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On leaving: Coloniality and physician migration in Puerto Rico

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ABSTRACT

Puerto Rico (PR) has a growing physician migration problem. As of 2009, the medical workforce was composed of 14,500 physicians and by 2020 the number had been reduced to 9,000. If this migration pattern continues, the Island will not be able to meet the recommended physicians per capita ratio proposed by the World Health Organization (WHO). Existing research has focused on the personal motivations for movement to, or permanence in, a particular setting, and social variables that encourage physicians to migrate (e.g., economic conditions). Few studies have addressed the role of coloniality in fostering physician migration. In this article we examine the role of coloniality and its impact on PR's physician migration problem. The data presented in this paper stem from an NIH-funded study (1R01MD014188) that aimed to document the factors associated with physician migration from PR to the US mainland and its impact on the Island's healthcare system. The research team used qualitative interviews, surveys, and ethnographic observations. This paper focuses on the data from the qualitative interviews with 26 physicians who had migrated to the USA and ethnographic observations, which were collected and analyzed between September 2020 and December 2022. The results evidence that participants understand physician migration as a consequence of three factors: 1) the historical and multidimensional deterioration of PR, 2) the idea that the current healthcare system is rigged by politicians and insurance companies, and 3) the specific challenges faced by physicians in training on the Island. We discuss the role of coloniality in fostering these factors and how it serves as the backdrop for the problem faced by the Island.

1. Introduction

Teresa and Sergio received us in the living room of their small house in the rural town of *Aguada*, located in the western part of the Puerto Rican archipelago (PR). She sat on an oversized loveseat and was wholly engaged in the retelling of her story. He was positioned across from her with a look of hopelessness as he listened to his wife. It was the look of emotion that is hard to contain. "I had a cancerous tumor in my brain," explained the woman in her late 50s. "After my operation, I would visit my neurosurgeon every year. Last year, when we went for more treatment due to recurring symptoms, he was simply gone." Her face showed the lasting shock, evidently still felt months later at the time of our interview, over the absence of her physician. Her healthcare provider, and source of support in challenging circumstances, was now gone. "He moved to the United States. We didn't even get a phone call from his office. He was just gone," she stressed repeatedly. As she continued to retell the hardships that followed this event, Sergio shifted anxiously in his seat. "Other surgeons would not touch me because they had not done the initial operation," she explained. Sergio interjected, "We only found another through *panismo* (a local phrase used to describe informal access via networks of friends or family); that's how things work here!" Sensing his growing uneasiness, and as if trying to convey the idea that it all

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worked out in the end, Teresa interrupted and explained that "once we got to MD Anderson, in the States, everything was different. They scheduled everything around my calendar and even greeted me when I got there. They were very human." The tension seemed to linger in the air—a mix of anger over the lack of services and despair for what might happen next.

Teresa and Sergio are just one family dealing with the growing physician migration problem in PR. In the last decade, the Island has lost over one-third of its physicians. As of 2009, the medical workforce was composed of 14,500 physicians. By 2020 the number had been reduced to 9,000 (Varney, 2018). If this migration pattern continues in the coming years, the Island will not be able to meet the 1/1000 ratio of physicians per capita proposed by the World Health Organization (Kumar and Pal, 2018). Even more problematic, the recent migration waves have been led by physicians in specialized areas of medicine that have become dangerously scarce on the Island (Respaut, 2016; Stephano, n.d.). PR's economic crisis, linked to its external debt, and the aftermath of Hurricane María, are two crucial driving forces behind the mass migration toward the Unites States (US). However, despite calls to study this problem (Nieves and Stack, 2008), there have been no systematic island-wide studies on the issue of physician migration in PR to date. In light of this, our study aimed to describe the factors involved in Puerto Rican physicians' decisions to leave PR for the US mainland, drawing on data from throughout PR.

Previous research on physician migration has focused on the personal motivations and socio-structural factors that motivate movement to, or permanence in, a particular setting. Studies tend to focus on individual-level characteristics that foster migration (e.g., attitudes and personal motivations). For example, some studies have argued that physicians migrate to seek better lives, improve their families' livelihood, and access better training (Dohlman et al., 2019; Sheikh et al., 2012). Other have taken broader and more structural approaches by focusing on social variables that encourage physicians to migrate to new locations (e.g., the economy and political unrest). Within these more structural approaches, scholars have focused on the political reasons for migration (Lofters et al., 2013) and the consequences for the source countries in the Global South (Aluwihare, 2000; Kaushik et al., 2008), who end up losing physicians to the Global North. To face this loss of physicians in the Global South, some researchers have called for an examination of specific physician training models to foster solidarity among countries in the Global South (Hammett, 2014; Huish, 2009). Still, very few studies carried out from this structural approach have addressed the topic of coloniality as the socio-historical foundation of the present physician migration crisis (see, for example, Arah et al., 2008).

