



**WORLD BANK GROUP**

---

**Building the Evidence on Forced Displacement**

# **Impact of the COVID-19 pandemic in Colombia on utilization of medical services by Venezuelan migrants and Colombian citizens**

# Impact of the COVID-19 pandemic in Colombia on utilization of medical services by Venezuelan migrants and Colombian citizens

*This knowledge brief<sup>1</sup> was produced by a research consortium led by Columbia University. This work is part of the program "Building the Evidence on Protracted Forced Displacement: A Multi-Stakeholder Partnership". The program is funded by UK aid from the United Kingdom's Department for International Development (DFID). It is managed by the World Bank Group (WBG) and was established in partnership with the United Nations High Commissioner for Refugees (UNHCR). The scope of the program is to expand the global knowledge on forced displacement by funding quality research and disseminating results for the use of practitioners and policymakers. This work does not necessarily reflect the views of DFID, the WBG or UNHCR.*



<sup>1</sup>This is one in a series of knowledge briefs which aim to share knowledge and foster exchange of information among different stakeholders working on forced displacement and health in the context of the COVID-19 pandemic.

## October 2021

# SUMMARY

Colombia hosts 1.8 million Venezuelan migrants, the second highest number of displaced persons in the world. Colombia's constitution theoretically entitles all residents, including migrants, to basic medical care, but actual performance data are rare. The COVID-19 epidemic further challenged Colombia's health system by staff absences, fear of exposure, and the need to manage COVID-19 on top of all pre-existing illnesses. This brief seeks to assess and compare rates of cases, deaths, and health services utilization of Colombians and Venezuelan migrants before and during the COVID-19 pandemic.

We examined surveillance and health care utilization data (based on *Registro Individual de Prestación de Servicios*, RIPS) for 2019 and 2020 by nationality and municipality. Accessing these data across 60 municipalities, we analyzed relationships among rates of COVID-19 cases and deaths, hospitalizations, ambulatory visits, and contributory insurance enrollment.

In 2020, Colombians had higher rates per 100,000 population of documented COVID-19 cases, COVID-19 deaths, hospitalizations, consultations, and contributory insurance enrollment compared to Venezuelans (ratios of 10.64, 3.47, 1.55, 7.08, and 25.03, respectively). Comparing 2020 against 2019, hospitalization rates per 100,000 population fell 37% in Colombians and 24% in Venezuelans, while consultation rates fell 42% and 37%, respectively. The smaller decline in hospitalizations compared to ambulatory services, particularly for Colombians (5%), suggests ill persons sought healthcare only for the most severe problems.

While Colombians may have benefitted from lower occupational exposure to COVID-19 than Venezuelans, Colombians' higher rates of documented COVID-19 cases and deaths likely reflects their greater access to ambulatory care and COVID-19 testing. The comparable 2020 rates of hospitalization between the two nationalities indicates that the Colombian health system has fulfilled its constitutional mandate to provide emergency care for the neediest members of both nationalities. By contrast, RIPS showed that the COVID-19 pandemic reduced consultation rates substantially among both Colombians and Venezuelans.

While the COVID-19 pandemic reduced consultation rates from 2019, Colombia has maintained Venezuelan migrants' access to hospitalizations, the most critical health service. Steps to increase enrollment in health insurance plans, such as Colombia's decision in 2021 to allow most Venezuelans a ten-year residence permit, should help lower disparities in ambulatory service use by promoting migratory status regularization.

## KEY MESSAGES

1. Despite having fewer opportunities for remote work, in rates per 100,000 population from March through November 2020, Venezuelans had only one tenth the rates of officially reported COVID-19 cases than Colombians in the same municipality. Possible explanations include Venezuelans' fewer social encounters and less access to testing and treatment for COVID-19.
2. In rates per 100,000 population from March 2020 through July 2020, Venezuelans' overall hospitalization rate was only modestly lower than that of Colombians, indicating that the Colombian health care system had done a relatively good job of implementing its constitutional requirement to ensure access to urgent health care for all residents in the country.
3. While Colombia's model has been relatively efficient, the financial burden on local government and service providers has been heavy and financial assistance from the global community is warranted.
4. By contrast, Colombians had 7.08 times the rates of consultations with physicians compared to Venezuelans in the same municipality, indicating that for these less urgent services, Venezuelans faced barriers towards more comprehensive care.
5. While the Colombian government policy announced in Feb 2021 to allow most Venezuelan residents to apply for legal permission to remain in the country will help them work legally and access more comprehensive healthcare, governments and non-governmental organizations should provide assistance through the multiple administrative steps.

# WHY DOES THE COVID-19 PANDEMIC MAKE COLOMBIA BOTH A CHALLENGING AND A PROMISING REFUGE FOR VENEZUELAN MIGRANTS?

## What are the challenges?

Coronavirus disease, called COVID-19, is a respiratory infection caused by the coronavirus, SARS-CoV-2, which reached global pandemic levels by March 2020(1). Managing the COVID-19 pandemic has challenged health systems in every country. This is especially true for low- and middle-income countries (LMICs), which were already struggling to provide quality health care for their population(2). According to a survey across 106 Global Fund countries (which include Colombia), the COVID-19 pandemic interrupted the treatment and diagnosis of all three of the epidemic diseases it addresses--malaria, tuberculosis, and HIV. With increased service demands due to COVID-19, LMICs reported shortages of medical supplies, qualified workers, and disruptions in service delivery, limiting the capacity of their systems to respond to other problems(3).

