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ABSTRACT

Through a case study of a rural Mexican village, this paper focuses on the construction of docile bodies, citizens whose beliefs, behaviors, and attitudes are exercised without question or resistance. It is argued that the introduction of a government-sponsored health clinic has forged a biomedical paradigm among the residents of Zapata, a paradigm that was not prominent prior to the health clinic's arrival but is today the default medical epistemology. By analyzing the past and present discourses on chronic illness and focusing on attitudes and beliefs concerning diabetes and hypertension, it is argued that a biomedical paradigm has delegitimized and replaced any previous explanatory models of diabetes and hypertension in the village of Zapata. Using works by Michel Foucault and Paul Farmer, this paper reconstructs the historical and structural processes that have led to the change in villagers' health knowledge and behaviors, illustrating how the processes of forging a biomedical paradigm are a result of both ideological and structural forces—creating what Foucault terms docile bodies.

INTRODUCTION

The empirical dimension of this paper took place in Zapata, a former *ejido* (agrarian reform village) in rural Mexico. Zapata is located in the *Municipio* (county) of Rolinez—in the Sierra Madre mountain range of northeast Mexico. Zapata's population of just over 100 shares a history of colonization, revolution, modernization, and globalization (Gonzalez-Clements 2003). Today most families continue to struggle for land and livelihood and face insecurities in resources, basic needs, infrastructure, and development assistance. This paper analyzes the medical system of Zapata in an attempt to better understand how knowledge of illness and health is constructed. Using both Michel Foucault's idea of *docile bodies* and Paul Farmer's structural analysis of health as theoretical frameworks, it is argued that a biomedical paradigm has delegitimized, and replaced, any previous explanatory models of diabetes and hypertension in Zapata. This delegitimization occurred through the control of both discourse on health epistemologies and the use of goods and services by governmental organizations.

Zapata

Zapata is located in a semi-arid mountainous valley in Northeast Mexico. The area is an agriculture-dependent region with the majority of its revenue coming from pecan production. The terrain is very rugged and was home to only a few bands of foragers; unlike central and southern Mexico, there were no large indigenous settlements in this region (Gonzalez-Clements 2003). The valley was explored in 1800, settled in 1815, and by 1859 there were eight haciendas operating in present-day Zapata. The Mexican Revolution of 1910-1917 resulted in agrarian reforms that established a mechanism for the *ejido* and land allotment system throughout Mexico, taking away lands from wealthy hacienda owners and allotting them to those willing to work the land (Williamson 1992). In 1936, a local man organized the *peones* to make demands for land, out of which the *ejido* of Zapata was formed (Gonzalez-Clements 2003). The people struggled to survive until a regional entrepreneur introduced commercial pecan production in 1950, and soon every land holder had planted pecan orchards that became the mainstay crop—resulting in single-crop dependency. In the early 1990s, the Mexican government decided to open Mexico to the global economy, get rid of the *ejido* system, and privatize the land once more (Meyer et al. 2006). Again, this resulted in many poor land holders selling their lands to local wealthy businessmen, forcing landless agriculturalists to migrate to urban areas in Mexico and abroad. Those who decided to stay face issues of social inequalities created by the social hierarchy established by the control of land. Local health disparities are one of many problems created through this historical manipulation of land access and land rights.

Subsistence strategies today include pecan production, manual labor, and government aid. Many families own small plots of land in which they grow avocado and pecan trees, albeit not enough to subsist the whole year. Many supplement their income by selling their labor to wealthy land owners while others follow the growing season up to the Mexico-U.S. border working as hired farm hands (earning around US$50 per week). Many supplement their income with government subsidies like Oportunidades, a federal program that provides monthly assistance to poor families. The Oportunidades program provides food allowances and money for children in school. Every month the federal government gives economic aid to families with young children or families with elderly people; this aid is in the form of cash money to be used at the local Diconsa food store, another state-subsidized program that establishes government-serviced grocery stores in poverty-stricken areas. The goal of Diconsa is to "contribute to the

well being and access to opportunities by residents in poverty stricken communities, via the provision of basic foodstuffs" (Diconsa 2009).

The history of Zapata is the history of Mexico itself. The social inequalities that exist today are the result of unstable land policies that have historically created give-and-take between rich and poor, usually disadvantaging the poor. It is essential to understand the history of Zapata if we are to try and make sense of its current existence.