Although these approaches are valuable and much-needed, a complete analysis of physician migration would ideally examine factors at multiple levels, including an interrogation of the broader circumstances of PR's current crisis of physician loss. We, therefore, advocate for multilevel approaches that seek to understand how large-scale contextual factors (e.g., political, economic, environmental) contribute to patterns of physician migration and migratory decision-making. In particular, we aim to explain how PR's colonial relationship with the US serves as an essential underlying backdrop for the migration-motivating factors reported by physicians in our study.

There has been a renewed interest in the role of colonialism and health (Joseph et al., 2020; Pérez Ramos et al., 2022; Rivera-Segarra et al., 2022), but the literature on the topic is vast, spans decades, and has documented the effects on the mental and physical health of the colonized (Czyzewski, 2011; Fanon, 1963, 1967; Turshen, 1977). More recent reflections on the long-lasting effects of colonial dynamics once colonialism is officially over in a particular setting have opened new lines of inquiry to interrogate its effects on health in the present day. Aníbal Quijano's concept of coloniality (i.e., coloniality of power) stresses the long-lasting manifestations of colonial dynamics in settings that have formally moved beyond their colonial status (Quijano, 2010, 2020). Coloniality allows us to understand that the dynamics of colonialism (e.g., the devaluation of the colonized, violence, economic control) are still present in settings where traditional colonialism seemed to have lost its grip (e.g., colonized countries that gained their independence). This understanding of coloniality has been accompanied by calls to challenge its grip through decolonial practices and policies that posit different ways of living in the world. Therefore, conversations about how to challenge coloniality have emerged in the social and health sciences (Mignolo and Walsh, 2018; Dussel, 2020; Rivera Cusicanqui, 2020). Such conversations are urgent for our understanding of PR's ongoing colonial plight and how to address its implications, such as the health vulnerabilities that affect patients like Teresa and Sergio when they lost their physician.

The history of PR, a Caribbean Island with a Spanish-speaking population of 3.1 million, is marked by colonialism. After more than 400 years as a Spanish colony, PR was ceded to the United States in 1898 through the Treaty of Paris, which ended the Spanish-American War (Fernández, 1996; Morales, 2019). Since then, it has been an unincorporated territory of the US. Although they have been US citizens since 1917, Puerto Ricans do not have US citizenship's full legal and political rights. The Island has faced cultural colonization via the imposition of a foreign language in the education system, medical experimentation with its population, and the use of lands for military training and munitions testing. The local economy has been set up as a captive market for US corporations resulting in a 72-billion-dollar external debt (López-Santana, 2022; Zambrana, 2021). Most of the debt is now in the midst of perhaps the most extensive restructuring of public debt in US history. The Island's economic peril is reflected in the high rates of poverty (45%) and unemployment (12%) (Roman, 2015). The sustained economic crisis, which has intensified since 2006, has significantly affected PR's infrastructure, including its healthcare system (Padilla et al., 2021; Rodríguez-Madera et al., 2021). This fragile system finally collapsed after Hurricane María in 2017, leaving more than 3,000 deaths (Kishore et al., 2018), mainly due to the interruption of life-sustaining treatments caused by the most prolonged blackout in US history. These are just some of the ways in which coloniality, the long-lasting and ongoing colonial dynamics of power, are present in the everyday lives of Puerto Ricans. Understanding how coloniality serves as the backdrop for physician migration becomes an urgent agenda for those interested in curtailing this public health emergency because it identifies the structural terrain along which such decisions are made. Before we delve into the role of coloniality on physician migration, we summarize our methodological approach.

2. Methods

The data presented in this paper stem from an NIH-funded mixed methods study (1R01MD014188) that aimed to document the factors associated with physician migration from PR to the US mainland and its impact on the Island's healthcare system. The research team used semi-structured qualitative interviews (SSQIs), brief surveys, and ethnographic observations as data collection techniques. This paper focuses on the data gathered from the SSQIs and the ethnographic observations.

