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Reforming the Reform: Public Health Policy in the Dominican Republic

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Abstract
Introduction: (First paragraph only)

The Dominican Republic is located south of Florida and east of Cuba, on the Eastern side Hispaniola; on the western side is Haiti. The Republic operates as representative democracy, with a bicameral national congress comprised of a Senate with 32 members and a Chamber of Deputies that operates similarly to the United States House of Representatives. Elections are held every 4 years for the presidency, and government is formed through a coalition of the three major parties, the Dominican Liberal Party (PLD), the Dominican Reformist Party (PRD), and the Social Christian Reformist Party. The judiciary is based on the US model as of 1994, and the Supreme Court is comprised of 16 judges. Many of the country's governmental institutions and organs are relatively nascent—most being incepted in the early 1990s—and as such it is critical to pay attention to these institutional shifts.

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dominican republic, reform, public health policy

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Introduction

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Accordingly, since the late twentieth century this small country has enacted some very bold governmental reforms in order to remain competitive in what is quickly becoming a global society. Examples of this are the inception of free trade policies, incentive packages to foment foreign investment, and participating in multinational organizations (ICC, CARICOM, etc.).

In this paper we address the changes enacted regarding health policy and institutional structure in order to adequately and efficiently address some of the larger health concerns regarding communicable diseases such as malaria and cholera. Over the last twenty some years, several rounds of extremely bold steps towards change in the country's health structure have been made, taking new insights from the developing and developed nations. However, and herein lies the question, after almost a decade and half going from reform to reform to more reform, how are we to know what reforms were effective, what reforms were ineffective and are we

getting to the point where politicians partake in reform for reform's sake, regardless of good evaluations and assessment; just so that they as politicians can claim to have done "something". We conclude that the nation needs to consolidate current reforms, develop a strong evaluation and assessment infrastructure, and invest in rebuilding long term and effective institutions, run by competent and well-anchored professionals.

The aim of this paper is to provide public policy recommendations based on an institutional analysis of the input variables and finance structures of the governmental health institutions in the Dominican Republic. Accordingly, the secondary nature of this project is to research the health policy reforms and compare the effects of the subsequent changes in order to acquiesce which changes are paramount toward incepting a successful health program, which are superfluous, and which are detrimental.) In particular, our recommendations deal with the following concerns:

1. Is there operational cacophony on the level of primordial and primary prevention (e.g. malaria) caused by myriad of governmental, private, national and foreign institutions who all work without an overarching national tactical plan?
2. Which factors are impeding an effective eradication of endemic diseases (e.g. malaria) –are there cases of institutional incompetence or under-capacity, political indifference, or public reluctance?
3. Is the health structure in the Dominican Republic geared towards task orientation and role specification among the public and private sectors, and, if so, would it benefit more from inter- institutional coordination, communication, and cooperation?
4. What would such venue of communication look like?

We will attempt to provide an answer to these questions using the specific cases of malaria and cholera as the health issues provided as the controls of the study since they are the most recent and pertinent health concerns in the area. Notwithstanding their specific manifestations, however, both these diseases share the same pathogenic inception conditions. For instance, both surge as a result of poor water storage, congested urban areas, and inadequate plumbing orientations. Therefore, another aspect of the project will include detailing the level of sanitation in homes and the specific layout and urban planning found in the regions in which the diseases are most rampant.

Accordingly, the project is laid out in four sections:

The first section will detail the field work and conditions that we found as we traveled to the areas where the diseases were most prevalent. The information gathered is tentative since the outbreak of cholera was still expanding as we were conducting our study. However, given the relatively small size of the Dominican Republic and population layout, it is safe to assume that the numbers we found in one region can be translated to another region proportional in a per capita basis. The methodology applied were questionnaires presented to persons representative of their particular local social strata, since it is common for those who lived on higher ground to have better economic opportunities, modern plumbing, and a structured urban layout and therefore the method of infection was different. Furthermore, the closer one got to the regions in proximity with rivers one could see the effect of less government involvement. For instance, zoning laws were altogether nonexistent in lower Villa Juana/Juan Erazo, and this fomented conditions in which industrial zones were located at an alarming proximity to homes. This section will elaborate on the particular attitudes, education, and social structure found among the populace. In addition, the level of perceived government involvement and accountability is

another statistic we take into account in this section since it dictates what methods people use to remedy local problems, be they infrastructure or health concerns. While the focus of this section is the conditions which foment the inception of endemic diseases, it also will briefly touch on the implementation of health reform actions and their perceived effectiveness.

The next section will deal with the health reform and implementation of its articles in detail. The Dominican Republic as of now is a particularly interesting case study as it has recently undergone a fully modernized health reform. Also, this reform is actually a reform of a previous reform. As a result, the new reform is in and of itself, a case study of that which did not work with the first reform and the perceived conventions that are associated with effective health programs. Therefore, while the data might only elaborate on the short term implications, the evolution of health programs is easier to gauge as institutions change names, functions, and funds, and thus can be gauged accordingly. In order to better understand the chain of commands issued that go from top level management to on the ground implementation and the changes in between, this section will use the Ministry of Health (previously called SESPAS) as the example by which to form a network analysis. The analysis will detail communication links with other institutions and finance links as well. Subsequently, the question of whether the reform is effective, ineffective—due to insufficient inter-institutional communications links, low funding, etc.—will be addressed.

The third section will use the information from section two to then summarize the tenants of the reform and, using the results from the previous section, use a comparative analysis to address the structure of the health system in the Dominican Republic. Suriname, whicha has similar levels of development, and has experienced the same endemics will serve as the comparison to then extrapolate which health reforms work and whether there is a pattern that

dictates effective reform. Currently, the island of Hispaniola is the only Latin American country to suffer from malaria and cholera at alarming levels which means that the whole region could serve as the comparative integer, but since the stage and level of development is also a crucial factor, Suriname is used specifically in the comparative model.

The final section will then serve to bring the research together and extract from it a health policy recommendation. We hope that our recommendation be effective enough to identify and find a way to reduce the factors which hinder the effective eradication of these diseases and promote a long term solution to endemic health issues in the country. By making a global health reform comparison, we intend to make our recommendations also modern in that they promote solutions that will propel the country towards a system of health on par with the global standard and millennium development goals.

As developing countries begin to shift focus from conventional notions of development toward incepting welfare states and promoting domestic health and tranquility, the building of a solid health system and the pertinent policies becomes increasingly important. For the Dominican Republic, this issue is of intense urgency, since it is one the few countries that still deals with 19th century communicable diseases. We intend our study elucidate these concerns and provide adequate academic weight toward the eradication of these diseases based on institutional structure and specific forms of policy implementation.