Research in Zapata

Empirical research consisted of participant-observation, informal interviews, formal interviews, and anthropometric data collection with the population of Zapata during the summer of 2008. During this time period I became involved with community events, conducted a series of interviews, and collected anthropometric data from the community.

Participant-observation included living in Zapata from May to August 2008. I stayed with Doña Maria, the local midwife prior to the arrival of the health clinic. Doña Maria is highly respected in the community and is godmother of many individuals in Zapata, all factors that led to my being accepted into the community in minimal time.

In addition to being associated with Doña Maria, I joined locals (mostly men) in their nightly gatherings around the plaza. The plaza was where men come from neighboring villages to play volleyball, converse, and conduct business. Participating in these evening gatherings allowed me to become acquainted with most of Zapata's male residents. Interaction with local women was limited to scheduled interviews due to local gender rules that do not permit females to "hang around" with males who are not direct family members. A third entrée into the community was through the local M.D., who is also held in high esteem by the community. Upon my arrival to Zapata, I introduced myself to the M.D. and soon after we became close friends, visiting one another for the occasional beer or nightly chat.

Unstructured interviews, semi-structured interviews, and focus groups were all incorporated in the data collection. Unstructured interviews consisted of casual conversations with locals I came across on my way to the store, to the clinic, around the house, or in the plaza. These conversations were impromptu and usually lasted longer, and provided richer data, than semi-structured or structured interviews.

Semi-structured interviews included two interviews with the local M.D., four interviews with the local health *promotoras*, and ten interviews with local patients. Follow-up phone interviews were also conducted with local midwives. Interviews with the M.D. took place in the clinic, while *promotora* and patient interviews took place in their homes.

Sampling was done using a stratified random sample for the patients. The ten interviewees were selected from the health census data created by the M.D. and *promotoras*, which consisted of the total adult population of Zapata. Data collected from the census included only sex, age, and health condition of the patient, as additional information required formal processes through local health authorities. Health condition only included whether the patient was diabetic or non-diabetic and hypertensive or non-hypertensive. The ten-informant sample was created using the criteria of age and sex in an attempt to have a sample truly representative of the whole population. Recruitment of individuals was done by the *promotoras*, who have through the years established strong rapport with locals.

Interviews were conducted in a casual forum, with predetermined questions used in no specific order, to permit the participant to answer questions in a more natural atmosphere. This allowed the informants sufficient time to fully apprehend my questions and communicate their

own views. Most interviews were conducted in the informants' homes and a small number conducted in the plaza or on the roadside. Focus groups with the *promotoras* were conducted in the clinic, where space was provided to us by the local M.D. One-on-one interviews with the *promotoras* took place in each *promotora'*s home.

In addition to empirical data collection, library research was conducted at my university. Library research included literature on Mexico's social and political history and theory. Extensive research was conducted on Mexican history (social and political) for the purpose of better understanding the processes that have led to Zapata's present existence. Special attention was focused on the historical progression of Mexico's land laws and social programs.

Past and Present Health Systems

Arthur Kleinman, in *Patients and Healers in the Context of Culture*, introduces the concept of explanatory models (1980). Explanatory models are ways in which humans understand illness; they "offer explanations of sickness and treatment to guide choices among available therapies and therapists and to cast personal and social meaning on the experience of sickness" (Kleinman 1980:105). Explanatory models are created and used not only by medical professionals; they are "held by patients and practitioners in all health care systems" (Kleinman 1980:105). In addition Margaret Clark, in her book titled *Health in the Mexican-American Culture,* states that

> No medical system (that is, a complex of ideas about causes and cures of disease) is entirely rational, and none is entirely irrational. Any medical system, whether based on the scientific knowledge and practices of modern medicine or on the superstitions and empirical knowledge of "primitive" groups, is at least a reasonably coherent and unified body of beliefs and practice. Since curing practices are a function of beliefs on the nature of health and the causes of illness, most curative procedures are understandable and "logical" in the light of those beliefs. (1959:1)

Explanatory models help us make sense of illness within a society and give us insights into its origin, composition, diagnosis, and treatment. Explanatory models do not follow a fixed methodology in identifying or addressing illness; instead, they follow local worldviews. In the context of Zapata, the explanatory model of illness prior to the arrival of the health clinic included non-positivist methodologies when identifying or treating illness. With the arrival of the clinic came a change in explanatory models. Illness was now interpreted through a positivist biomedical lens, with any folk beliefs being delegitimized.