Participants - Fifty Puerto Rican physicians participated in the SSQIs (26 had migrated to the US mainland and 24 still resided in PR). In this article, we focus on interviews with physicians who had migrated to the US and use examples of ethnographic observations carried out via fieldwork on the Island to contextualize our findings. Participants recruited were between the ages of 26 and 69. Their average annual income was $227,217 (ranging between $35,000 and $500,000). Table 1 presents detailed socio-demographic information. The inclusion criteria applied to this sub-sample of the study were (a) having been a licensed physician in PR and/or the US during the past decade and (b) currently providing medical services in the US.

Data Collection Forms - The team developed an SSQI guide that included 31 questions divided into six domains: (1) socio-demographic

Table 1
Socio-demographic data of participants.

Variable	Frequency	%
Gender		
Men	11	42%
Women	15	58%
Sexual orientation		
Heterosexual	25	96%
Lesbian	1	4%
Marital status		
Single	8	31%
Married	16	62%
Living with partner	1	3%
Divorced	1	3%
Religious group		
Catholics	12	46%
Protestants	3	12%
Christian	1	3%
Agnostic	9	35%
Medical Specialty		
General Medicine	4	15%
Specialty Medicine	12	46%
ub-specialty medicine	10	38%
States where they practice medicine		
Florida	12	46%
Texas	4	15%
New Jersey	2	8%
New York	1	4%
Colorado	1	4%
Louisiana	1	4%
Indiana	1	4%
Ohio	1	4%
Pennsylvania	1	4%
Delaware	1	4%

Note. n = 26.

information, (2) experiences that fostered migration to the US, (3) descriptions of areas in which participants practice medicine, (4) work settings and populations served, (5) histories of medical practice in PR, and (6) experiences in their migration process. The SSQI guides were available in Spanish and English. We also used a form to systematically collect our team's ethnographic field notes. These allowed all team members to document and richly describe the sites observed (e.g., clinics, hospitals, private offices) and focus observations on topics of interest to the study.

Procedures - Data were collected from November 2020 to December 2022. Due to the Covid-19 pandemic, SSQIs were conducted using a secure Zoom platform. Once the team obtained authorization from the Florida International University's IRB (Protocol Approval #108848), we began the recruitment process. A purposive sampling strategy was used to ensure the diversity of the sample in terms of the area of specialty in medicine and the region in which physicians provide services in the US (rural or urban). The team worked initially through existing contacts with networks of physicians due to our extensive history of public health research on the island, and some interviewees subsequently referred colleagues to our study. The team contacted potential participants by phone at their offices to explain the nature of the study and inquired about their interest in participating. We faced no significant obstacles throughout the recruitment process as participants expressed being eager to provide us with their views on the migration process. Nevertheless, we had to contact physicians on multiple occasions due to their complex work schedules. This could have limited the diversity of our sample as those with more patient loads may have been less available to engage in the study. Those who agreed to participate were invited to meet virtually or in person for informed consent and the interview. Interviews lasted between 25 and 60 min, were carried out by the authors of this paper, and were completed in Spanish or English, depending on each interviewee's preference. Our team's inclusion of Puerto Ricans living on the Island and the US mainland, as well as our bilingual skills, seemed to motivate participant engagement in the study and fostered their communication on topics that concerned all parties. Participants received a $75 amazon gift card for participation. Members of our research team (all co-authors of this paper) carried out ethnographic observations in 20 different sites throughout PR, including hospitals, clinics, private offices, and patients' homes. The primary purpose of the ethnographic observations was to explore the factors that shape physician migration more directly and naturally in affected PR community settings and to describe the effects of physician migration on the ground. These ethnographic observations were in line with our mixed methods research design and allowed us to provide rich descriptions of the contextual backdrop described by participants or observed directly in the field.

Data Analysis - All interviews were audio-recorded and transcribed in their language of origin (Spanish or English) by trained research assistants. Coding occurred in two stages. The first stage involved "in vivo" coding, in which the team used open coding and analytic memos to develop a focused codebook. The second stage involved the application of the focused codes to all the transcriptions. NVivo software was used for the coding of the interviews. Two independent coders worked on the same transcriptions and compared their coding decisions in regular meetings. Only coded passages for which there was agreement between both coders were included in the analytic summaries, thus yielding 100% inter-rater reliability via consensus. After that process, the research team created and discussed analytic summaries for reflection and input. For this paper, a horizontal review of all summaries was implemented to extract and refine themes related to migration to the US and contextualize them within the participants' narratives. Our bilingual team members coded interviews in both Spanish and English. The coded verbalizations in Spanish were then translated to English for presentation in this article. Pseudonyms are used when needed to protect participants' confidentiality. The same analysis process was carried out for all ethnographic observation notes. Three team members met on a weekly basis to compare the ethnographic notes to emerging codes from the qualitative interviews. This served as a source of triangulation throughout our analysis process. For this article, we focus on the underlying role of coloniality in the narratives posed by participating physicians now living and working on the US mainland.