Section I

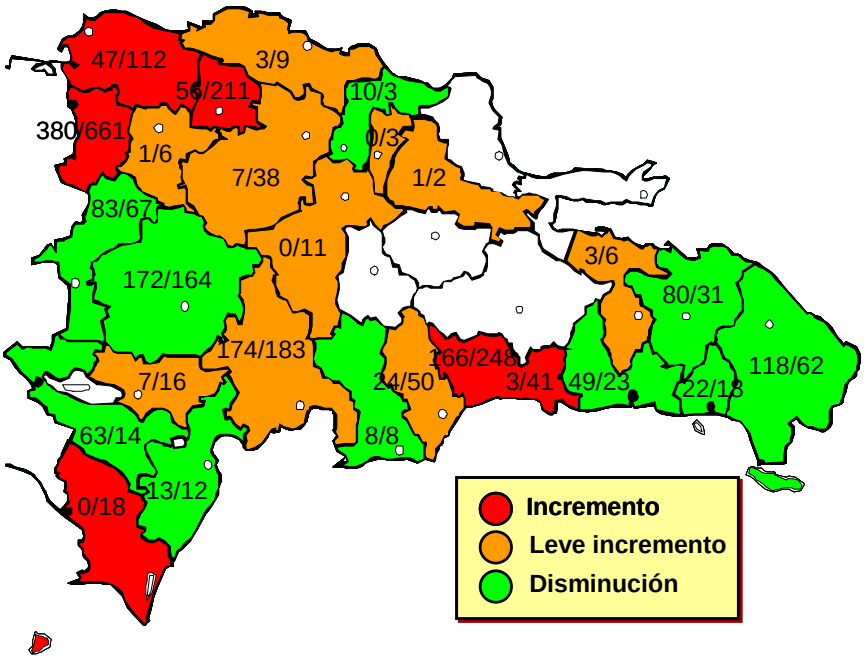
Methodology

Our methodology for the research component of this project was based around set population patterns researched beforehand. The Dominican Republic is a relatively small country with an estimated ten million occupants as of 2010. Out of this number, just fewer than three million of those accounted for live in the capital city of Santo Domingo (this includes numbers from the national district which is inside the capital, but is usually set apart for taxation and census purposes)[1]. The remainder of the population is dispersed at an uneven rate as the second largest concentration is in the city of Santiago which includes many municipalities within its borders which equate to barely over one million. Then, the next highest hub of population density is San Cristobal with a population of 647,003[2] (Indicadores de Salud 6). It is also important to note that the growth rate in the cities from 2007-20010 has averaged 24.5% and the urban population represents a majority of 69.7% (CIA). As a result, with this data as our backdrop, we searched for a region that, in terms of population density and endemic lifecycles would best represent the figures of the nation as a whole. For instance, on the national level we see that deaths due to transmittable diseases, on average, accounted for over 23.5% (Indicadores de Salud 10) of total deaths in the time period from 2007-2010, and a good test region would mimic those numbers closely. Therefore, we focused on a region identified in figure one as having infection growth trends (the red and orange areas) and, after finding the demographic and population distribution information, strove to identify a municipality that would serve as our test

[1] Population information was taken as a composite from the CIA.gov website and the Ministry of Health's current projections. The CIA website provided actual figures for recent years, while, the Ministry of Health article provided the projections and region specific figures.
[2] Ibid

region, representative of the national structure, as traveling throughout the whole country would be impractical for our purposes.

FIGURE 1



Comparison of Endemic Growth Rate by Province 2007-2010

Source: Dominican Republic. Ministerio de Salud Pública y Asistencia Social y Vice Ministerio de Salud Colectiva, *Informe Situación de Malaria*. Santo Domingo, 2010, 3.

The next factor to take into consideration is the migrant population, particularly the Haitian population. The Haitian population is of immense importance for two reason; first, due to the lack of a proactive governmental border protection program they are the single largest migrant population in the Dominican Republic, and second, due to the deteriorated sanitation conditions in the country due to the recent earthquake and almost nonexistent healthcare

structure, they are the population in the Dominican Republic with the highest infection rates and medical history of malaria and cholera, as the Informe Situación de Malaria article states, "After a gradual and sustained declination in malaria cases, they began yet again to rise in 2010 in direct relation to, among other factors, the considerable increase in the cases imported from Haiti and those detected within national borders[3]" (1) . There are close to two million Haitians in the Dominican Republic and it is projected that over 54% reside in Santiago and Santo Domingo alone, with the majority of the remainder of the population living in border regions such as Elias Piña and Dajabon[4] (Ferguson 9-10)—interestingly, these regions comprise the northwestern red areas in figure 1.

Accordingly, taking into account population size and looking at the data in terms of relative percentages, these four classifications fall within a miniscule margin of difference when it comes to infection rates over distinct regions, therefore, the region most ideal would be the one that most accurately models the cause of death ratios from endemics (specifically, malaria and cholera) from 2007-2010 on the national level within its own microcosm. The capital, Santo Domingo, comes closest with around 19.7% within the years 2007-2010 (Indicadores de Salud 9). Not surprisingly, the place to go in which one could extrapolate general trends made manifest in the country is the capital city of Santo Domingo and for those reasons, our research was based around that specific region.

In accordance with the previous findings, we had to find specific regions of the capital which best represented national trends. Since our concern was the health endemics formed by malaria and cholera outbreaks and the institutional initiatives already in place and enacted reactively, it was decided that the factors of note was the capacity of health institutions and

[3] Direct quotes of Spanish articles are direct translations of the authors.
[4] The Haitian population is broken into three groups, documented, illegal residents, and the illegal migrant workers. The latter two are difficult to document and figures are speculative at best. However, the projections stated in the article are comprised mostly from the former two populations, since their permanence in a region would allow them to integrate with the population and become infection agents.

infrastructures (the number of health clinics per 10,000 inhabitants). The average coverage of national health infrastructure is a one to two ratio from provincial to municipal clinics, with an average public health coverage of 33% of the population (Anuario Estadístico 4-5). Inclusive, of the municipalities affected by these diseases most had occurrences of running water three to five days a week (if they had a hydraulics infrastructure) with an average of four hours a day, as Lic. Rafael Diaz, head of the unit of data analysis and administration of health development, stated in an interview with the authors, "It's not a health problem, it's a social problem. Most endemic regions have grown dependent on a system of limited running water, and this invites many problems in how people expose themselves to diseases[5]" (qtd.). Most did not have fully operational plumbing and a great percentage of these infected communities are by rivers. As a result, we chose the sectors of Gualey (a region noted for its similarities to the favelas of Brazil due to its proximity to the river and infamous levels of poverty), Jaina (a community in between the outskirts of Santo Domingo and San Cristobal and notable for its structure as a shanty town with no government involvement, representation, or support), and Villa Juana/Juan Erazo (a sector within the heart of the capital city known for its thriving technical labor industry and intense levels of population congestion). Now, while each sector has its own particularity, we found that all are similar in several key factors such as susceptibility to both malaria and cholera, and share issues in terms of urban planning and migratory Haitian settlements. Note that not all are endemic regions, but the ones that are not are dangerously close to such regions and the fact that these diseases have not spread into these areas is a matter of interest and will be discussed later on.

