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Sanitary Cordons in COVID-19: Experience and the Object of Epidemiological Interventions

Alejandro Cerón
University of Denver

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By

What is the *object* of epidemiological interventions during an epidemic? Is it the virus, the disease, the fear, the chaos, or the threat to security? And what is the *objective* of those interventions? Is it to eliminate the virus, to mitigate the effects of the disease, to calm the fear, to control the chaos, or to defeat the threat?

On 22 May 2020, protesters in a town in the Guatemalan province of San Marcos clashed with army and police forces until momentarily breaking the sanitary cordon the entire town had been subjected to due to the confirmation of several COVID-19 cases. A week earlier, the Inter-American Commission of Human Rights (IACHR) had announced it was investigating accounts of the use of military forces to impose sanitary cordons in at least six towns in the provinces of Chimaltenango, El Progreso, Zacapa, and Totonicapán. The use of the military to enforce sanitary cordons in Guatemala was controversial from the beginning due to the sustained history of military repression against civilians, both during the 36-year long civil war that ended in 1996, and more recently in the context of protests against extractive industries and conflicts over land. Moreover, Guatemalan president Alejandro Giammattei, inaugurated on 14 January 2020, began his term by imposing a state of siege (*estado de sitio*) over entire municipalities and city neighborhoods. The Guatemalan Constitution has five legal instruments the president may use for limiting constitutional rights. These instruments are, in order of severity, a state of prevention, alarm, calamity, siege, and war. A state of siege restricts the constitutional rights to action, movement, assembly, demonstration, carrying of arms, legal detention, and legal interrogation. While president Giammattei indicated that his intention in applying state of siege was to combat crime or address social conflict, human rights organizations have accused him of utilizing these emergency measures to instigate fear and repress dissenters.

Although the Guatemalan government's initial response to COVID-19 was mostly received positively when it announced the first confirmed case on 13 March, it was clear by the end of April that information had not been transparently communicated and containment and mitigation measures were not being implemented with clear criteria. Aside from vocal political

opponents and COVID-19 deniers active on social media, the vast majority of people have been trying to do their part to control the pandemic. During May the government's credibility disappeared as the rate of newly confirmed cases and deaths increased visibly, hospitals' capacity collapsed, testing remained inaccessible, and corruption seemed evident. The erratic performance by the minister of health led to his removal in mid-June, following three months of aimlessness in implementing public health measures.

In the context of COVID-19 in Guatemala, people typically talk about a sanitary cordon when the government decides to isolate an entire community or neighborhood due to the identification of cases, so that the disease does not spread to neighboring communities, technically making it a measure of *quarantine*. The Guatemalan government has imposed sanitary cordons on six communities across the country, but in early-July public health officials were considered implementing a sanitary cordon around Quetzaltenango, the country's second largest city. From a public health perspective, widespread utilization of sanitary cordons for epidemic control is seen as a measure that was used in pre-modern times, when there was no clear knowledge about disease transmission. Modern uses of this measure have been limited, so there is little practical experience implementing them (Cetron y Landwirth 2005). The Guatemalan Ministry of Health's COVID-19 protocols do not establish clear guidelines for their implementation.

Additionally, community leaders in several rural and urban areas have established their own sanitary cordons, without the intervention of formal authorities, controlling who and what gets in and out of the perimeter of their communities. This kind of community-driven sanitary cordon is meant to prevent the disease from affecting the community, which technically makes it a measure of *sequestration*. While in quarantine those who are ill or possibly infected are isolated to prevent them to spread the disease to the rest of the community, in sequestration those who are well are isolated to prevent the disease to infect them. Sequestration is sometimes called "reverse sanitary cordon". Some communities are not allowing people or cars not belonging to the community enter at all. For instance, delivery trucks or food-delivery motorcycles have to deliver their goods at the community's gate. While such practices are more frequent in urban areas, rural communities have adopted similar measures when they know of someone who may be infected in a neighboring town. More often, vehicles are allowed to enter only if they have a justification, and after tires are sprayed with disinfectant, and visitors have applied hand sanitizer and donned face masks. Pedestrians are subjected to these measures and are also required to disinfect their shoes by standing on a mat soaked with disinfectant, a measure also commonly used before entering apartment or office buildings in Guatemala City. People have told me that tires and

shoes need to be sanitized because the weight of the virus causes it to fall to the ground, which also explains why some communities have taken the financially costly steps of deep cleaning their streets and sidewalks. Two community leaders I have asked about these measures told me that they cannot afford to do nothing to keep the virus from entering their communities, even if they are unsure about the measures' effectiveness.

The purpose of a sanitary cordon must be to reduce virus transmission. If it gets implemented, the basic needs of those affected by the measure have to be met, and a balance must be struck between recognizing individual human rights and the common good of stopping disease transmission (Rothstein, 2003). Scholars who have looked into recent implementation of sanitary cordons worldwide suggest that they always generate resistance, but that they work better under particular conditions: when they are decided on by local authorities, when relevant institutions effectively coordinate among one another, when there is effective communication with the public, and when there is room for voluntary compliance (Cetron y Landwirth, 2005; Rothstein, 2003).

What is the appeal of sanitary cordons in Guatemala today if they involve so much effort, sacrifice, and conflict, while offering questionable results? Part of the reason is that COVID-19 is a new disease and there is no consensus about effective control measures. Guatemala has also used sanitary cordons in recent years to control outbreaks of measles and other diseases in humans, crops, and livestock. I want to offer two additional perspectives based on my interactions with government officials, public health experts, civil society organizations, friends and relatives in Guatemala over the past three months. On the one hand, conceptions of disease transmission combine with the difficulty of understanding the nature of the virus in practical terms. On the other hand, narratives with militaristic overtones have portrayed the virus as an external threat that must be kept away. I will present the first perspective in some detail before discussing the second.