These challenges were compounded in countries with concentrations of forcibly displaced people, adding to the challenges of providing adequate access to healthcare services. Of the 82.4 million forcibly displaced persons worldwide(4), 39% live in just five countries. They are distributed across the World Bank's income categories: Germany (high), Colombia and Turkey (upper-middle), Pakistan (lower-middle), and Uganda (low)(4). All these countries face the dual demands of tending to both local and displaced populations.

Even before the COVID-19 pandemic, displaced populations confronted barriers to accessing health care due to discrimination, lack of information, high costs, and fear of deportation(5). The pandemic magnified these problems. According to the Mixed Migration Center, less than half of the migrants with COVID-19 symptoms could access testing or treatment(5). Additionally, refugees and migrants face special risks causing high rates of mental health disorders, and several communicable and non-communicable diseases(6).

Colombia hosts 1.8 million displaced Venezuelans, which is the second-largest number of migrants in any host country globally(4, 7). Most migrants, who began arriving in 2015, have located in large cities such as Bogotá, Barranquilla, Cucuta, and Medellín, searching for work opportunities(8).

## What are the promising factors?

This study examines the performance of a Latin American country with an explicit commitment to serve its large migrant population. Under the Colombian constitution, all residents of Colombia are entitled to basic medical care under the country's national health system. Nevertheless, migrants' health needs often exceed the capacity of the existing health and social support systems(9).

All health insurance plans must cover “obligatory services” described in the Health Benefits Plan, which encompass most essential care and prevention services, and is the same across all social insurance regimes(10). Whereas some countries globally have been unwelcoming by not allowing refugees the right to access human services, such as government- or insurance-funded health care and legal employment, Colombia has been relatively hospitable to Venezuelan migrants. From the beginning of the most recent migratory crisis through January 2021, almost half of Venezuelan migrants already had the opportunity to register, work legally, and receive benefits of temporary residency. Analysts trace this line of policy to the 1990s, when Colombia's internal armed conflict and illicit drug violence forced millions of Colombians to emigrate—many to Venezuela(11).

Residents of Colombia can access health care in one of three ways. In order of decreasing frequency for Colombians, the first is through the enrollment as a contributory member of an *Entidad Promotora de Salud* (EPS), a health management organization. This “contributory regime” applies to workers in the formal sector and their families, who fund insurance premiums with their employers through a payroll tax. The second route is enrolling under the “subsidized regime,” where premiums are covered by the nation. Both schemes are available to officially registered Colombians and Venezuelans. While subsidized members by law have access to the same scope of services as contributory members (given that the benefit plan is the same), their health needs tended to be greater while their de facto access (e.g. filling of prescriptions) was more limited(12, 13). Finally, any person in Colombia (citizen or migrant), can have access to health services as an unenrolled resident. However, this group is entitled only to emergency care and mass public health services.

The regularization status for Venezuelan migrants has improved throughout the years, and in February of 2021 the Colombian government created the Statute of Temporary Protection for Venezuelan Migrants(14, 15). The objective of the temporary protection status is to allow Venezuelan migrants living in Colombia to transition from a regime of temporary protection to an ordinary migratory regime. For instance, Venezuelan migrants will have 10 years to reside in Colombia, enroll

in all social protection services, work legally and eventually transit to a permanent resident visa. This measure seeks to protect the migrant population that is currently in irregular conditions and reduce current and future irregular migration.

Since the beginning of the COVID-19 pandemic in March 2020, all residents of Colombia (both citizens and Venezuelan migrants) have been subject to a range of evolving national and local restrictions, which have resulted in varying health, economic and social impacts for all those living in Colombia. While previous literature has examined responses to COVID-19 across humanitarian settings, small numbers of settings, few indicators, purely cross-sectional designs, and variability in data sources and methods generally limit their analytical power.

## HOW CAN WE ANSWER THESE QUESTIONS SYSTEMATICALLY?

### **What unique datasets are available?**

This study aims to overcome those limitations through a combination of enhancements. The study combines two powerful data bases – surveillance, *Sistema Nacional de Vigilancia en Salud Pública* (SIVIGILA) and health care utilization (the *Registro Individual de Prestación de Servicios*, RIPS) See Box 1. Using these data, we analyze the Colombia situation on access to health care for Venezuelan migrants and Colombians during the COVID-19 pandemic, exposing the differences between access to health care for the host and migrant populations on rates of hospitalizations, consultations, and COVID-19 rates.

A unique feature is the study's paired municipal-level analyses comparing years, indicators, and nationalities in the same city. It combines data consistency, geographical diversity, and statistical power through subnational data across the 60 Colombian municipalities with the largest numbers of Venezuelan migrants with separate data for each on Colombian citizens and Venezuelan migrants. It melds the strengths of both cross-sectional and time-series designs with data from both pre-pandemic (2019) and pandemic (2020) periods, examines rates of COVID-19 (cases and deaths) and health services (consultations and hospitalizations), and develops evidence-based policy recommendations.