In general, several characteristics proved themselves common to all three sectors; water as a resource is scarce, arriving only on Monday, Wednesdays, and Fridays from 6am to 1pm

[5] Translated by the authors.

and 6pm to 9pm. In addition, across all sectors when the water did arrive, it arrived with no pressure and the issue then becomes gathering water from a source that generates it very slowly, oftentimes not allowing families to collect the amount of water necessary. This is particularly interesting in that local businesses use massive pumps in order to remedy the situation and subsequently greatly decrease the pressure norms for the rest of the populace and this, in turn, makes gathering water an all day endeavor (qtd. Rafael Tabias, Esq. Secretary of Financial Affairs for the Neighborhood Committee of Guachupita). This precipitates the problem because individuals are forced to buy their own pumps in order to combat the lack of pressure and this, in turn, creates a huge stress on the city's hydraulics equipment.

Subsequently, as people are forced to combat the sparse nature of their water source, the only means of maintaining the needed levels of water, for those who cannot afford the pumps, is a homegrown system of water storage. In all the areas we visited, with the exception of Jaina (more on that later), water storage was of immense preponderance and proved to be a relevant factor in the endemic status of a region.

The Regions

According to Dr. Puello Montes, Director of the National Center for Tropical Diseases [CENCET]) (qtd.), the most effective way to prevent malaria is by securely fastening your water source when storing it; also, about .2grams of chlorine should be introduced for every liter of water stored. In terms of cholera, the focus is the usage of water. Water set for personal hygienic uses should not be exposed to open plumbing registries. Finally, in order to ensure proper health conditions, no water source should be reused.

When we went from region to region these were the standards we directed our questionnaires toward identifying if people had knowledge of these conditions. In brief, it is of particular importance to identify regional particularities before identifying general tendencies.

Villa Juan/Juana Erazo

Villa Juana is located between Santo Domingo North, East, and the National District, and encompasses class structures from the very wealthy in its western outskirts to the destitute in the lower regions, closer to the bridge that connects it to Santo Domingo East. Residents in lower Villa Juana, which is identified as the Juan Erazo/Maximo Gomez intersection, live close to the industrial sector of the city, experience an immense amount of debris and dust from the nearby amplification of the metro, and are dangerously close to the local farmer's market which includes an open-air slaughter house.

Arriving in Villa Juana, the most pertinent questions to be addressed were, how did government involvement manifest itself in this region, and did the nascent reforms make their presence known here? We interviewed over 23 houses spanning the region closest to the farmer's market, out toward the bridge to best capture the population diversity. Most families lived in the alleyways between local businesses or in partitioned block houses oriented to accommodate one family in the house proper and the other in the backyard.

Most families reported that government involvement was sporadic during years in which elections were not held, and constant yet ineffectual during election years. Government involvement equated to member of the Junta (Neighborhood Committee), bringing politicians to fix very specific neighborhood problems. With regards to sanitation education, most claimed that the government had given out packages of chlorine to combat the rising tide of cholera, but they did not explain its usage. Before the reform, SESPAS (now the Ministry of Health) directly

enacted these programs (Magdalena 5), but now inhabitants reported that private companies subsidized by the government took over this role. Indeed, Lic. Rafael Diaz states that, "With the change in the function of SESPAS after the reform, and the intent of decentralizing the public health structure, we have opened ourselves up to more diverse ways of making our presence known" (qtd.). However, this outsourcing of public health functions has resulted in a lack of accountability and the fomentation of corruption. For instance, in Villa Juana the registries are often clogged because local garages and workshops dump oil and petroleum products into the streets and when it rains this garbage causes a sticky form of flotsam to accumulate in the registries. Normally, city council would send someone to clean this up. Now, however, a company called CAASD takes care of that function. However, residents of Villa Juana report that what ends up happening is that representatives of the company extort the citizens, forcing them to collect upwards of RD$7000 before solving the problem. "It is a damned thing, because if we do not have the money we either look for a neighbor who knows about these things or we just sit on our problems, while we watch the shit rise," says Marieta Guzman, a resident of Villa Juana.

Marieta's household turned out to be the ideal example of the factors that foment endemic conditions. In Marieta's household there was one communal bathroom and the communal kitchen had an open registry, covered by two sheets of zinc just outside, with three tanks of water just beside it. She lived in an alleyway that encompassed five families and they reported that the last time it rained the registries flooded, almost to the point of entering houses, with one man finding his shoes floating in the pool of water when he arrived home. This flood included the fecal matter from the registry, and it is this type of close contact with fecal matter that causes cholera. Water only came three days a week and was stored in iron tanks covered by

sheets of zinc littered with holes. They had not introduced chlorine into their water supply because they did not know what it was for, specifically, or how to introduce it into their water supply. Drinking water, however, was bought from the local corner store.

[6]


[7]

[6] A lot showcasing the intensely precarious form in which water was stored. Not only were some containers left uncovered, but also the proximity to garbage and the exposure to heat were unacceptable.
[7] Marieta and her house. Notice the exposed registry in the lower left corner and the water tanks next to her.

Marieta's house was the prototype to what we began to see as trends in the community. Water was not properly stored, and garbage collection unstructured and precarious (oftentimes, families kept a small garbage dump in their backyards, or just threw it in an empty lot until someone picked it up). People were confused as to what to do with the chlorine packets issued sporadically. However, all reported that the media and their local clinics were very vocal in communicating their status as an endemic region. Urban planning was nonexistent in the area, as garages doubled as houses, and slaughter houses were found in people's backyards.

Gualey

Gualey is cited as the most poverty stricken region of the capital, and where malaria, in particular, had hit hardest. Where the national percentages for the number of the populations with access to drinking water and excreta disposal systems are 87.6% and 89.5%, respectively (PAHO 11), Gualey manages to be on the lower end of this scale, since the residents closest to the river had to go uphill to gain these services. Gualey is on the western edge of Santo Domingo East, next to the Maximo Gomez Bridge, and, from the bridge, can be clearly seen as an immense labyrinth of small huts and hovels going downhill, towards the river. The immensity of the vertical nature of the area cannot be underscored as it took us almost two hours to go from the regions highest point to its lowest point.

Because of its vertical nature Gualey does not depend on modern piping to provide its plumbing needs, but rather it uses gravity to funnel all of the town's excrements down towards the river. While this does solve the problem of clogged registries, it opens up a whole new world of issues. In Gualey, just like Villa Juana, people cited that there were trucks which came by and handed out chlorine. Also, particular to the region, a government truck used to arrive monthly to fumigate the regions most infected with malaria. People near the top of the region stored their

water and reported the same issues with water pressure and its sporadic arrival. However, the populace that lived in the highest altitude of the region did not have cholera or malaria, the people who lived closest to the river did.