Viruses are so difficult to understand in practical terms because they are far removed from our everyday experience. We have experience with diseases that are caused by viruses, but most of us have never seen a virus and do not fully understand what they are or how they work. If you have ever found yourself trying to explain what a virus is to someone, regardless of their level of formal education, you will know exactly what I am talking about. If you are like me, you may have quickly started to use imperfect analogies and metaphors and, when confronted with "why" and "how" questions, you may have realized that you do not fully understand a virus in practical terms. This has happened to me and I have seen it happen to microbiologists and infectious disease specialists. There is a gap between our conceptual understanding of a virus and our everyday

experience and practices. This gap gets filled with explanations about disease transmission. When I have carried out research on health-seeking behaviors or explanatory models of disease in Guatemala between 2008 and 2016, it has struck me that in many cases people's ideas of disease causality – the disease comes from dead animals, changes in weather, dust, foul odors, or lack of air circulation – imply theories of transmission that were at the heart of the debates among nineteenth century physicians and scientists facing the cholera pandemics of the time. The significance of these pandemics is that they occurred just after the shift in medical practices described by Foucault as the "birth of the clinic", but just prior to those derived from the consolidation of the germ theory of disease. The simplistic story most of us have learned is that the theory of miasma was the dominant theory of disease transmission at the time, but that it was debunked by the germ theory. Miasmatism, we are told, claimed that diseases were transmitted by poisonous vapors stemming from putrid organic matter, originating from contaminated environments. These competing views are sometimes framed in terms of the binary contagionism/anti-contagionism when one looks at the longer history of theories of disease transmission (Rosenberg 1992, Snowden 2019). However, a closer look at the debates of the time among experts in medicine, geology, astronomy, demography, botany, chemistry, zoology and more, shows fascinating, nuanced efforts at interpreting empirical information to try to solve the mystery of the transmission of diseases that derived in epidemics, which do not fall neatly into the contagionism/anti-contagionism binary (Delaporte 1986, Rosenberg 1987, Baldwin 1999, Johnson 2006, Hempel 2006, Vinten-Johansen 2020). The notion that some type of agent was involved was generally accepted, but there was speculation and debate about the nature of that agent. Was it the chemistry of the underground minerals emanating in the water, or were there atmospheric changes that derived in chemical activity in the air, or was it some poison originating from rotten matter? Speculations about the agent's nature were closely related to those about the agent's transmission, but they were all based on people's empirical experience. Does the agent enter the body through the skin, respiratory or digestive systems, and is it passed on from person to person or through some kind of medium? While the debates were theoretical, they also had important practical implications about legitimate measures of disease control, some of which, like sanitary cordons, directly affected commerce. At the heart of those debates were infectionism and contagionsim as theories of disease transmission.

Before getting into the details, just know that the meanings we currently give to infection and contagion as closely related are not the exact meanings those nineteenth century experts gave to those words. Contagion held that disease is spread by direct contact with the body of an affected person, advising measures aimed at repelling the causes of the

disease, emphasizing quarantines, segregation and sanitary cordons. Infection held that disease is spread through the air or other distant means like objects, dust and water, leading to measures aimed at removing causes of insalubrity. The two were seen as complementary at the beginning of the 19th century cholera pandemic in Europe and, given the doubts about the nature of the disease, most people agreed that there was nothing to be lost by imposing both types of measures, even if the only purpose was to calm down a frightened population. But until it was proven that the disease was transmitted by ingestion of contaminated water, it was as reasonable to believe that the disease was contagious as infectious. The real issues were not just about theories of disease transmission but were also economic, bureaucratic, political and legislative. The application of those measures eventually led to a battle between liberals and conservatives, around issues of individual freedoms and freedom of commerce, and in all that mix, measures like quarantines and sanitary cordons were increasingly portrayed as barbaric and medieval.

Community leaders and government officials in Guatemala are facing a similar dilemma. Dealing with COVID-19, a new disease transmitted by a hard-to-understand virus, with scientists and public health officials not offering clear guidelines about control measures, community leaders and government officials look at their own empirical experience dealing with disease and outbreaks. I argue that their experience is relatable to the one of those experts in the first half of the nineteenth century, who did not know about the nature of microbes and their role in epidemic diseases, but who noticed changes in odors, filth, wind direction, dust, and weather. The nature of COVID-19 seems so abstract and hard to do something about that people needing to take practical measures will find ways of deciding, by recurring to notions of disease transmission drawn from their experience and which resemble those of nineteenth century contagionism and infectionism.

But why sanitary cordons? Here is where narratives with militaristic overtones blend in with notions of disease transmission to inform control measures. Between mid-March and mid-May the Guatemalan government’s narrative about COVID-19 was one of defending the country from an external threat, that the country was at war and the virus was the enemy to defeat. So, at the beginning, people returning from Europe or the United States became the source of the virus that had to be kept away, but as it became evident that the virus was circulating in the country, community leaders adopted the same logic to protect their communities with the implementation of their own version of a sanitary cordon, and adding more people to the list of suspects.

One thing COVID-19 has taught us is that the past twenty years of global

health's emphasis on biosecurity have led to our current obsession with sanitary measures, losing sight of 150 years of advances in epidemiology and public health that had shown us that the *object* of epidemiology is people's health, and its *objective* is to contribute to its improvement.

Alejandro Cerón *is an anthropologist interested in the social and cultural aspects of health, especially sociocultural epidemiology, public health practice, and the right to health. Prior to earning a doctoral degree in anthropology (University of Washington, 2013), he graduated as physician and Master in Public Health in 2000 and 2006, respectively, from Universidad de San Carlos de Guatemala. He is currently Associate Professor of Anthropology at the University of Denver.*

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