3. Results

The methodological strategy outlined above, and its subsequent analysis, yielded three overarching thematic categories through which physicians who had migrated to the US mainland explained their decision-making process. Here we report these reasons for migration while highlighting how they shed light on the present-day manifestations of coloniality in PR. Let us examine each category individually.

Category 1. The Historical and Multidimensional Deterioration of Puerto Rico

Amongst the interviewed physicians, there was a generalized sense that PR had gone through, and was still in the midst of, a generalized crisis beginning around 2006 (Patron, 2017). Interviewees, particularly those who had already begun medical practice before the turn of the millennium, often traced the factors that led to mass physician migration to this general period. Their feelings echo what we know about the Island today. PR is currently going through an economic crisis linked to its governmental debt (Garriga-López, 2020), has a high unemployment rate (Departamento del Trabajo de Puerto Rico, 2022), disproportional health problems when compared to the US (Kovacs and Rodríguez-Vilá, 2020), and faces significant challenges linked to criminality and violence (Rosa and Robles, 2019). On top of this dire scenario, the local infrastructure has not recuperated from the effects of Hurricane María (Acevedo, 2021), which had already fostered a wave of migration to the US mainland (Gonzalez et al., 2021; Santos-Lozada et al., 2020). In summary, the interviewed physicians perceived the Island to be in a generalized state of crisis, and it was against this backdrop that they

positioned their migration to the US.

During one of our first interviews, we asked a physician to explain why he decided to migrate to the US. The pediatric radiologist stared blankly at the interviewer and provided a succinct yet all-encompassing answer, "quality of life, the economy, and lack of resources." (P35, Male Age 34). The summary was short and to the point but echoed and concisely summarized similar sentiments expressed by many physicians. The concern over the state of the economy and a perceived lack of resources was coupled with anxieties over the rising cost of living in PR, which some felt had become unmanageable. These living costs are intimately linked to the colonial mandate to import all goods via US ships, the most expensive transportation fleet in the world (Cheatham and Roy, 2022). One obstetrician-gynecologist working in Ohio explained how the cost of living impacted services in PR:

> "I get $50 for a pap smear here. In Puerto Rico, a physician gets $25. We have the same costs! Materials, time, it's all the same, but the pay there is less. Add to it that the cost of living there [in PR] is much higher. The sales tax is 11.5%. Everything is imported and therefore more expensive. A gallon of milk is more expensive there than it is here. The cost of utilities like electricity and water is ridiculous. Imagine this for a physician who already has large student debt." (P17, Female, Age 35)

These concerns over the difference in pay between physicians in PR and the US, the expense of providing services, and the rising cost of living on the Island, impacted physicians' decision to leave for the mainland. One physician used the cost of electricity as an example of the unbearably high cost of living in PR. This cost has increased exponentially as the distribution of energy was privatized in 2021, a contract with a US-based company for 15 years (González, 2021; Pacheco, 2022). As the same physician described in our interview:

> "When you get an offer from the US, like mine, you say to yourself: 'ok' (with a tone of surprise). There you will be calmer and have fewer bills. I have a house with central air conditioning here and pay $118 a month for electricity. I paid $160 for my small apartment there and used the air conditioner sparingly. The cost of living is horrible. The physician who graduates says, 'No, I'm not staying here.'" (P17, Female, Age 35)

Other participants expanded on the social conditions in PR, which fostered their decision to leave. Several focused on the topic of violence experienced in everyday life. The violence is often linked to the dire economic situation and the Island's position as a gateway for drug trafficking to the US, both vestiges of its colonial status (Cintrón, 2022). Therefore, once again, physicians were eloquently describing, albeit without directly referencing, concerns that were ultimately linked to the Island's colonial situation. "There's a higher crime in Puerto Rico, so that, you know, definitely pushed a lot of us to leave for the US," mentioned a pulmonologist (P18, Male, Age 30). "I imagine people are looking for a safer life here," echoed a psychiatrist (P37, Male, Age 36). These brushes with violence were not hypothetical and were experienced by close friends. One obstetrician-gynecologist explained:

> "When I lived there, it was safe, but the violence … 'don't stop at a red traffic light, someone may shoot you.' That type of thing happened to people I know! That is enough to say, 'I can't expose my family to this.' That concern over constantly being mugged." (P08, Male, Age 60)

Some participants explained that the dire economic and social deterioration experienced in PR was exacerbated after Hurricane María destroyed the Island's already fragile infrastructure in 2017. The scenario after the category four hurricane made the Island's colonial status visible (Varas-Díaz et al., 2022). The local government received fewer resources than states that had faced similar scenarios (Willison et al., 2019), help was slow to arrive (Padilla et al., 2021), deemed as culturally insensitive (Varas-Díaz et al., 2022), and the federal and local governments quickly hid the actual death toll, which was estimated in the thousands (Kishore et al., 2018). As one surgeon explained, Hurricane María would foster the decision to migrate.

> "Before María, people would say, 'I'm not going back there and lose my job security here.' After my fellowship, it would have been moving towards insecurity, basically. When María came, it all became even worse. (…) When we decided to leave, it was with the understanding that none of the offers (in PR) would give us the job security we needed to accomplish certain things. Buy a new house, get ready for my daughter who was about to be born, and pay my loans." (P14, Male, 47)

Echoing this concern over job security and family, several other participants explained that having family members in the US facilitated their decision to leave PR. "I definitely wanted to stay in the northeast area because my wife at that time was still finishing up her psychiatry residency in Brooklyn" (P18, Male, Age 30), mentioned one of the interviewed participants. This should not be surprising as an estimated 5.83 million Puerto Ricans live in the US mainland (U.S. Census Bureau, 2021). These migration patterns are historically linked to PR's colonial status (Meléndez, 2017). The population has migrated since the 40s to satisfy the need for cheap labor in the mainland US. The local government, at times, also fostered this migration to rid itself of people deemed undesirable. Now the tables have turned, and the highly specialized workers are leaving after receiving higher salary offers, as they are valued for their skills and bilingual skills. Unlike others in the past, this new migration wave is taking place without any control or encouragement from the local government. Having family in the US, now a characteristic shared by almost every person on the Island due to their colonial history, serves as another motivator to leave. One psychiatrist explained it succinctly:

> "I already knew I wanted to do my residency in the United States. I also have two older sisters. One is ten years older than me, and the other is three years older than me. They both live in the United States. They're not doctors; they're engineers, and they've been in the US for a long time. So, I kind of knew I wanted to follow in their footsteps and just go to the US." (P21, Female, 28)

Against this backdrop of generalized economic crisis and social deterioration, physicians living in the US contextualized their decision to leave for the mainland and most expressed doubt over the possibility of returning to PR. The presence of other family members who had historically migrated to the US, a process facilitated by the historical political relation with the mainland, served as an escape valve and facilitated the decision to leave. Still, a deeper exploration of the rationale behind their decision, one which focused on the state of the Island's healthcare system, would also emerge during our conversations.

Category 2. The Current Healthcare System is Rigged

We interviewed a physician in the municipality of *Dorado*, where an estimated 33% of the population lives under the poverty threshold (Díaz Torres, 2021). During our conversation in his office, he explained the challenges of providing quality services to his patients. Lack of access, problems with insurance companies, and low payments for his services, among other topics, dominated the conversation. "Could you please stop recording?" he said while giving us a half smile. We did as he asked and turned off our recorder. He opened his desk's top drawer and pulled out an envelope full of old cashed checks. There must have been at least a hundred checks in it, all in amounts ranging from $50 to $150. The envelope had printed on it the tagline *Por un Nuevo Comienzo* (For a New Beginning) and an image of the face of former Governor Pedro Roselló. "If I did not contribute to his campaign by purchasing tickets to these dinners, I would have been left out of coverage from insurers," he explained. "This was pure corruption, but I had to navigate these waters to keep my practice open." The moment was disturbing yet not surprising. Roselló's term would go down as one of the most corrupt

political periods in the Island's history. Under his governorship (1993–2001), PR's healthcare system was privatized as part of his political party's platform (Mulligan, 2014). Physicians, and their small practices, had not gone unscathed, and there was a feeling that almost thirty years after these events, nothing had changed. US-based companies now controlled health care, whose main goal was to protect income margins, adding another layer to the everyday coloniality experienced by Puerto Ricans.