Rafael Tabias, Esq. Secretary of Financial Affairs for the Neighborhood Committee of Guachupita, and a resident of the lower community of Gualey stated that the situation was dire for two reasons, "government involvement was not nonexistent, but it was detrimental, and the people had grown accustomed to their lot" (qtd.). Mr. Tabias directed us to the *cañá,* an area of the river where the people dumped their garbage and had oriented all their pumping to dump towards that area. Because of a recent drought and the general reduction of the river in that impasse, the current was not strong enough to move the trash, effectually causing the accumulation to become a dam of sorts. In terms of government involvement, Mr. Tabias, as well as several other members of the Neighborhood Committee, informed us that, according to their contract with the city council, the city would give them a stipend with which they would be able to conduct any necessary fixes on their relatively isolated community, effectively washing their hands of the region. However, due to decentralization of public health, the council no longer governed over matters dealing with sanitation issues, outsourcing it once again to CAASD. Mr. Tabias informed us that CAASD was charging them money for the handing out of chlorine. "They are taking funds that we could be using to fix the piping, and work the river" (qtd. Rafael Tabias).

The other issue that Mr. Tabias mentioned shocked us all. The level of poverty was so intense that there were people digging through the feces and garbage in the *cañá* for metal which they could use to sell. Also, since those that live closest to the river cannot use gravity to move their waste, one particular neighbor had moved his piping to release itself on the dried riverbed

and it ricocheted into another person's house. The individual reacted by simply putting a bucket to catch the ricochet, stating, "It happens. Even if I wanted to fight it who would I go to?"

[8]

The conditions in Gualey were indeed conducive to the endemic status of the region, but it also encapsulated one other factor very seldom mentioned, human indifference.

Jaina

Jaina is a settlement off the beaten path towards San Cristobal, Santo Domingo West. Jaina is peculiar in that it is not an incorporated region, politically, and is made up of almost completely internally governed communities of shantytowns. Perhaps rather paradoxically,

[8] The *cañá* in Gualey. The trash is noticeable in the way it impedes the flow of the river, and there is a man digging for metal in the background.

Jaina, while in close proximity to endemic regions is not an endemic region itself. Due to the complex nature of its incorporation (or lack thereof), many of the utilities functions of Jaina are either under the grid or dependent on those from San Cristobal. Despite these challenges, the communities that comprise Jaina are doing relatively well in terms of public health and the distribution of utilities services. Dr. Jose Selig Ripley Engineer, UNASS (Department of Analysis in the Department of Health) states that, "it's places like Jaina that we should be looking toward when forming these reforms. If the goal is to decentralize and find local solutions, then we do not have to look far" (qtd.). However, upon closer inspection it is revealed that the solutions are not completely internal. Organizations such as INAPA and Vision Mundial (World Vision) constantly enact sanitation projects through the various churches. And yet, this creates a stark dichotomy between privatization of social functions toward a dependence on NGOs and communal initiatives. For instance, one problem Jaina deals with is the eradication of garbage. Vision Mundial proposed to provide funds for the churches to pick up the garbage and take it to the local dump, but the churches required membership and offerings from people who wanted their trash collected. Therefore, some began to burn their garbage, and that did not bode well either. Jaina's number one problem is infrastructure, as houses are generally built haphazardly with no regards towards where it should be located. Most predominant, is the issue of sanitation. As more people move in and form families, more latrines are built; however there is no system of cleaning out the latrines once they are full, and, indeed, full latrines are left covered by a sheet of zinc. There is talk of making a deal with an NGO to provide respite from this issue, and talks are currently ongoing.

[9]

Jaina does not have issues with the distribution of water and it has constant running, pressurized water, unlike the previous two regions. This is because it is located right under one of the region's top water distribution pipelines and its denizens are exploiting that proximity. However, this water is untreated for drinking and osmosis is a huge issue among the populace. In 2001 INAPA took over the function of treating the water, but by 2009 the institution had left the country and the problem surged with more intensity. As of right now, people are fixing the problem, by heating the water and using other conventional means, but it is not enough. There is talk of allowing another organization to work through the church which would subcontract another company to do the work with the implication that members will receive the service at a

[9] A full latrine no longer in use is blocked with a piece of sheet metal.

discounted rate, thus footnoting how the interplay between community dependence and independence dictates Jaina's future.

General Trends

Table 1 breaks down the factors found to be of most preponderance in the status of these regions as endemic or not. While the resources and the information are still lacking in order to identify which factors are causal, it is apparent which seem to be most significant. Sanitation is rated on a scale of 1-5, with 1 indicating an extreme lack thereof and 5 implying overall cleanliness and a communal imposition of proper hygienic customs. Limited water refers to the whether or not water came sporadically.

It is important to note that lackluster water storage is one of the most cited factors that can cause the spread of malaria, since the mosquito's lifecycle is allowed to continue by providing it with a breeding ground and in this case the assertion is affirmed. People precariously covered their water and, oftentimes, after the rains the streets would remain inundated for a relatively long period of time. This made the regions ripe for the disease.

In terms of cholera, all three regions suffer marked sanitation problems. The handling of human excrement is an issue none of these regions have resolved. While Jaina remains currently unaffected, perhaps due to its communal isolation, when we arrived there was talk of the slow inception of cholera among the populace.

Finally, the number of clinics and its effect is a topic that will be touched in the next section, but is presented on this table to represent the low number of opportunities these people have once they are infected.

Government involvement remained sparse and virtually nonexistent in these regions. Public health initiatives were, misunderstood at best and unknown at worst.

It is important to note that our field study occurred during a time of transition, and these regions are considered outliers in what the Ministry of Health labels Region 0 (i.e. the municipality of Santo Domingo. However, it is important to look at the tenants and see if the direction the reforms are headed down the road of ameliorating the very pressing issues of these communities.

TABLE 1

Region	Limited Water	Clinics	Endemic	Water Storage	Sanitation
Gualey	Yes	3	Yes	Yes/No (lower section)	1
Jaina	Yes	6	No	No	3
Villa Juana	Yes	3	Yes	Yes	2

Section II

The Reform

In 1993 the World Bank published its *World Development Report* with a focus on investing in health. Consequently, many Latin American countries were challenged to meet the standards set by the World Bank and begin enacting reforms to their health systems as it quickly became a benchmark whose fulfillment became a requisite in order to receive foreign aid. Furthermore, the report was not read exclusively by governments, but by citizens as well, so 8 months after the publication of the report there was a medical strike led by the Dominican Medical Association (AMD) demanding that its tenants be enacted. This strike was complex as it encompassed many entities each of which focused on "very specific" portions of the World Bank paper. Subsequently, it was understood that health sector reform was a "profoundly political process" (Glassman 115), and it was decided among the public and private sectors, unions, and political parties, that the reform would focus on health financing and health provision policies enacted by the national government.

