007; Braz and C. Gilmore 2006). Most studies about prisoners' health focus on investigations into the causes of illnesses, inquiries into the lack of urgency among prison administrators and public health officials to meet health needs, and identification of covertly racist politics

inside and outside the carceral system (Welch 2005; Schnittker, Massoglia, and Uggen 2011; Van Ryn, Burgess, Dovidio et al. 2011). All of these need to be studied, but without an analysis grounded in social ecology, they can lead to remedies that only fine tune the already existing prison health policies rather than addressing the cumulative vulnerabilities responsible for perpetuating continuous health risks.

Prisoner advocates and environmental justice activists have complained repeatedly about violations of prisoners' rights to adequate and timely health care and about evasions of their exposure to environmental pollution. They have forged what George Lipsitz (2006) identifies as "unexpected affiliations" in mobilizing a protest coalition within and across different aggrieved racial groups. The collective identity forged in this organizing goes beyond identifying and protesting against individual acts of discrimination to instead "expose the collective practices and patterns that produce inequality and that keep whole collectivities subordinate to others" (26). Based on in-depth interviews from my dissertation and ongoing observations in my field research site, the prison abolition and environmental justice coalition deploys a grassroots social ecological analysis about the unequal health impacts of poverty, prisons, and pollution that I wish to explore further.

In a newly emerging study examining the origins, evolution, promises and problems of the coalitions that have formed between prison abolitionists and environmental justice advocates, I seek to understand how community-based coalitions envision health and environmental justice. The goal of my future work is to participate in a broader conversation about coalitions among social movement groups raising new paradigms suitable for forging collective solutions to cumulative vulnerabilities.

Methodological Appendix

In this study about the social ecology of Valley Fever, I examine how the social and environmental context in Kern County make some groups more susceptible to acquiring Valley Fever than others. Following the theoretical tradition of W.E.B Dubois, Charles Briggs and Clara Mantini Briggs, Nancy Krieger, Gilbert Gee, Dorothy Roberts, and Julie Sze, I expanded the reach of our thinking about the diversity of experiences that contribute to vulnerability by drawing on the collective knowledge of at-risk groups. The research questions of this study are about how the social and environmental structures in Kern County shape illness and recovery for farmworkers and prisoners. How is the knowledge of at-risk groups different from conventional experts? What cumulative and connected vulnerabilities do at risk groups face?

To examined in great detail the experiences of farmworkers and former prisoners who contracted and recovered from Valley Fever I designed this research into a case study. The case study design allowed me to analyze the variation of experiences among participants as isolated events, while also exploring the place specific history of Kern County as a slice of the larger social ecological phenomena of the Valley Fever epidemic.

To acquire and analyze data, I applied the techniques related to ethnography. Ethnography allows researchers to re-evaluate their position in the field and reduce unequal power dynamics, to conduct research that is politically motivated, and to have major implications for changing social inequality (Naples 2003). I followed the recommendations outlined on the *Ethnographic Fieldnotes* by Emerson, Fretz, and Shaw (2011).

Participants were selected based on their self-verification that they were a former prisoner or labored as a farmworker and had experiential knowledge of Valley Fever. To select farmworkers for this study, I recruited most participants in diverse locations. I explained the parameters of this research project to potential participants and followed my introduction with two questions. The first was whether the participant felt that she or he had qualified to participate in the study. The second question was embedded in the recorded interview and asked where the participant worked. This process confirmed that the farmworkers who volunteered to participate in this study labored in the agricultural fields and had experiential knowledge about Valley Fever.

I recruited former prisoners who contracted Valley Fever through the method of snowball sampling. Reaching out to family, friends, and extended networks, I asked whether they knew someone who acquired Valley Fever while incarcerated. This method allowed me to connect with members of various community-based organizations who then connected me to former prisoners who contracted Valley Fever while incarcerated. The following community groups helped me through this process, Youth Empowerment and Goals Association (YEGA) of Sacramento, Fresno Prison Moratorium Project, and Californians United for a Responsible Budget in Los Angeles. During the interview phase, I asked participants to identify the facility they were incarcerated at when they contracted Valley Fever. The facilities were all confirmed to be located in the Central Valley of California.

Following the recommendations of Allaine Cerwonka and Liisa H. Malkki (2007), I sought to diversify the categories of the people I conducted interviews with by engaging

with the community activists of the Prison Abolition Movement, the mobilization for Environmental Justice in Kern County, and advocates for prisoners' community reentry through a faith-based organization known as Victory Outreach of Bakersfield. Interviews with members of these diverse organizations and movements provided a more robust portrait of what it means to be a prisoner or a farmworker in a Valley Fever endemic county. The role of these participants was not always to serve as the objects of research, but as black feminist theorist Patricia Collins (1990) has argued, participants were subjects who produce new knowledge.

I also followed the tradition and insight encouraged by the various authors in *Engaging Contradictions: Theory, Politics, and Methods of Activist Scholarship,* shedding light on the ways in which activists and advocates reconfigure and reinforce social relationships, resources, and the meaning of health justice (Lipsitz 2008). For example, the knowledge of residents organized against environmental racism provided new cognitive maps about where environmental health risks come from and how regulators can support the activists' vision of a better world. Prison Abolitionists provided new cognitive maps that transcended geographical and racial boundaries of difference by instead focusing on the collective struggle with poverty, prisons, and pollution facing Black and Latinx rural and urban residents near and far.