## Box 1: Descriptions of data sets

### Health services utilization

Our main data source for the quantities of health care services received by Venezuelan migrant refugees and Colombian citizens by municipality of residence and month of service was the RIPS. It records all healthcare system transactions in Colombia. The transactions were transmitted from the institution that provides the service, termed an *Institución Prestadora de Servicios* (IPS), such as a hospital or clinic, through the member's EPS to the central registry (RIPS). These data on service utilization serve as the numerators for rates of hospitalizations and consultations. Although RIPS also reports numbers of procedures, we did not count them to avoid overlap with our main measures. Since the system is used to pay facilities, the usual reporting lag was only 1-2 months.

### Breakdowns by diagnosis

The RIPS also classified each health service by principal diagnosis. These diagnoses are grouped into the main 22 chapters of the ICD-10 diagnosis classification system(17). To handle COVID-19, the ICD-10 system added a code for COVID-19 in the chapter “codes for special purposes.” The data available for this report on hospitalizations and consultations cover March 1 through July 31 for 2019 and the same dates for 2020. These data represent all health services (consultations, hospitalizations, emergency room services and interventions) delivered by licensed facilities or providers in Colombia.

### COVID-19 cases and deaths

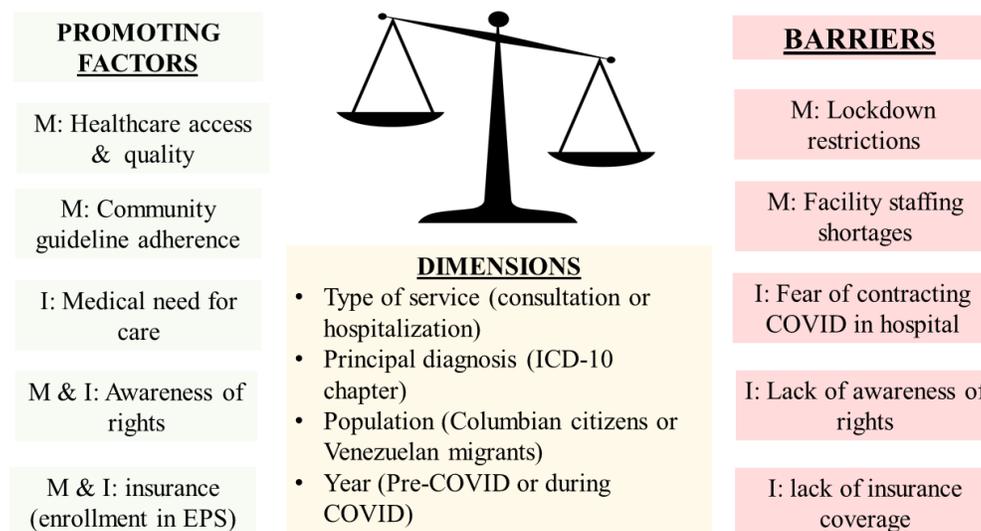
Colombia's epidemiological surveillance system (SIVIGILA), operated by the National Health Institute and the Ministry of Health and Social Protection, reports officially confirmed COVID-19 cases and fatalities by municipality and week. Our analysis is based on unofficial data.

### Denominators

The denominators are the number of persons in the country and each study municipality by nationality and age. These denominators came from the Colombian census for Colombian citizens (18) and from the border control agency for Venezuelan migrant refugees(19, 20). The proxy measure of enrollment in contributory insurance in each municipality was derived from RIPS. The contributory regime share is the proportion of health services delivered through the contributory regime. It was calculated as the municipality's sum of services (ambulatory, inpatient, and procedures) provided to contributory EPS enrollees divided by the municipality's grand total of all services. To clarify the importance of small numeric differences near the extremes of a proportion (i.e., 0 and 1), proportions were graphed on the logit scale. The logit scale is defined as the natural logarithm of  $p/(1-p)$ , where  $p$  is the contributory regime proportion of services for the specified municipality for a given nationality.

## What conceptual framework can help us balance the opposing factors?

With the study's central question of understanding rates of health services utilization across individuals, nationalities, locations, and time, we endeavored to develop a theoretical framework. We conceptualized each resident's decision concerning health services utilization as a balance of opposing factors, as shown in Fig 1. These factors can operate at the level of the municipality (M), the individual (I), or both (M & I). Factors that promote utilization include access and quality of services, insurance coverage, medical need, patients' awareness of their rights, and patients' insurance coverage. If a patient was not previously enrolled in an EPS, the hospital may assist the patient to register in order to help ensure that it receives payment. Factors that act as barriers to services include lockdown restrictions and facility staffing shortages. Factors that operate at the municipal level were expected to remain consistent across a municipality. Individual-level factors may differ between Venezuelans and Colombians as well as among persons within each group.



Notes: M denotes municipality; I denotes individual; ICD denotes International Classification of Diseases; COVID denotes corona virus disease.

On top of pre-existing barriers, the COVID-19 pandemic places additional barriers on accessing services in several ways. First, the general lockdowns that began in March 2020 made it more difficult to move about generally. While consultations with physicians were allowed, transport was less accessible, and patients may have feared infection while visiting or traveling to and from a health facility.