For participants in our study, the politicization of the healthcare system was not a problem of the past. It manifested itself, still today, in a plethora of other forms. One clear example was the selection of political allies and party supporters to lead healthcare agencies. Participants felt that, far from focusing on the need to hire competent healthcare professionals, adherence to specific political views served as the selection criteria. In order to be named to those positions, candidates must have been tacit, or sometimes explicit, supporters of the current government's position on PR's status: the integration of the Island as the 51st State of the union. One infectious disease specialist explained the following when telling us about his decision to leave PR:

> "Puerto Rico needs a restructuring of the medical system; there is no doubt. You need to elect good health secretaries dedicated to the job. Right now, the previous secretary of health, during the pandemic, boasted that he worked for one dollar. Why? Because he had a private practice at the same time. You cannot be a secretary of health and have a large private practice simultaneously because one of the two things will suffer. The health system in Puerto Rico is politicized. The secretaries of health are selected as political positions, not positions where they will actually work. When I grew up in Puerto Rico, that did not exist." (P44, Female, Age 39)

Other participants explained that the rigging of the healthcare system against the needs of local Puerto Ricans was linked to the insurance companies and their actions. One participant starkly mentioned when asked about the main driving factor behind his leaving: "Medical insurance companies. The problems with insurance companies are what I see as most important." (P15, Male, Age 44, Neurologist). It should be noted that the selection of insurance companies who provide services in PR varies according to the political party in power and is, therefore, a highly politicized process. The physicians we interviewed were keenly aware that the role of these companies was to make money and that to do so in PR, they paid locals less than their counterparts in the US mainland. This practice echoes those of the US government, which provides disparate levels of Medicare funding for PR, 40% less per capita, when compared to citizens in the mainland US (Rivera-Hernandez et al., 2016). Physicians' work in PR was mediated by the Island's colonial relation to the US. One surgeon explained this disparity:

> "I can't understand why the pay is lower in Puerto Rico than in the US when the costs per service are supposedly less expensive. In fact, I would dare argue that it is more expensive (to provide services in PR). In the case of surgeons, we must import all the medical equipment. We also have higher taxes in PR, so I doubt it is cheaper than in the US. (…)" (P14, Male, 47)

Another physician recalled conversations with colleagues still living and providing services in PR. The comparison and the evident disparity between their remuneration levels from insurance companies seemed to be a constant topic of conversation. As one obstetrician-gynecologist stated:

> "What I hear now from friends is that insurance companies pay very little. They take care of patients for nine months and get a misery. How can you have a certain lifestyle without killing yourself? Sometimes you have to work in more than one hospital to make enough money." (P08, Male, Age 60)

The idea that the healthcare system was rigged by corrupt local political parties and insurance companies only generated mistrust towards the policy strategies implemented in PR to curtail physician migration. On February 21, 2017, the local government approved Law #14–2017, also known as the Incentives Act for the Retention and Return of Medical Professionals (later modified by Law #60–2019 - Puerto Rico Incentives Code Act), which allowed physicians to pay only 4% in local taxes. The law aimed to incentivize local physicians to stay, and those who had left to consider returning, by providing them with a tax rate that would be more attractive than those in the US. Some of the physicians we interviewed were aware of the law and found it to be an attractive proposition. As one obstetrician-gynecologist stated:

> "One of the policies they implemented was, I don't remember the name of the law, but it's known as the 4% law. Doctors were going to pay taxes for only 4% of their income. No matter what they earned, it would only be 4%. Well, that made it a little more attractive. They knew they would retain much money from their income." (P17, Female, Age 35)

Others felt the law was ill-conceived and too little to fix the now alarming physician migration problem. "I would say that people in mid-career levels have used the law, but I don't think this is an incentive for them to stay. They were going to stay anyways," stated a surgeon (P14, Male, Age 47) who was concerned that the law was not addressing those who were more likely to leave: younger and newer physicians. Another participant, an emergency room surgeon, explained ironically that the law was useless as it did not curb insurers' control over them.