Past. Prior to the clinic's arrival, explanatory models did not rely primarily on a biomedical paradigm. Interviews with past midwives, who in addition to assisting with childbirth took on the role as "pharmacist," state that when prescribing health-improving products the local ecology was the most frequently used source of medication. They would prescribe teas from local herbs to help individuals with pains and aches. Although the ideas of biomedicine and Western health clinics were not foreign concepts prior to the arrival of the clinic, their limited resources prevented them from visiting such institutions. As one informant stated, "If someone were to get so ill that they needed hospitalization, they would have to first, hope someone is willing to take them into the town, and second, spend a whole month's wage just to get there." Hospitals were located in urban areas a few hours' drive from the village. The low cars-per-capita meant that an individual would have to first find someone who had a vehicle, convince

that person that his or her situation was indeed an emergency, and then hope that the price requested for transportation was within his or her budget.

Access to Western health clinics was limited for most of Zapata's residents. This limitation led to the rise of local healers who created local remedies in order to maintain equilibrium in Zapata's health. Doña Maria was the local midwife and herbal healer prior to the arrival of the clinic. When asked how people would get medical treatment prior to the clinic, she stated that she was the go-to person for remedies. "If people felt something wrong with them, they would come to me and I would give them certain herbs that will help them. Today they have traded me for the M.D." Prior to the clinic, health knowledge was under the realm of the midwives, who would use the local ecology in treating most illness—relying on biomedicine only after all resources had been exhausted. "People would come from all around the valley to get remedies from me, I always have herbs and teas around the house" she once told me.

Present. The current health care system in Zapata consists of a medical clinic that is staffed by a medical student in his last year of medical school, 4 *promotoras de salud*, and 64 adult patients. In Mexico it is obligatory for all medical students to complete one year of community service in order to attain a medical degree; in Zapata M.D.s have an 11-month rotation, with the introduction of a new medic every August. Services provided in the clinic include treatments for minor infections, some physical trauma, hypertension and diabetes check-ups, and distribution of medicine to the population. All services and medications are free to Zapata's residents and are funded by the federal government.

Zapata's population is divided into four groups, with each of the four *promotoras* responsible for one of the four groups. *Promotoras de salud* are volunteers who assist the M.D. in scheduling appointments, follow-ups, and distributing information from the clinic to the patients. In Zapata, the four *promotoras* are all females, have an average age of 36, an average educational level of fourth grade, and a combined experience of 30 years as *promotoras*. In addition to assisting the M.D. with clerical work, the *promotoras* also serve the function of cultural broker as all four are locals to Zapata. The *promotora*'s knowledge of each patient's medical history allows for an easier transition for each M.D. who arrives in August.

DIABETES AND HYPERTENSION

In trying to understand Zapata's current health epistemologies, research focused on diabetes and hypertension because that was the focus of the original research. This paper stems from applied work conducted alongside an international NGO and is part of a larger project aimed at bringing needed development assistance to the area. Data collected addressed multiple aspects of health in Zapata, including nutrition, physical activity, recreation and occupation, folk beliefs, the construction of health knowledge, access, the built environment, globalization, and gender. This paper focuses only on the construction of health knowledge before and after the arrival of the health clinic, with the remaining findings being used in a more applied context (i.e., reports presented to local and state authorities).

Understandings of health, prior to the arrival of the clinic, were limited to the medical knowledge of local midwives. Interviews with two ex-midwives indicate that local treatments were administered to patients and that knowledge of treatment included the use of the local ecosystem. Knowledge of health prior to the clinic's arrival did not follow strict biomedical beliefs in identifying or treating illness. In contrast, current explanatory models for illness within the three groups, M.D.'s, *promotoras*, and patients, all fell in line with those of biomedicine—which uses the germ theory of disease as a knowledge base.