Given the concern about minimizing risks to medical personnel, the health system explicitly focused on emergency care but reduced the supply of non-emergency services. For example, some hospital staff shifted to remote and part time work (often 3 of the 5 workdays). Also, protective measures in healthcare facilities reduced the number of services that could be delivered in a workday. Thus, patients experienced more difficulty in obtaining in-person appointments.

This knowledge brief focuses on the “dimensions” factors. As depicted by the balance scale, these dimensions reflect the relative weight of the combined promoting factors compared to the combined barriers. The broader family of studies has also collected data on the municipal policies (through a review of documents) and the individual perceptions through an 8,130-person telephone survey(16).

## How did we analyze these data?

We derived rates of COVID-19 cases, deaths, hospitalizations and consultations by dividing them by the corresponding populations and expressed them as rates per 100,000 population. To accommodate potential wide ranges of rates among different indicators, we expressed all values on common logarithmic (base 10) scales. We chose base-10, rather than natural logarithms, to facilitate interpretation. As about half the municipalities had no Venezuelan deaths, we could not perform the logarithmic transformation with the original data. Instead, for deaths we used a “shifted” log scale in which the constant 1 (i.e., 1 death) was added to the count of Colombian and Venezuelan deaths in each municipality before taking the logarithm.

For overall COVID-19 cases, where data were tallied by epidemiologic weeks, the study period was March 1 through Nov. 28, 2020. As the breakdown of COVID-19 deaths by nationality began only on April 26, 2020, the breakdown of that indicator was April 26, 2020 through Nov. 28, 2020.

Our interpretation of the findings was informed by other components of our multi-faceted study of COVID in Colombia across 60 municipalities. These other components included a telephone survey of 8,130 Venezuelan migrants and Colombian nationals, key informant interviews, a review of policy documents, and mobility data from cell phones(16).

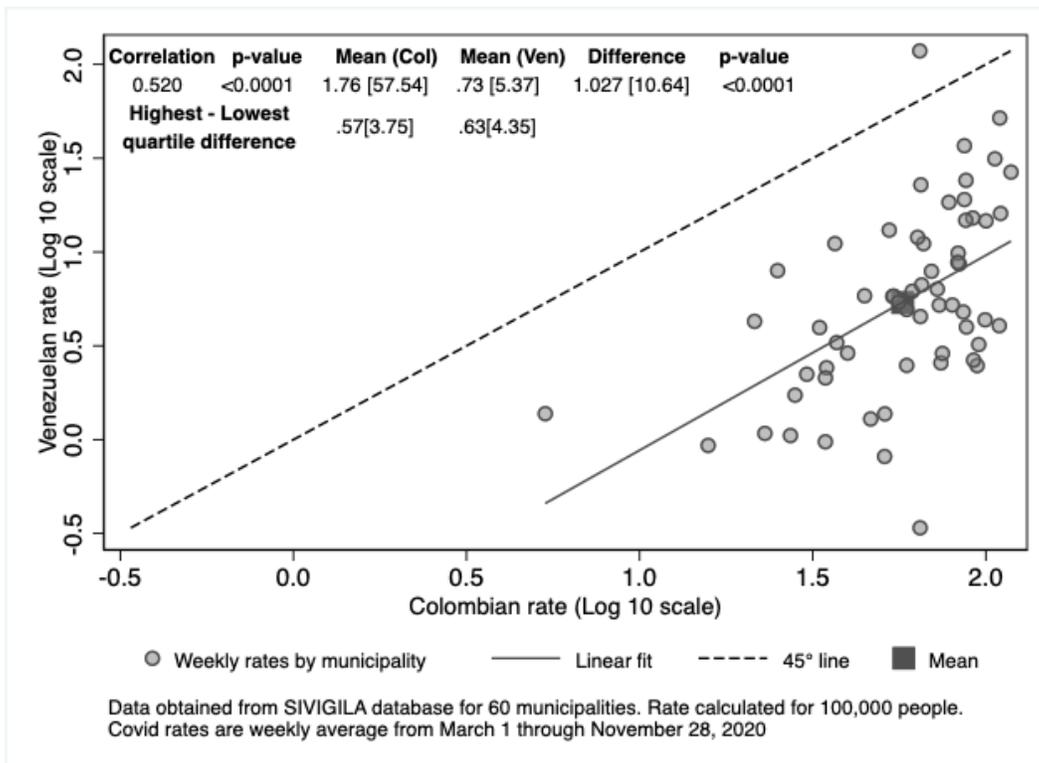
# WHAT DID WE FIND?

## What were COVID-19 case rates?

Fig 2 shows the Venezuelan versus Colombian COVID-19 case rates, with each municipality represented by a dot. The horizontal (x) axis shows each municipality’s rate for Colombians while the vertical (y) axis shows the same municipality’s rate for Venezuelans. The dashed 45-degree line here and in subsequent figures

shows the line of equality that would apply if a municipality had identical x and y values. On average, Colombians have substantially higher reported COVID-19 rates than Venezuelans by an average factor of 10.64. Venezuelans' reported COVID rate in each municipality was highly correlated with that of the municipality's Colombian residents ( $r=0.52$ ,  $p<0.0001$ ). Thus, the pattern was consistent across municipalities. When the 2020 study period was subdivided into two equal time segments to examine the stability of this relationship, the Colombian rate proved consistently higher in both periods.