> "I think it's a patch to fix the problem because it's useless that you only have to pay 4% if what you earn is zero. You know, 4% of zero is still zero. (…) 4% helps; yes, it helps. Is it the solution to the problem? No, the problem is the insurers." (P34, Female, Age 34)

The local government had placed its hopes on the law to create a tax haven for physicians. Even though our participants expressed ambiguity about the effort, only 3,000 physicians were allowed to enroll in the program; this entails less than one-third of the workforce (Jugando Pelota Dura, 2022). On August 30, 2017, the Financial Oversight and Management Board of Puerto Rico, the US Congress-appointed body to guide PR out of debt, unilaterally placed the tax exception program on hold. No more physicians would be able to enroll. This decision highlights the Board's complete control over local government and its previously implemented austerity measures on Puerto Rican people. It is, in fact, yet another layer of colonial oversight imposed on PR. This time, yielding its colonial power, it would unilaterally halt the local government's strategy to end physician migration, one that they hoped would lure new physicians into staying. It is not a coincidence that the Board has had, at least on one occasion, a President who worked for a US-based insurance company (NA, 2018). This fact makes the cancelation of the 4% incentive by the Board an example of how coloniality is stacked against current and future physicians. Let us explore the specific challenges faced by the latter group of emerging medical practitioners.

Category 3. Specific Challenges for Physicians in Training

On April 12, 2021, Puerto Ricans woke up to onerous news. "The Neurosurgery program at the Medical Sciences Campus loses its Accreditation," read the headline of the largest local newspaper, *El Nuevo Día* (López Alicea, 2021). This entailed that medical residents, the Island's future health workforce, would not be able to train at home for this much-needed field of service. They would need to move to the US to complete their training in neurosurgery. The healthcare system, and in this case, the training sites that make up an essential part of it, were sending a clear message to future professionals: there was no space for them on the Island. In fact, out of the 400 medical students who graduate every year in PR, there is only space for 195 to complete their respective residencies (Rivera Dueño, 2022). The closing of this training program was intimately linked to the overall deterioration of the social fabric in the country, which manifested itself in defunding the University of

Puerto Rico (NA, 2021). Local governments and the Fiscal Management Board supported these defunding practices, as they both see the university as a problem rather than an essential cornerstone of the country's future development.

Participants in our study were quick to express their concerns about what the deterioration of PR, and the rigging of the healthcare system, could mean for new physicians. Medical students were completing their training in a setting that had no space for them. They would have to leave the Island to complete their training. To make matters more complex, private medical schools seem to have taken the Island by storm. Of the four medical schools in PR, three are privately owned, and one is explicitly a for-profit entity. This entails higher tuition costs than medical training in public institutions. Students are now obliged to leave with higher student loans as a lingering concern. One resident explained the rationale for leaving the Island for specialized training in surgery:

> "I moved because I needed to finish my training. Unfortunately, in PR, there were no positions. Even though they need doctors, they do not have enough spaces for training all medical students. (…) That is fatal. Local talent wants to stay but needs to leave. Residents are paid a misery. One is paid a misery." (P13, Male, Age 38)

The situation becomes dire for future physicians who want to train in specialized fields. Not surprisingly, many specialist physicians have left the Island in the past decade. Now, the lack of training spaces forces an early migration process among trainees. Furthermore, participants knew that access to respected training programs was essential for their future development, and those in PR could simply not offer such gravitas. Some participants, currently completing their residence in the US, explained their concerns:

> "I wanted to go into psychiatry. At the time, I think there were only three psychiatry residency programs on the Island, which is a limited amount of space, obviously. I think that in my medical school class, there were, like, I can't remember the exact number, but I think more than five people wanted to go into psychiatry, like maybe 7 or 10 of us." (P21, Female, Age 28, Psychiatry)

> "The positions are very limited. The physicians who graduate in PR have to leave because no positions are available. It is also about personal goals. If you train in a bad program … Medicine is very classist. If you want to be a cardiologist and end up in an unknown program, you are done." (P29, Male, Age 29, Internal Medicine)

Physicians in training were also keenly aware of the economic discrepancies between the residency offers they received in PR and the US mainland. This financial difference weighed against mounting student loan debt fostered the decision to leave. "I left and paid off my student loans immediately," explained one participant who was completing her residency to become an obstetrician/gynecologist (P12, Female, Age 46). Others expressed the complicated process of moving their families to the US to complete their training:

> "I sat down with my wife and discussed the lack of opportunities in PR. With a lot of pain in my heart, we packed and moved. (…) I work here because of the opportunities. As a young physician who has student loan debt … I have hundreds of thousands of dollars in debt. How am I supposed to pay for that? I don't have the luck of having a mom or dad who pays for that." (P24, Male, Age 37, Ophtalmology)