Zapata's health system, prior to the clinic's arrival, consisted of one or two midwives who also functioned as medical advisors or "pharmacists." Doña Alicia and Doña Maria are the two midwives still in the village, although they no longer practice. The midwife's duties were bestowed upon her as she married into the elite land-owning family in the village and it was her duty to look over the peons' health. The duties of a midwife included assisting in childbirth, assessing illness, prescribing medication, and deciding when a patient should make the sacrifice to visit a health clinic in the city. Doña Alicia stated that "it was our duty to look after our peons. That was our role as an *hacendado*'s wife." Doña Maria explained how in the past she was the local herbalist and whenever someone felt ill they would come to her for remedies. One day I became witness to her ecological and botanical knowledge when one morning I awoke with sharp pains in my intestines. When I mentioned to her that I was having said pains she immediately took citrus tree leaves and boiled them in water to make a tea-like drink. I have to admit, soon after drinking the tea my pains began to diminish and by early afternoon the pain was completely gone.

The M.D.'s understanding of diabetes strictly followed the criteria used by Western biomedicine. I asked the local M.D. to free-list the origins, symptoms, and treatments of diabetes. According to him the origin of diabetes is strictly of a biological nature and the result of a malfunctioning pancreas (which either produces too much insulin or not enough). Symptoms he stated included fatigue, thirst, constant urination, sweet urine, and slow recovery from cuts and scrapes. When asked what treatments where available for diabetes, the M.D. stated that insulin injections where an option, but the down side was that once insulin treatment was started, the person must remain on it for life. He also stated that instead of medications, dieting and exercise are the easiest and best ways to control diabetes—adding that even though it was the easiest way to prevent illness, "most patients prefer a pill."

With regards to hypertension, the M.D. offered similar explanations to its origin, diagnosis, and treatments as he did for diabetes. According to the M.D., diets high in salt and a high consumption of meat are the main causes of hypertension. In addition, people eat low amounts of fiber and are engaged in minimal physical activity, greatly increasing their risk of attaining high blood pressure.

When asked "do people ever try to tell you of alternative reasons to why they have diabetes?" the M.D. stated that "once in a while you will get a *pendejo* who will offer a supernatural cause for diabetes. We just learn to ignore them and try to educate them on the reality of diabetes." This quotation summarizes the authority of the M.D. The tone used when stating that once in a while a *pendejo* (fool) will challenge biomedicine leads one to assume that biomedicine holds solid truth and anyone who attempts to introduce a different worldview is categorized as a *pendejo*.

The four *promotoras* shared views similar to those of the M.D. with regards to the origin, diagnosis, and treatment of diabetes. The most common belief on the origin of diabetes was that malfunctioning body parts cause irregular sugar production. According to the *promotoras,* to diagnose diabetes the M.D. must run a series of blood test that will give him an exact reading of blood sugar levels. These readings would say whether or not the patient is diabetic. If it was discovered that a patient had diabetes then insulin shots, in addition to exercise and dieting, were perceived as the best ways to control the illness.

Promotoras' beliefs about hypertension also fell in line with those of the M.D. Diet was seen as the main cause of hypertension, with pills being the preferred treatment. Biological

factors were the only explanations given in the etiology, diagnosis, and treatment of hypertension by the *promotoras*.

When asked how they dealt with patients who offered an alternative explanation to diabetes or hypertension, one *promotora* stated, "The doctor has warned us about that. He told us to just ignore them [the patient] out of respect, but to make sure they stay on their medications." Another *promotora* said, "Some people just don't know how to think, they imagine things that do not exist." This second quotation referred to the way patients claim supernatural beliefs are the reason they get diabetes when in reality anyone with common sense will know the truth about the matter, a truth defined by biomedicine.

Patients' understanding of diabetes and hypertension strongly paralleled those of the *promotoras* and the M.D. In explaining why hypertension is becoming such a prevalent issue in Zapata, Don Chuy stated that in the past people had to walk a lot. People would "herd goats up and down the mountainside. Today people don't walk as much." The perception of exercise being the underlying factor influencing hypertension falls in line with biomedicine's promoted knowledge that exercise helps regulate blood pressure.