Findings from the telephone survey and other components of the larger study suggest some possible explanations. Venezuelan migrants were statistically significantly less likely to report use of COVID-19 testing compared to their Colombian counterparts. Venezuelans were also less likely to report flu-like symptoms related to COVID-19 than Colombians(16). With lower membership in contributory health plans, Venezuelans faced less access to non-urgent health care. As weekend mobility (when patrons might visit bars and clubs) appeared to be a greater contributor to COVID-19 transmission than weekday mobility, Venezuelans may have been less mobile due to lower disposable income, and thus less exposed.

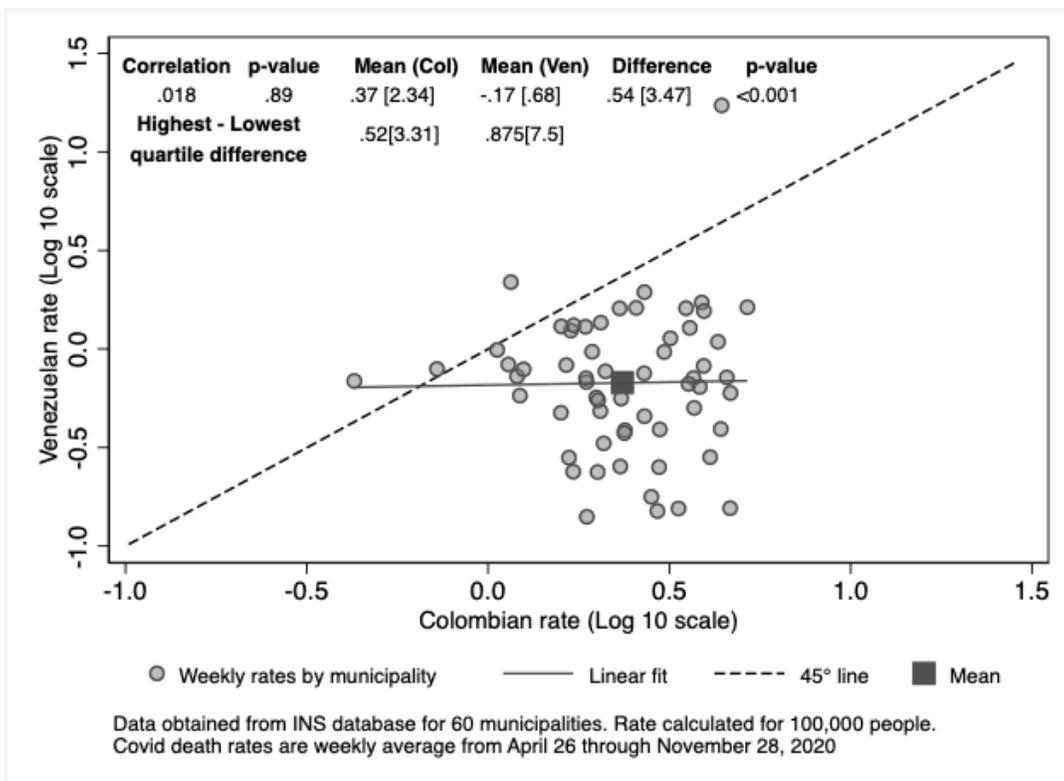


**Fig 2. Venezuelan versus Colombian COVID-19 case rates per 100,000 population in 2020 by municipality**

In addition, policies and practices around COVID-19 risk (e.g., masking and social distancing), as well as access to testing, vary substantially among municipalities, which would explain the inter-municipality variation in COVID rates. When COVID rates were separated by quartile for Colombians, the ratios of the highest quartile to the lowest quartile were similar for Colombians (3.75) and for Venezuelans (4.35), indicating that both nationalities have substantial variation across municipalities.

## What were the COVID-19 death rates?

Fig 3 shows the relationship between Colombian and Venezuelan COVID-19 weekly death rates by municipality.



**Fig 3. Venezuelan versus Colombian COVID-19 death rates per 100,000 population in 2020 by municipality**

The actual (not transformed) COVID-19 population-weighted average weekly death rates of Colombians and Venezuelans across these municipalities were 2.57 and 0.56 per 100,000 population, respectively. Similar to the pattern for COVID-19 case rates, the death rates of Colombians were significantly higher than those of Venezuelans. However, the relative rate of Colombians compared to Venezuelans for death rates (4.57) was substantially smaller than that for case rates (10.67).

The differential age structure of the Venezuelan and Colombian populations may be an additional explanatory factor for higher rates of COVID-19 cases and deaths

in Colombians than in Venezuelans. In 2020, 92.6% of Venezuelans were aged 0-49 years compared to 75.7% of Colombians. On the other hand, only 6.7% of Venezuelans were aged 50-69 compared to 18.3% of Colombians, and only 0.8% of Venezuelans were aged 70 and above compared to 6.0% of Colombians. Thus, Venezuelan migrants tended to be younger than Colombians.