Finally, and probably most concerning for future efforts to curtail and reverse physician migration in PR, interviewees were keenly aware that the situation made it almost impossible to return home. After having to leave for training, incurring massive student loans, and accepting better offers in the US, it would be difficult to come back to PR. There they would have to face a privatized healthcare system controlled by foreign insurance companies, with the backing of local politicians. Ironically, some insurance companies have entirely stopped recruiting the services of recently graduated physicians altogether (Jugando Pelota Dura, 2022). One resident described how this scenario impeded his return home:

> "Many things would have to change for us to go back. Insurance companies should not have so much power. It is frustrating that we have to beg and fight to get paid after doing one's job. A typical employee gets paid for his hours at the month's end. That is not so for physicians in Puerto Rico. They must send in invoices, and the insurer determines IF they want to pay and how much." (P34, Female, Age 34, Surgery)

With all of these barriers stacked against medical students, there seems to be little alternative but to leave for the US – a colonial dynamic in and of itself. First, the neoliberal policies which have negatively impacted the local public university have fostered the emergence of private and for-profit medical schools. Students graduate with higher student loan debt, which becomes harder to pay off if they stay in PR. Second, the lack of spaces to complete their residency forces many of them to leave for the US, even though some express the desire to stay and help out their country and its current health crisis. Finally, US-based insurance companies control the health sector in PR and have decided not to hire many new physicians into their roster of service providers.

4. Discussion

On August 2, 2022, the Puerto Rican College of Physicians, the entity which houses all medical professionals on the Island, held a news conference that received ample coverage via newspapers, television, and social media (Torres, 2022). In it, they called for the government to establish a state of emergency over the alarming rate of physicians migrating to the US and what they perceived to be the imminent collapse of the healthcare system. The proposed recommendations, at face value, seemed very logical and well thought out. It would be hard to argue against the creation of more positions to train residents, having insurance companies include new physicians in their networks, or economically incentivizing those who stayed via tax exemptions. These ideas appear completely reasonable and urgent and would garner ample support among the local population. Still, we view these recommendations as existing within normative world views of the healthcare system in PR that fail to address the historically entrenched structural problems identified by the physicians interviewed in this study.

Participants in our study explained their decision to leave PR for the US mainland as resulting from a combination of the overall social deterioration of the Puerto Rican setting, a healthcare system impacted by political corruption, and a bleak outlook for medical students and new professionals with shrinking opportunities and resources on the Island. These factors, as we have argued throughout the paper, are inextricably linked to, or exacerbated by, PR's ongoing colonial relationship with the US, which rarely figures directly in assessments of the problem or their purported solutions. The abandonment of the Island's infrastructure by the Federal government, disparities in funds allotted for health care in comparison to the continental US, the privatization of basic services (including health) via decades-long contracts with foreign companies, the increase of prices in goods and services due to US importing policies, and the proliferation of neoliberal practices in medical education and healthcare service delivery, are just some examples of situations, practices, and policies linked to coloniality, which all impact physician migration. Therefore, a full understanding of physician migration in PR will be incomplete without taking into consideration how coloniality serves as the backdrop for the problem at hand. Similarly, the recommendations posed to alleviate the problem feel like momentary solutions to a larger problem. We therefore highlight the need to engage in multi-level discussions of the role of coloniality on physician migration that bring together health professionals, patients, politicians, and social scientists to the discussion table. These conversations need to explore how to decolonize the health care system, deconstruct its power dynamics, challenge its capitalist-centered

practices, foster communal trust in the institutions that compose it, and tackle the structural problems underlying the physician migration emergency. We propose this because without an understanding of the role of coloniality on the problem itself, we fear that few of the proposed solutions will have long-term effects. Just as importantly, this process can serve as an example of how to engage in decolonial practices within health care systems.

Back in *Aguada*, as we finished our initial interview with him and his wife, Sergio seemed to be clearly and painfully aware of this fact. We asked him what needed to change to curtail the migration of physicians from PR to the US mainland. "The people's health is a constitutional matter," he stated. "How is it possible that the government has dismantled the system of public hospitals?" As his answer unfolded, he continually referenced the structural factors mentioned by interviewed physicians, but did not mention the local government and professional associations. He simply stated, "We need an efficient structure and one that is not corrupt." A moment of silence filled the family's living room, and we all looked at each other as if waiting for people in power to listen and act on these issues. Teresa stood up, went to the kitchen, and came back with a bag full of green plantains and breadfruit from her backyard. It felt like a call to care for each other in the face of a collapsed healthcare system that simply could no longer care for its people.

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Data availability

The data that has been used is confidential.

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