A result of this medical strike, the first reform efforts in 1995 promoted curative level care, and compartmentalized the health structure into regional and national sections both overseen by the Ministry of Health and Social Assistance (SESPAS). This system aimed to combat the national health composition developed out of U.S. foreign policy and, as such, emulated the model of the United States. The new health structure buttressed the one already in place by uniting the network of rural health clinics with sub-centers and centers (the regional hospital), through the education of community health promoters and supervisors within the centers. It also addressed the issue that many young doctors, taught to work in technologically

advanced clinics, faced when working in crumbling backwater clinics with a lack of supplies by providing them local support through the local supervisors. Now, while the system did improve the method in which resources reached the regional hospitals, it was geared to respond to needs that were no longer paramount, and therefore is charged with neither changing nor restructuring the health system for a more equitable utilization of resources (Whiteford par.2). This is because the reform focused on primary care curative measures, and this did not allow for a method of care escalation, leaving higher levels of care to be handled by the private sector (Modelo de Red 15). This resulted in a competition between public and private lenders for "the provision of maternal-infantile packages[10] funded by insurers through payment of a per capita or work performed [remuneration]" (Modelo de Red 16). The public sector lost out and this created a great gap in quality between the public health care and private health care to the point where doctors would work in public hospitals and refer patients to their private clinics, or even use the equipment of the public hospitals to handle the work required by their private practices (qtd. Dr. Francia E. Nuriz, Medical Doctor (Regional Manager of the Ministry of Health [SESPAS]). The example greatly emphasized the lack of funds and quality finance structure in the public sector.

SESPAS directly executed services provisions and, in theory, the entire population was covered in an open public health system funded by general taxation (Rathe 5). However, only 7.3% of the GDP was spent on health with 67.7% of that spent on the private sector (PAHO 10) which entails that, altogether, the public sector only encompassed 2.4% of the GDP meaning that the open public health system was quickly encumbered and government began declining payment. Altogether, the public health system was in shambles and disrepute.

[10] These packages were the only form of subsidized healthcare allowed care escalation into the secondary and tertiary tiers, as they were the vestigial remains of previous health initiative whose funds depended on the World Bank and USAID, and aimed toward the decrease in infant mortality rates (Whiteford par.6).

It is important to note that while the first reform did not perform to the standards set by the *World Development Report*, it did manage to create a foundation in terms of national health structure that made it easier to gain figures and statistics on the health situation of the country as a whole, creating the Office of Technical Coordination and placing the National Health Commission under a supervisory role. Also, it centralized leadership by conjoining the functions of high level actors, such as making the chair of the National Health Commission the Secretary of Health. However, many cite the failures of the reform of 1995 as not going far enough. It did not deal with preventative measures, nor did it implement a system of public health insurance to accommodate fringe populations. To put the failures of the reform in context, the period from 1990-1994 had 4,088 cases of malaria while the years 1995-1999 reported 9,633 cases.

The Second Reform

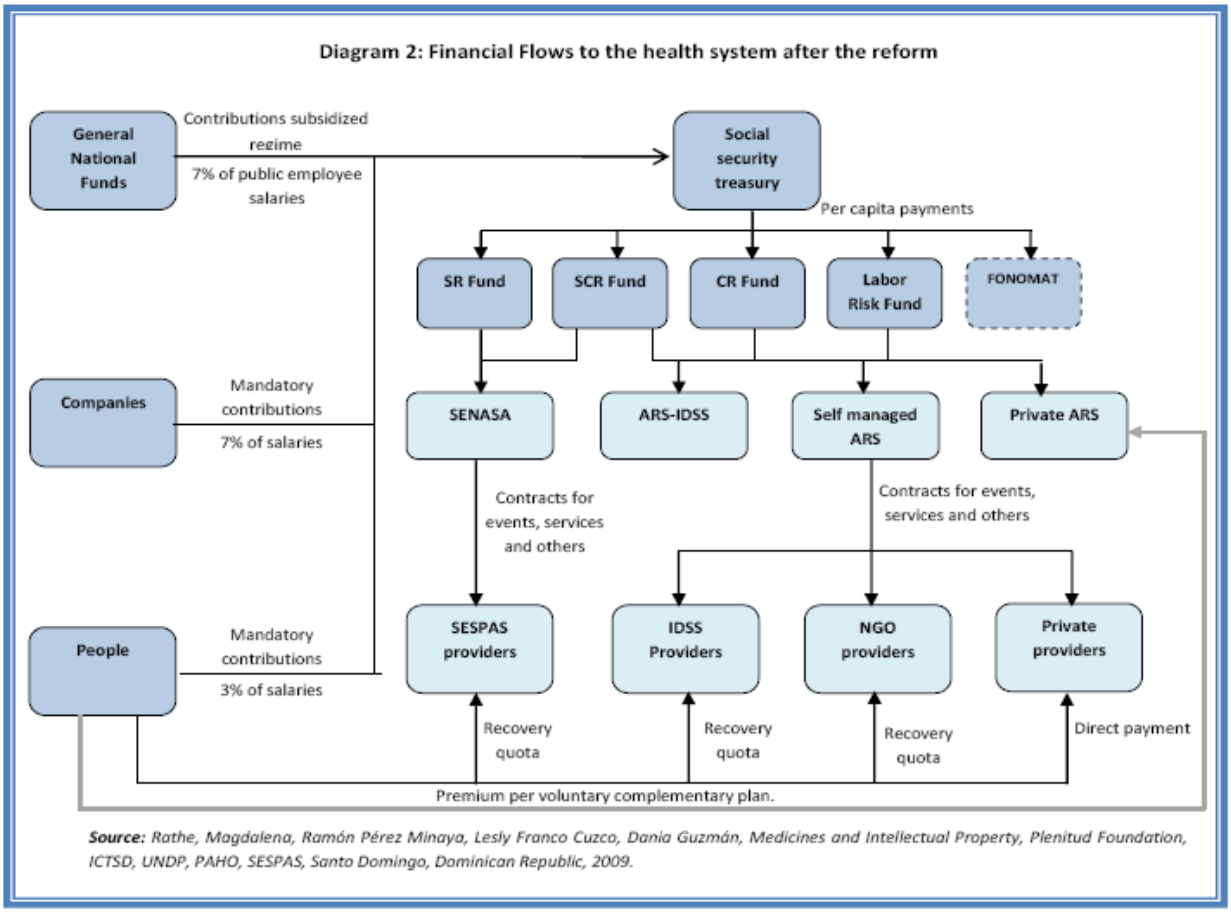
By March 2001, the Dominican government under the supervision of USAID and the World Bank once again decided to institute a reform. The idea was to learn from the mistakes of the previous reform and make fundamental changes that would expand the role and capabilities of the health systems. Foremost, two laws were passed; Law No. 42-01, the general health law which guaranteed certain levels of care would be covered by the public health system, establishes the National Health System, and ensures the right to health for all[11], and Law No. 87-01, which establishes the Dominican system of social security.