Dividing each population's COVID-19 death rate by its case rate approximates its case-fatality rate. These were 3.63% for Colombians versus 8.29% for Venezuelans. The case-fatality rate of Colombians was only 0.44 times that of Venezuelans. As Colombians are older, on average, than Venezuelans, their case-fatality rate was expected to have been higher than that of Venezuelans if they had had the same access to care.

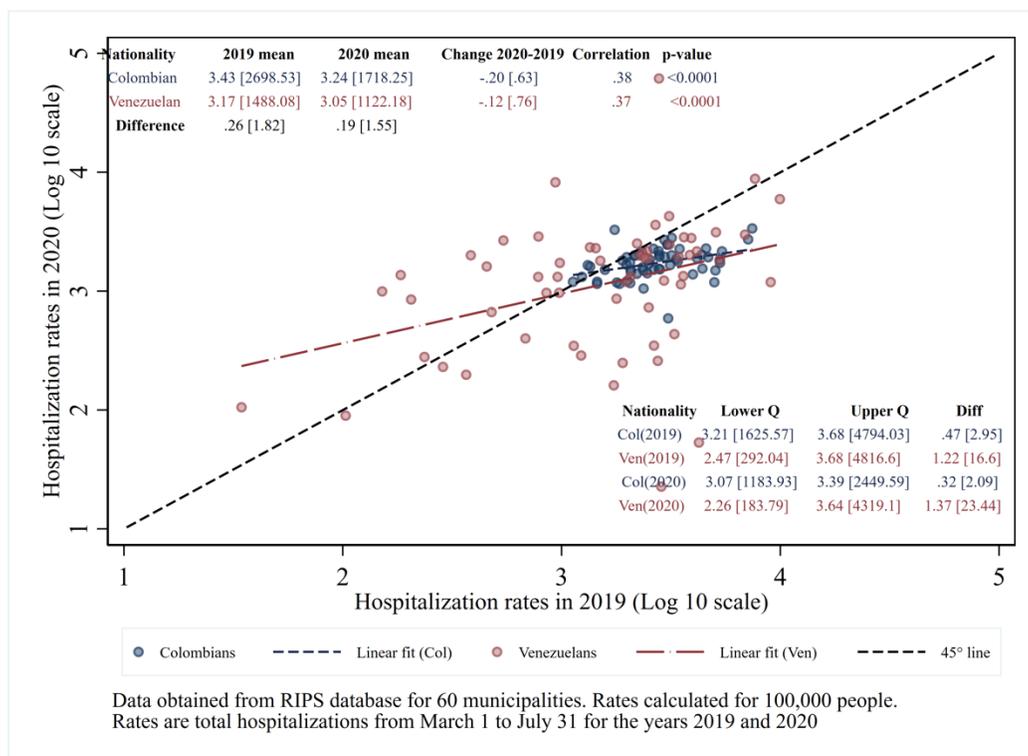
Unlike the significant positive correlation for COVID-19 case rates between Colombians and Venezuelans, there was zero correlation between the death rates of the two populations ( $r=0.00$ ,  $p=1.00$ ). This negative result indicates that the places that have a higher death rate by COVID-19 for Colombians are not necessarily the places with higher death rates for Venezuelans. The researchers' main explanation for the absence of correlation is chance variation in Venezuelan deaths at the municipal level due to small numbers. The median municipality had only 6,462 Venezuelan residents and only 1 Venezuelan COVID-19 death over the 32-week period. and, as noted, almost half of the municipalities had zero reported COVID-19 deaths. If the death rates in many municipalities reflect substantial chance variation, they would not be expected to correlate with another variable, such as the death rate in Colombian residents.

## What were the overall hospitalization rates?

Fig 4 shows overall (all-cause) hospitalization rates by municipality in 2020 versus 2019. Hospitalization rates fell modestly for both nationalities (by 37% for Colombians, calculated as  $1.00-0.63$ , and 24% for Venezuelans, calculated as  $1.00-0.76$ ), presumably from lockdowns and fear of visiting a hospital. Unexpectedly, the gap between the nationalities in hospitalization rates per 100,000 population narrowed from 2019 to 2020. In 2019, Venezuelans were 45% below Colombians (calculated as  $1-1/1.82$ ). By 2020, the gap fell to 35% (calculated as  $1-1/1.55$ ). Despite Venezuelans' lower overall hospitalization rates, relative rates tended to be stable between the two years.

The higher age of Colombians, noted above, had been hypothesized as a contributing explanation for their higher rates of hospitalizations compared to Venezuelans. However, further analysis of a subset of the hospitalization data found evidence to the contrary. Using RIPS for March through May 2020, we used age distribution of Colombians to compute the Venezuelans' age-standardized hospitalization rate. Unexpectedly, it was 4.3% lower than the Venezuelans' crude rate. While this age-standardized rate had been expected to be higher than their crude rate, it turned out to be 4.3% lower. The reason could be that

Venezuelans aged 50-69 had a lower age-specific hospitalization rate than their younger peers, perhaps because they were even more fearful of visiting a hospital.