Explanatory models, prior to the clinic's arrival, did not rely primarily on a biomedical paradigm. Although biomedicine was not a foreign concept, social-economic factors played a role in the way health was addressed by Zapata's residents—access to clinics was limited to the wealthy. The region had only two midwives who also took on the role of health assessor and treatment administrator. The introduction of a government-sponsored health clinic changed the organization of Zapata's health system to one that consisted of an M.D. and four *promotoras de salud*. The introduction of the health clinic resulted in a change of health epistemologies among Zapata's residents and this change has been greatly influenced by the introduction of a government-sponsored health clinic.

IDEOLOGICAL SHIFTS

It is evident that a change in beliefs has occurred in Zapata, but how does such a change occur in such a small time period and within a single generation? How is it that in 30 years the introduction of a government health clinic has led to the creation of a new health paradigm? That is, what factors have led to this massive change in ideology among the residents of Zapata? And how was this loyalty toward biomedicine created?

In order to answer these questions it is important to understand how past scholars have theorized ideologies and their creation. Michel Foucault's writings address the issue of power and control in society. He outlines processes that lead to "docile bodies" within the citizenry—bodies that unquestionably follow what is dictated by those with greater power. Paul Farmer illustrates how structural forces lead to inequalities in health. His work among AIDS patients in both Haiti and Boston detail the structural processes that lead to certain populations being disadvantaged when it comes to AIDS treatment. It is argued here that both theories play an essential role in forging a biomedical paradigm in Zapata, a paradigm that has delegitimized and replaced previous health epistemologies.

Michel Foucault, in *The Birth of the Clinic*, analyzes how powerful entities such as medical academies and military hospitals establish and enforce new ways of thinking about health. The discourse on a certain issue can be controlled by these entities, which in turn dictate, and limit, how the issue is conceptualized by the general population. One example is the adoption of the germ theory by teaching hospitals and governments. The control of medical knowledge was in the hands of medical academics, who subscribed to the germ theory of

disease, resulting in the delegitimization of any explanatory models not using the germ theory as their epistemological foundation—giving legitimacy only to biomedical explanations of illness. The result of this was the negation of alternative viewpoints to treatment of illness, which is visible through biomedical discourse to this day (Kleinman 1980; Sargent and Johnson 1996; Foucault 1994). In Zapata, the introduction of the health clinic created this entity of power that controlled discourse on health and illness. In establishing a normative way of addressing illness, the clinic defined deviant practices that were to be avoided if a patient was to correctly attain optimal health.

In *Discipline and Punish*, Foucault attempts to trace the evolution of the modern penal system and argues that power is the underlying factor causing a change in how the penal system operates. Foucault traces the philosophical transformation of the penal system, outlining a change from physical and public punishment to private punishment of the soul. Change in punishment was "not to punish less, but to punish better" and according to Gary Gutting, a Foucault scholar, the "most striking thesis of *Discipline and Punish* is that the disciplinary techniques introduced for criminals become the model for other modern sites of control (schools, hospitals, factories, etc.), so that prison discipline pervades all of modern society" (Gutting 2005:81). According to Foucault, power is not something that is attained or gained by an individual or entity; rather, it is underlying all human interaction and all human interactions are influenced by power. The use of power and punishment is essential for the creation of docile bodies, which are achieved through correct punishment; panopticism, according to Foucault, is the most effective way discipline can be administered (Rabinow 1984:211). It creates a surveillance where the citizen is unaware she or he is being monitored by agencies that can administer punishment if she or he deviates from normal behavior (Gutting 2005). This threat of surveillance leads to a self-awareness of the individual's actions that through conditioning becomes second nature. This creation of conditioned citizens is what Foucault refers to as docile bodies (Foucault 1995:169).

Docile bodies do not come about through torture but through discipline and control, which is bound by space and time (i.e., schools, monasteries, the military) (Gutting 2005:82). These institutions are forces that function to create machine-like citizens by organizing them within spatial and temporal contexts. Organizing individuals in space and time allows them to follow certain rules of behavior, or time tables, within the institution they are physically a part of (Rabinow 1984).

In Zapata, the biomedical paradigm is reinforced through the way illness is talked about by the M.D. and the *promotoras*. By negating any alternative realities to illness and illness treatment, the M.D. is perpetuating the idea that biomedicine holds the ultimate truth—creating docile bodies that do not question health etiologies or treatments but only react to the epistemological axioms produced by the clinic.