The second reform had very specific aims: provide equitable access to drugs, universal insurance coverage, and a zero tolerance strategy toward the seven priority health problems (dengue, malaria, tuberculosis, and HIV/AIDS, rabies, and vaccine preventable diseases). These aims also were enacted with the intent to fulfill Millennium Development goals, and were

[11] The law does not specify to ensure healthcare just to citizens and this has led to an abuse of first and secondary level care primarily by illegal, predominantly Haitian, migrants who cross the border with gunshot wounds, broken bones, etc. to be treated for free and then leave (the law requires they be treated). The burden is usually felt by urban clinics (qtd. Dr. Josefina Martinez, Statistician (Director of Statistics in the Ministry of Health).

structured around that intent (PAHO 3). During this time period the country was undergoing an epidemiological transition as the rate of infectious diseases declined while the rate of non-communicable diseases continued to increase (PAHO 2). In direct response to this, the second reform now encompasses all three levels of care and distributes their functions among the clinics, local hospitals, and regional hospitals. On the financial side, funds were distributed by the Social Security Treasury exclusively, through per capita payments. The payments then went through the service contractors down to SESPAS providers (See figure 2).

Figure 2



Rathe, Magdalena. "Dominican Republic: Can Universal Coverage be achieved," *World Health Report Background Paper*, no.10 (2010), 11.

The purpose of this model of financial flows is to guarantee that the money gets to the contractors first, thereby (ideally) assuring that an internal issue with SESPAS will not interrupt an ongoing project or event. This assures that coverage is uninterrupted and that hospitals and clinics can depend on some form of financial regularity.

This reform, however, while addressing external issues, did not regulate internally. For instance, the system put in place provided too much power to the regional hospitals, since they had to distribute funds and resources down to the clinics, and their managers were not accountable for internal expenditures. Also, there was still a lack of unity between the usage of foreign loans and the national health budget. SESPAS created the Modernization and Institutional Development Unit which, along the Executive Commission for Health Sector Reform, served as a coordinating unit for reform projects implemented with funds from international lending agencies and neither were controlled directly by SESPAS, but by the government, leading to reform projects when an emphasis on the capital of Santo Domingo or perceived health concerns rather than actual (PAHO 15).

Inclusive, the regional health services model (SRS) provided by the reform focused on providing health services through geographical distribution and effectively broke the country into regions with the theory that every region wouldhave its own finance structure so that funds may be allocated in proportion to the pertinent needs faced by a particular region. Ideally this would allow more funds to be allocated to the rural clinics in proportion to their needs. And yet, 40% of the health budget was allocated to health centers for curative purposes (hospitalization, ambulatory care, drugs, and administrative services, while only 3.0% was spent toward preventative services (PAHO 17). Dr. Josefina Martinez, Director of Statistics in the Ministry of Health, states, “What usually ended up happening was that the regional managers would not

distribute the funds down to the rural clinics and instead work on improving the secondary and tertiary care functions of the regional hospital. The rural clinics were often so underfunded that the young doctors doing their year of public service would just not attend regularly and leave much of the work to the supervisors" (qtd.). The SRS in actuality performed with less equitable results than the structure in place before it as regional supervisors were picked due to their political affiliations, and their functions usually did not stray far from the distribution of contraceptives (Whiteford par.16).

In 2004 the National Health System, along with the administrative committee of SESPAS, got together and chose to undergo an institutional reform yet again this time with an emphasis on promoting decentralization and regional health autonomy.

The Current Reform Status

When we arrived in the country the health situation in the country the health situation was very complex. SESPAS no longer existed, replaced by the Ministry of Health. The National Health System was absorbed by the department of Regional Health Services, along with the Modernization and Institutional Development Unit. The public health system had been reconfigured to promote decentralization and regional health autonomy in the belief that it would promote the most efficient use of resources on the ground level.

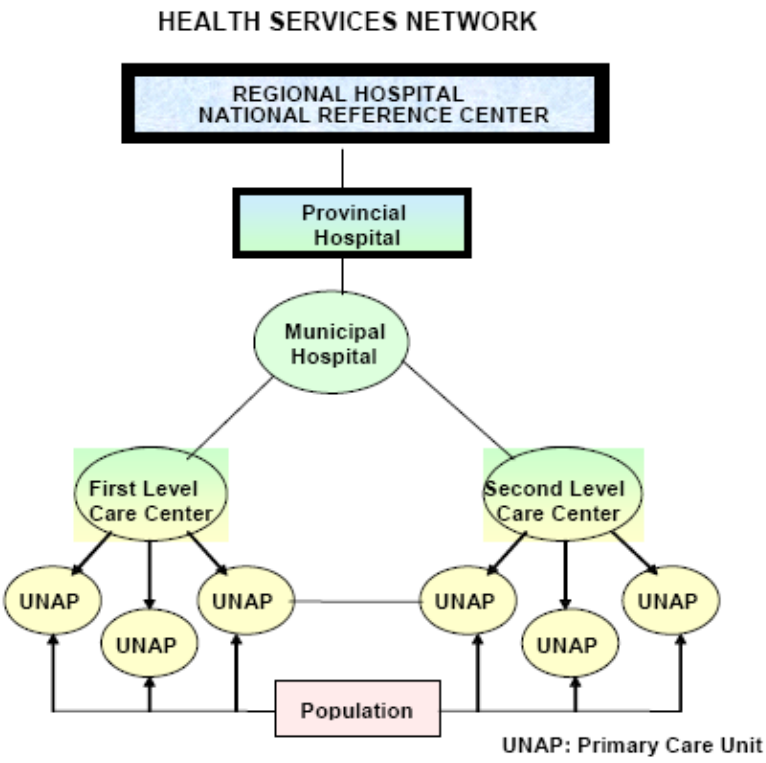
Decentralization manifests itself in this case through implementation. The Ministry of Health does not have the operative organs that SESPAS was able to mobilize to provide care and is therefore relegated to macro-trend setting. For instance, in 2010 the Ministry focused its efforts on preventative measures, wherein its functions have remained promotion and orientation within the SRS, as the *Contexto General de Salud en el País* article illustrates,

> The Ministry of Public Health from the enactment of law 41-01 and 87-01, has been making efforts inherent in relation to public health services, especially with the programs of prevention and control of communicable diseases, which are being addressed by the Vice Ministry of Public Health…All these programs have an integrated promotion strategy, communication, and information and social mobilization through community participation. (pars.12-13)

Also, there has been a shift in the makeup of regional clinics and hospitals. Since law No. 42-01 was amended with an integration clause which coupled preventative services with public health services to combat underfunding (Modelo de Red 90), this directly translating to providing more resources for clinical staff and nurses. They are facilitated in performing their duties with regards to vaccination and primary level care.