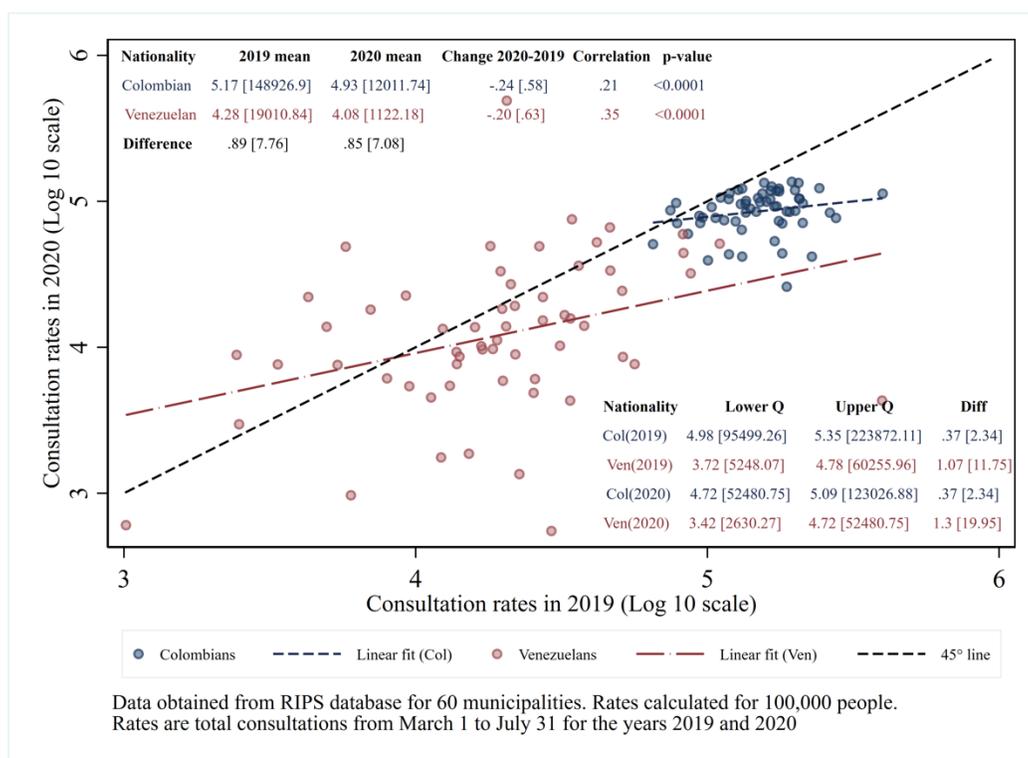


**Fig 4. All-cause hospitalization rates of Colombians and Venezuelans: 2020 versus 2019**

## What were the overall consultation rates?

Fig 5 shows consultation rates by municipality in 2020 versus 2019. Consultation rates fell by slightly more than hospitalizations for both nationalities (by 42% for Colombians, calculated as 1.00-0.58, and 37% for Venezuelans, calculated as 1.00-0.63), again presumably from lockdowns and fear of visiting a health facility. Colombians have substantially higher rates of consultation compared to Venezuelans in both 2019 (factor of 7.76) and 2020 (factor of 7.08). Stated differently, Venezuelans' consultation rates were 87% below those of Colombians in 2019. In 2020, the gap was trimmed slightly to 86% below Colombians. However, each municipality's rate of consultations relative to the grand mean of all municipalities was generally stable for both Colombians and Venezuelans between the two years, as shown by the highly significant positive inter-year correlations (0.21 for Colombians and 0.35 for Venezuelans). Rates varied across municipalities much more widely for Venezuelans (interquartile ranges 12-20-fold) compared to Colombians (interquartile range of 2-fold).

As with hospitalizations, the higher age of Colombians, noted above, had been expected to have been an additional explanatory factor for their higher rates of consultations compared to Venezuelans. However, further analysis of a subset of the consultation data found evidence to the contrary. Tabulations of RIPS for March through May 2020 gave age-specific consultation rates for Venezuelans. These were weighted according to age distribution of Colombians to give an age-standardized consultation rate for Venezuelans. While this age standardized rate had been expected to be higher than their crude rate, it turned out to be 0.8% lower. The reason could be that Venezuelans age 50-69 had a lower age-specific consultations rate than their younger peers, similar to the pattern for hospitalizations, perhaps because they were even more fearful of visiting a healthcare facility.