A second perspective this paper takes into consideration in analyzing the changes in health ideologies is Farmer's work on structural violence. Farmer proposes a bottom-up paradigm in understanding how individuals conceptualize and react to health and illness issues. The underlying factors in the creation of health epistemologies are the resources available to individuals, primarily money. According to Farmer, an unequal balance of financial power has led to health disparities and he argues that the commercialization of medicine has only led to greater disparities between the wealthy and the poor (Farmer 2005:162). Through three case studies, Farmer illustrates how this focus on profit by health care organizations has affected populations with AIDS and tuberculosis.

One case talks of Brenda, an AIDS patient from Boston. Brenda was labeled as noncompliant by her local clinic because she was not following the rules of treatment set by her doctors. This label led to medical clinics rejecting her from future clinical trials, greatly limiting her access to needed medication (Farmer 2005:164). The clinical trials "are so often the only affordable source of drugs" for those living in poverty and restricting them from these trials only increases the gaps in treatment between the wealthy and poor (Farmer 2005:164). In labeling patients as noncompliant, Farmer states that "physicians are poor predictors of which patients will comply with prescribed regimens" and "those least likely to comply are usually those least able to comply" (Farmer 2005:165). Farmer states that issues surrounding structural violence (i.e., racism, addiction, unemployment, uninsured, etc.) are strong determiners that prevent patients from attaining optimal treatment (Farmer 2005).

This creation of docile bodies is not only a cognitive phenomenon. Ideological change comes about through the control of resources as much as it does through the control of discourse. As Farmer illustrates in his writings, access to resources has a great effect on the way people conceptualize illness and illness treatment. Prior to the clinic's arrival access to biomedicine was limited to those who had the money to travel the long distance into the city, which could cost up to a month's wage. The limited access to biomedical clinics led to a need for alternative healing practices, practices that were accessible to all residents of the Zapata. This void was filled by the wealthy land owners' wives who took on the role of health care provider for the peon class, producing a health system in which the midwives controlled illness discourse and created explanatory models that did not fully coincide with Western biomedicine. These explanatory models were adopted by the poor because it was a health system available to them.

Once the clinic arrived in Zapata biomedical assistance was available to all residents of the village free of charge—regardless of social or economic status. The discourse created by the clinic included perceptions of health that used the germ theory as its underlying epistemological foundation, leading to an active elimination of alternative explanations of illness. This discourse was supported through the control of material goods such as medication and government subsidies. By controlling the types of medications available in the clinic M.D.s created a loyalty from Zapata's residents toward biomedicine. In addition, government support of the clinic perpetuated the clinic's legitimacy. Governmental programs that provide food and monetary assistance to the rural poor in addition to the fact that the clinic is government-sponsored created a union between the two entities, a union that in the minds of locals was inseparable.

In collaboration with the clinic, the federal programs that aim at eradicating poverty also help mold ideologies among Zapata's residents. Oportunidades is "the principal anti-poverty program of the Mexican government" and "focuses on helping poor families in rural and urban communities invest in *human capital*—leading to the long-term improvement of their economic future and the consequent reduction of poverty in Mexico" (World Bank 2004:163). The three main foci of Oportunidades are education, health, and nutrition. Families are provided with monthly allowances for each child who is enrolled in school, with the amount dispersed dependent on the child's grade (i.e., US$10.50 for a child in third grade, US$58 for a child in the third year of high school) (World Bank 2004:164). In addition, the health component provides a fixed monetary assistance of US$15.50 for children between the ages of 4 months and 2 years, malnourished children aged 2 to 4, and pregnant and lactating women (World Bank 2004:164). Families are encouraged to use their allowances at the local Diconsa store, as it is also a government program aimed at assisting in food acquisition.

What, then, is the role these non-health programs like Oportunidades and Diconsa play in the creation of biomedical ideologies? Through the control of material goods, in this case money and food subsidized by the government, Oportunidades and Diconsa help perpetuate the biomedical discourse present in the clinic. In order for individuals to attain their maximum benefits, they must present proof that they attended all required clinical appointments (their card is checked and marked by the M.D. after every required visit). By using federal monies as leverage, the state is helping perpetuate a biomedical paradigm.