Finally, the health services network was formally structured (as seen in figure 3). The systems is meant to foment the creation of primary care units that are not in direct contact with the regional hospitals, with the implication that this will prevent redundancy of resources or services as each hospital and clinic focuses on specific levels of care. Of interest is the connection between single primary care units under the first and second level care centers. This connection indicates a communication of resources indicating that primary care units can outsource their functions if they are not able to perform adequately. The system is new and subject to much speculation as Lic. Rafael Diaz states, "We hope they will communicate in a manner that helps the patient, but this connection is not strictly defined; the manner of communication is up to the primary care units. We hope they will use it to supplement their own health provisions, but who knows, we will have to wait and see" (qtd.).

Figure 3



During our investigation we stayed in Villa Juana, about one block away from a primary care unit. The clinic was usually without a doctor and the nurses stated that their role only went as far as handing out condoms and referring us to the local hospital. During times of rain the clinic was subject to flooding. The local hospital was better in that people actually went there, but they did not have means to do anything else besides diagnose a common cold and prescribe the necessary medicine. This profoundly impacted us since this was a second level care center whose function should be to provide support for cases that require an overnight stay and monitoring. In terms of the inter primary care unit communication, the clinic provided us with a

simple chart, with two columns and many rows. The nurse who presented it to us said it was a list of medicications that their "sister" clinic had in stock, with x's denoting which were available for request. I stated that there were no x's and she said, "exactly."

It is apparent from our brief interaction with this one local clinic and hospital that the intentions of the reform were somehow lost in translation. The problem is understood to be that the regional hospitals do not distribute resources further down the chain, as Lic. Rafael Diaz states, "In rural settings it will be months before the clinics see the famed white vans of the regional houses sending over supplies. We need to make the hospitals accountable; we're working on that" (qtd.).

[12]

[12] The view of an overflooded street in Villa Juana looking towards the clinic.

Section III

Looking at initiatives that have been successful elsewhere: The Suriname Case Study

Like we touched on earlier, to institute true reform that will spark lasting change in the Dominican Republic it has to come in a way where it is both supported by the government and given the priority it deserves because unfunded reform is as good as no reform, and perhaps most importantly it needs the support of the people. Throughout our travels, most of the people we spoke with had been living in such deplorable conditions their entire lives that they saw nothing that could be done to change their situation. They didn't seem to care for petitioning for government assistance because they figured that this help would not arrive anyway. Many of these people knew that change was needed in the way they approached personal health and promoting healthy environments, but they mentioned lack of support, know-how, and a unified effort. Therefore, any kind of initiative to help start changing the public health landscape in the Dominican Republic has to address these concerns coming from the people while still lending itself to government backing.

By looking at countries that have had similar problems and have had success in dealing with those problems we can better understand what kind of initiatives could be fruitful in the Dominican Republic. One such country that can serve as a good example of what the DR should strive for is the South American country of Suriname.

Suriname is a relatively small country, roughly the size of Georgia in the United States; it is located in the northeastern part of the South American continent. It is an incredibly diverse country, composed of a number of ethnic groups including; Hindustani, Creole, Javanese, and Amerindian to name a few. Being near the equator it enjoys a tropical climate year-round and is largely occupied by rainforest with the major cities situated along the Atlantic Ocean border to

the north. Like many of the countries that enjoy a tropical climate Suriname has to deal with the plethora of diseases that this climate promotes. Notably among this group are cholera and especially malaria, which given the wet nature of this tropical region have had a history of plaguing this country.

In 1990, Suriname along with 188 other nations signed what is known as the UN 2015 Millennium Declaration which set up a number of goals to help "free people from extreme poverty and multiple deprivations, (United Nations, 2000)" with Goal Six of the Declaration specifically addressing the need to combat malaria and other pertinent diseases (see chart below)[13]. 21 years have passed since this declaration was signed and Suriname has emerged as a leader, among the countries that signed the declaration, in following through with its avowal to promote positive change for its people.

Consolidated List of Targets and Indicators Goal 6		
Type of Indicator	N°	Name of the Indicator
Target 6.A. Have halted by 2015 and begun to reverse the spread of HIV/ADIS		
Official	6.1	HIV prevalence among population aged 15-24 years
Official	6.2	Condom use at last high-risk sex
Official	6.3	Proportion of the population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS
Official	6.4	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 6.B. Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it		
Official	6.5	Proportion of the population with advanced HIV infection with access to antiretroviral drugs
Target 6.C. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases		
Official	6.6	Incidence and death rates associated with malaria
Official	6.7	Proportion of children under-five sleeping under insecticide-treated bednets
Official	6.8	Proportion of children under-five with fever who are treated with appropriate anti-malarial drugs
Official	6.9	Incidence, prevalence, and death rates associated with tuberculosis
Official	6.10	Proportion of tuberculosis cases detected and cured under directly observed treatment short course

Of these goals, those related to Malaria have already been met by Suriname, much sooner than the projected 2015 deadline. Between 2001 and 2006 alone, malaria rates in Suriname plunged by roughly 70%. In 2007 total number of malaria-related incidents only numbered

around 700, a 90% reduction in cases since 2001. In presentation at the Royal Society of Tropical Medicine and Hygiene conference in London in 2007, a consultant for the Global Malaria Fund brought these phenomenal results to light and heavily praised the efforts of the Surinamese people (Smith, 2000).

To attain such exemplary results Surinam enacted a number of measures. These included; mass access to insecticide-treated bednets, insecticide-spraying in high-risk areas, and arguably most importantly a comprehensive public awareness program and detection system for possible epidemics (Smith, 2000). These measures have clearly proven to be extremely effective in combating this terrible disease and given the similarity of the Dominican Republic and Suriname in terms of geography, disease prevalence, and economic indicators such as GDP per capita we feel that a similar campaign could be launched in the DR and result in similar success.

We'd like to turn now to one specific educational initiative carried out in Suriname that worked to promote sanitation and safe water use through a program that targeted schools and school children as the primary drivers for increasing public involvement and commitment to these issues. Since we learned that one of the big issues the Dominican people face is a lack of sanitary conditions in their daily lives especially with regard to water usage we feel that this Surinamese approach is relevant to the needs of the DR, and by addressing these needs the bigger issue of helping to curtail the proliferation of waterborne diseases can also be residually addressed.