Being in the field as an ethnographer often required imagining creative ways to gather related data (Abbott 2004). This creative process led to employing a mixed methods approach. I collected archival research, which disclosed new perspectives about Valley Fever. Newspaper archives and a filed dissertation importantly illustrated that the Valley Fever epidemic did not entirely come as a surprise to prison authorities, but rather that

scientific experts were in conversation with prison health authorities since the era of World War II through medical experiments, international political arguments and agreements, and the perpetual cultural labor of racializing people, place, and illness. Public data available on the website "Prison Talk" (identified in the study as Partners of Prisoners) revealed that prisoners were not alone and confused about the politics of how, when, and where to be tested for Valley Fever, rather the disorganization of information spanned across prison walls, forcing family and loved ones to identify any route to access adequate medical provisions and the possible removal of their incarcerated loved one from an endemic prison.

The collection of maps gathered through various online mapping resources were useful to a paint a canvas of the places where poverty, prisons, and pollution come together. Because mapping tools are limited in what they measure and demonstrate, I formulated my own illustrations of how poverty, prisons, and pollution collide in Kern County within places where people of color disproportionately live their everyday lives. Maps were used as a tool to examine Valley Fever from far away, to raise questions about the structures that reinforce poverty, the institutions that imprison, and the processes that pollute.

My archival research, maps, and online blogs about Valley Fever are relevant to sociological validity in so much as they shed new light on the same problem (Bloor 2011: 16). These sources highlight different aspects of how farmworkers or former prisoners contract and recover from Valley Fever, sometimes facilitating a deeper analysis about experiential knowledge and in the connect of social and racialized structures. In this way, this study does not pretend to use a perfect form of Triangulation, the technique of testing participant's world views using different types of methods. Similar to Bloor's view, I believe that the collected and applied illustrative data share similarities with participants, but

the data are overall incomparable to participants' interviews and the field research. In other words, the illustrative data are not ideal types for testing the corroboration of participants views since every piece of evidence was produced through its own social and methodological process (Bloor 2011: 15). Together, however, these sources provide a unique view into the same question about contracting and recovering from Valley Fever. They offer an opportunity to explore the problem with more depth and breadth.

In the field, I followed the recommendation of Joao H. Costa Vargas (2008) to think of oneself first as an activist and then as a researcher. Costa Vargas offers the method of *observant participation* rather than participant observer which "refers to active participation in the organized groups, such that observation becomes an appendage to the main activity" (175). This way of visualizing the role of a researcher addresses how to gain access to activists and at the same time, secure credibility among academics as a person of color who closely identifies with the questions being studied. Costa Vargas raises the concern of whether maintaining objectivity is at all a valuable way of interpreting the acquired data given researchers' underlying commitments to the struggles of study. O*bservant participation* as a methodological tool allows us to reconceptualize how researchers who have undergone similar experiences as their field of study can apply their knowledge, social justice commitments, and at the same time, trained tools of research. The research conducted with environmental justice activists, prison abolitionist, prisoner advocates, and with farmworkers and former prisoners followed this recommendation.

References

Abbott, Andrew. 2004. *Methods of Discovery: Heuristics for the Social Sciences*. W.W. Norton & Company.

Becker, Howard S. 1998. The Tricks of the Trade: How to Think About your Research While You're Doing It. Chicago Il: The University of Chicago Press.

Bloor, Michael. 2011. "Techniques of Validation in Qualitative Research: A Critical Commentary." In *Context and Method in Qualitative Research*. Eds. Gale Miller and Robert Dingwall. Pg. 38-50.

Cerwonka, Allaine and Liisa H. Malkki 2007. *Improvising Theory: Process and Temporality in Ethnographic Fieldwork*. University of Chicago Press.

Collins, Patricia. 1990. *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment.* Boston: Unwin Hyman, p 221-238. Retrieved from: http://media.pfeiffer.edu/lridener/courses/BLKFEM.HTML

Costa Vargas. João H. 2008. "Activist Scholarship: Limits and Possibilities in the Times of Black Genocide." Pp. 164-182 in Engaging Contradictions: Theories, Politics, and Methods of Activist Scholarship, edited by Charles R. Hale. California: University of California Press.

Emerson, Robert M.; Rachel I. Fretz, and Linda L. Shaw. 2011. Writing Ethnographic Fieldnotes. Second Edition. Chicago Il: The University of Chicago Press.

Harding, Sandra. 2004. *The Feminist Standpoint Theory Reader*. Routledge Press.

Lipsitz, George. 2008. "Breaking the Chains and Steering the Ship: How Activism can Help Change Teaching and Scholarship." Pp 88-111. in Engaging Contradictions: Theories, Politics, and Methods of Activist Scholarship, edited by Charles R. Hale. California: University of California Press.

Naples, Nancy. 2003. Feminism and Method: Ethnography, Discourse Analysis, and Activist Research. New York, NY: Routledge.

Worth, Sol and Adair, John. 1997. Through Navajo Eyes: An Exploration in Film Communication and Anthropology. Albuquerque, NM: The University of New Mexico Press.