In the past 20 years there has been a change in the way health is conceptualized by the residents of Zapata, a change that occurs through the manipulation of power, discipline, in the creation of docile bodies. The introduction of a government-sponsored health clinic has forged a biomedical worldview among Zapata's residents—a worldview that was not prominent prior to the health clinic's arrival, but is today the default medical epistemology among Zapata's residents. An analysis of discourse on chronic illness, specifically focusing on diabetes and hypertension, illustrates how a biomedical paradigm has delegitimized and replaced any previous health epistemologies in the rural Mexican village of Zapata—a health paradigm that goes unquestioned by local residents.

IMPLICATIONS

It has been illustrated how the introduction of a health clinic has led to the creation of docile bodies in Zapata, docile bodies that unquestionably become loyal to certain health epistemologies. This loyalty is attained through discourse on health and the control of material goods such as medication and government subsidies. Beyond theoretical understandings of social interactions anthropology should attempt to apply said knowledge within the context of larger social implications. Therefore, this paper concludes by addressing the fundamental question in anthropology: Who cares? What can we take from an understanding of how docile bodies are created in a rural Mexican village?

Understanding how health knowledge is created and changes in rural Mexico has significant implications for the United States. Research shows that migration into the United States involves many migrants from Latin American countries who by the year 2050 will encompass 24 percent of the total U.S. population (Lopez 2007). "The health status of these increasing minority populations can have devastating effects on the country if not addressed immediately. For this reason alone, a better understanding of the interplay between minorities and health is crucial" (Lopez 2007:47). An understanding of health ideologies and the factors that help in creating and changing these ideologies allows for health organizations in the United States to create informed health programs.

REFERENCES

Chomsky, Noam, and Michel Foucault
2006 The Chomsky-Foucault Debate on Human Nature. New York: The New York Press.

Clark, Margaret
1959 Health in the Mexican-American Culture. Berkeley: University of California Press.

Diconsa
2009 Que es Diconsa? http://www.diconsa.gob.mx/index.php?option=com_content&view=article&id=5&Itemid=2, accessed January 15, 2009.

Farmer, Paul
2005 Pathologies of Power: Health, Human Rights, and the New War on the Poor. Berkeley: University of California Press.

Fifth Sun Development Fund
2007 The Carranza-Casillas Sustainable Mountain Development Initiative 2008 Summer Work Program. Unpublished.

Foster, George M.
1969 Applied Anthropology. Boston: Little, Brown Publishing.

Foucault, Michel
1994 The Birth of the Clinic: An Archaeology of Medical Perception. A. M. Sheridan Smith, trans. New York: Vintage Books.

1995 Discipline and Punish: The Birth of the Prison. Alan Sheridan, trans. New York: Vintage Books.

Gonzalez-Clements, Emilia
2003 "Puras promesas": Local Perceptions of Development in a Northern Mexican Mestizo Ex-ejido. Ph.D. dissertation, Department of Anthropology, University of Kentucky.

Gutting, Gary
2005 Foucault: A Very Short Introduction. New York: Oxford University Press.

Kleinman, Arthur
1980 Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry. Berkeley: University of California Press.

Lopez, Gilberto
2007 "Why are We So Fat?" Mexican Immigrant Perceptions of Obesity in California's Central Valley. *In* Proceedings of the South Western Anthropological Association. Castaneda, ed. Pp. 47-59.

Meyer, Michael C. C., William L. Sherman, and Susan M. Deeds
2006 The Course of Mexican History. New York: Oxford University Press.

Parks, Henry Bamford
1960 A History of Mexico. Boston: Houghton Mifflin Company.

Rabinow, Paul
1984 The Foucault Reader. New York: Pantheon Books.

Sargent, Carolyn, and Thomas M. Johnson
1996 Medical Anthropology: Contemporary Theory and Method. Westport: Praeger Books.

van Willigen, John
1993 Applied Anthropology: An Introduction. Westport: Bergin and Garvey.

Vigil, Diego
1997 From Indians to Chicanos: The Dynamics of Mexican-American Culture. Longrove: Waveland Press.

Williamson, Edwin
1992 The Penguin History of Latin America. London: Penguin Books.

World Bank, The
2004 Mexico's Oportunidades Program. *In* Reducing Poverty-Sustaining Growth: Scaling Up Poverty Reduction. Case Studies Summaries from a Global Learning Process and Conference in Shanghai, May 25–27. Pp. 260-263.