The essence of the program was to target two carefully chosen schools and carry out bathroom renovation coupled with sanitation and hygiene workshops for the school teachers. The renovation portion of the project divided the repairs into a number of areas which included; water-supply, wash basins, toilets, urinals, septic tanks, storm drains, and garbage. Old taps

throughout the school were replaced and the number of water fountains was also increased (Pan American Health Organization, 2001). Plastic, fragile wash basins were replaced with durable ceramic varieties. Cracked toilet bowls were replaced along with toilet doors. Better wall urinals were built at both schools and faulty wastewater pipeage was both replaced and more efficiently installed. Storm drains were cleaned out, repaired and sealed in such a way that mosquito breeding and waste collection was prevented (Pan American Health Organization, 2001). Recycling bins were introduced at the schools and garbage collection systems were reworks to ensure the school was getting adequate collection. Additionally special hygiene and sanitation workshops were setup for the school teachers to participate in. These workshops were meant to give the teachers an awareness of the pertinent issues they needed to raise their students' awareness, and they were quite successful in doing so. During school activities related to World Water Day the children's increased awareness of the issues at hand was quite obvious when looking at their presentations and artwork for the event. The conclusions of this program were varied but one key takeaway was that "Water supply and sanitation renovation at schools in conjunction with personal hygiene and environmental health education are [an] excellent entry point to reach and to mobilize the wider community (Pan American Health Organization, 2001)."

This kind of program could be funded through partial allocation of the resources being funneled into local first-level care centers that don't seem to be making a huge impact based on our experiences. This system would promote preventative methods for disease control and would ideally reduce the number of cases of people having to go to the first-level care centers in the first place, allowing these centers to focus more on illnesses that are much more difficult to prevent.

While this case study is only one small-scale example it shows that it does not take a great deal of funds to bring about change, what's most important is the willingness to create viable initiatives and see them all the way through.

Section IV

Policy Recommendations

The Suriname example serves to indicate which factors are paramount towards incepting the long term eradication of endemic diseases in a region. These factors can be reduced to long term initiatives, centralization of leadership and health administration, a proper, accountable chain of command with a two-way communication venue, and the participation of local actors. Once again, we reiterate that while we were in the Dominican Republic it was currently undergoing another reform in the public health sector, and it seems, through our interviews with many professionals who represent their respective health institutions, that the implementation of these factors we identified as necessary for proper eradication of diseases is being addressed. However, the following suggestions are our ideas, based on our research on both the Dominican Republic and Suriname, as to how these factors should be implemented.

Foremost, give the rural health supervisors greater autonomy so that they may perform their duties adequately. It was extremely apparent from our time in the Dominican Republic that the rural health supervisors were the ones best equipped to deal with the needs of the local populace. Oftentimes, the rural health supervisor was a retired doctor, or a medical professional who graduated from a rural university whose credentials were not recognized by the state. This is particularly perplexing since, in order to become a health supervisor, the state requires one to take an exam, oftentimes requiring these individuals to travel to the capital city of Santo

Domingo to receive their qualifications. If so, then why limit them severely? What we mean by limiting is that health supervisors usually cannot treat an individual unless the resident doctor is present, requires a doctor's signature to distribute or prescribe medicine, and cannot solicit medication from another clinic without consent of the doctor. This greatly hinders the effectiveness of the primary care unit structure since, like previously stated, most of the doctors in these rural areas are recent graduates doing what is called *pasantias*, which is something akin to residency. The problem is that these young doctors come trained to work with equipment and conditions that just do not exist in these rural areas. We believe it would be best to continue this *pasantia* tradition since it gives young doctors training and perspective as to the health structure in the country in general, but rather than give them a leadership role, make them become the mentors of the rural health supervisors. The supervisors have the experience and qualifications necessary to meet the demands of the health situation in their areas and it is only a hindrance to make them accountable to an outsider.

Secondly, while we believe that, due to its current public health trajectory and history, the Dominican Republic should resume a system of decentralization unlike the one of centralization performed in Suriname, the country should exercise further decentralization. If the regional health structure is autonomous from the central and primary care unit structures then is only serves as a detriment to have the regional health administrators control the distribution of resources. Currently, rural health clinics depend on the regional hospitals for the solicitation and distribution of medicine, funds, and equipment. This system was initially put in place to promote communication and, subsequently, facilitate the collection of rural health data. However, this system is not working because it gives too much power to regional health administrators and many times there is no communication between them and the rural health clinics. The logical

path would be to rend that power from these administrators and make the Ministry of Health a sort of distribution house. In this manner the ministry directly collects data and knows exactly the concerns of every rural area without the injection of regional bias. We are aware that then distribution becomes a problem; however, there is already a distribution system of food and supplies to these rural regions funded by the state and it would not be unreasonable to include medicine and medical equipment among the resources distributed. Finally, in order to prevent the possibility of rural clinics overflowing demands, the Ministry of Health can set up a monthly distribution schedule with quotas. It makes far more sense than making the rural health clinics dependent on another and obsequious to the regional hospitals if the intention is decentralization.

Third, in order to better identify and work with the growing need of hygienic conditions in many of these endemic regions, primary care units need to become non-specialized with a command organization that is receptive to local needs. Most health supervisors already distribute condoms and are required to hold events promoting sanitation and hygiene, so why not fund them? Instead of giving private organizations such as CAASD resources to perform these duties (which they do haphazardly if at all), give these funds to the primary care units and allow them to branch into preventative, and secondary care measures. The current specialization of these primary care units currently serves as a hindrance since, as we saw in the Jaina case, preventative care measures done by external or privatized institutions are neither receptive nor quick enough to adequately serve the populace. An un-specialized primary care unit can fulfill these roles, and, since they are stationed in the communities they serve, can reform their strategies in real time to meet the needs of the people. This is what was done in Suriname, where people in the beginning used the bed nets provided by NGOs to curb the increase of malaria for fishing since they did not know how to use them. Primary care units stepped in and took over the role of distribution and

education, and then it worked. This also can be done in the Dominican Republic. Rather than just have CAASD or government trucks distribute chlorine with no explanation, give the chlorine to the primary care units and allow them to create events which educate the populace on proper usage. It makes sense since it is essentially cheaper anyways all that has to be done is expand the role of these units and the responsibility of the individuals involved.

Essentially, we conclude our public health reform recommendations with the suggestion that this reform try to meet a standard of consistency, if it is striving for decentralization, to enact it in the municipal as well as in the rural levels, if it is creating regional codependence chains, then to make communication a two-way venue, and if it is going to assimilate modern health standards then also assimilate modern health practices along with those standards. The Dominican Republic is in a very pivotal position right now as it begins restructuring its public health system. We have seen awareness and conscientiousness on the part of the reform's writers and representatives. We only hope this trend of awareness continues onto implementation, and, if our recommendations are not heeded may at least the reform follow in the spirit of these suggestions.

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