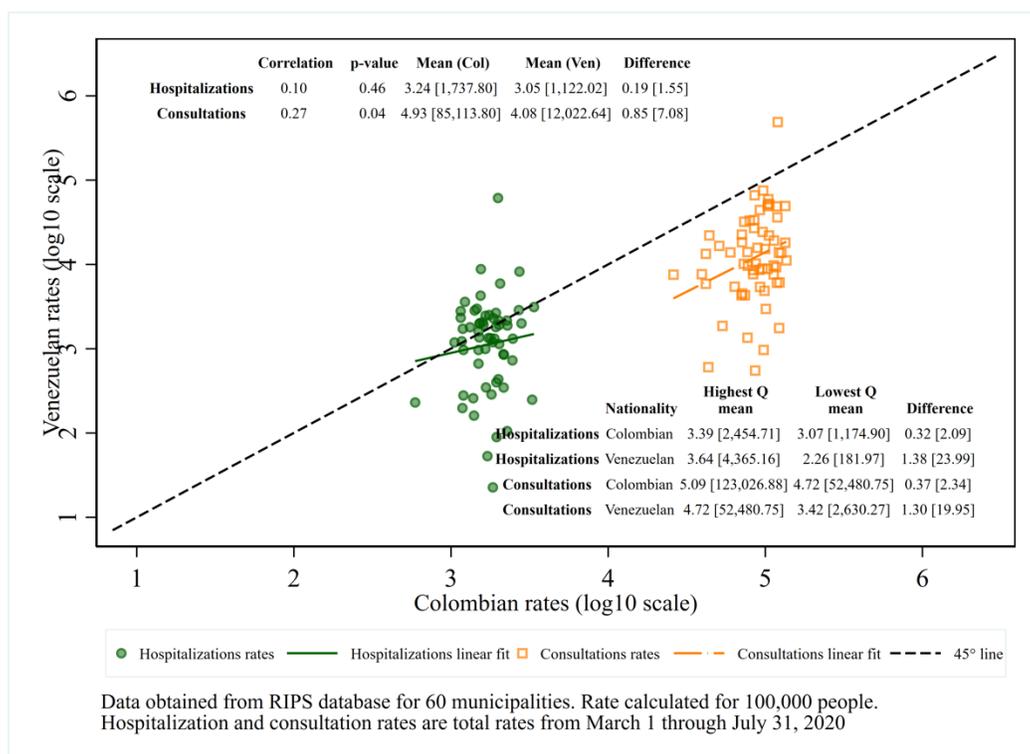


**Fig 5. All-cause consultation rates of Colombians and Venezuelans by municipality: 2020 versus 2019**

## What was the relationship between hospitalization rates and consultation rates?

Fig 6 compares Venezuelan migrants and Colombians on both hospitalization and consultation rates in 2020: There was a significant positive correlation in consultation rates between Colombians and Venezuelans in 2020 (0.27, p-value <0.05). As expected, Colombians have substantially higher rates of consultations

(ratio of 7.08), and less variability across municipalities (interquartile ratio 2.29) compared to Venezuelans (interquartile ratio 20.42). The consultation rates of Venezuelans were positively correlated with those of Colombians in the same municipality ( $r=0.27$ ,  $p=0.04$ ). On the other hand, the correlation of hospitalization between the two nationalities was small (0.10) and not statistically significant ( $p=0.46$ ). The observations straddle the line of equality (represented by the dashed 45-degree line in Fig 6) and the ratio of 1.55 is relatively close to 1.00. However, beneath this similarity on average for Venezuelans, their rates vary substantially across municipalities (interquartile ratio = 23.44).



**Fig 6. Hospitalization and consultation rates in 2020: Colombians versus Venezuelans**

## HOW DO WE INTERPRET THESE RESULTS?

The pandemic narrowed the gap between Venezuelans and Colombians in hospitalization rates

Displaced refugee populations have difficulty accessing health services in most parts of the world. Under the Colombian constitution, however, all residents of Colombia are entitled to basic medical care under the country's national health system. Impressively, during March through July 2020 of the COVID-19 pandemic, Venezuelans were not too far below Colombians in hospitalization rates per 100,000 population. The gap had narrowed from 45% for the comparable months in 2019 to 35% in 2020. Thus, for health care needs sufficiently serious to require hospitalization, Colombian health care institutions had done a reasonably good job of meeting legal and medical requirements. For consultations, however, the gap was wide and narrowed only slightly. Venezuelans' consultation rate per 100,000 population was 87% below that of Colombians in 2019 and 86% below in 2020. Moreover, differences in access to testing appear to be a major factor explaining this gap between the two nationalities. Data from the related telephone survey also showed that Venezuelan migrants were statistically significantly less likely to report use of COVID-19 testing compared to their Colombian counterparts(16).

## **Venezuelans accessed health care only when seriously ill**

Our findings on reported COVID-19 case rates suggest that Venezuelans accessed care for COVID-19 only when they were seriously ill. While the reported Colombian COVID-19 cases likely span the spectrum of severity, the Venezuelan reported COVID-19 cases are only the most severe, explaining both the higher Colombian numbers and the Colombians' lower case-fatality rates.

The Venezuelans' younger age distribution is likely explained by the presumption that Venezuelans migrate to and remain in Colombia only if they feel well enough to work. Comprehensive reporting from the United States prior to widespread vaccination document that hospitalization and death rates per 100,000 population for COVID-19 increase dramatically with age(21). Therefore, the older ages of Colombians may be a contributing reason behind higher COVID-19 rates for Colombians compared to Venezuelans.

As previously noted, half of the municipalities had no reported COVID-19 deaths, so there was little observed variation. Furthermore, the shift in the logarithmic transformation meant that the calculated death rates were higher in communities with fewer Venezuelan residents. These data limitations mitigated against finding associations of other variables with calculated death rates of Venezuelan residents.

## **What changes are underway?**

Colombia's system of Universal Health Insurance and its data bases for tallying service utilization, COVID-19 cases and deaths provide policy makers with powerful tools for comparing Colombians and Venezuelans. For most ambulatory services, Venezuelans' use of services has been far lower than those of

Colombians. As consultations are generally not emergency care, they require enrollment in Colombia's health insurance system. On February 9, 2021, the Colombian government announced a policy of regularizing all Venezuelan migrants then in Colombia(15). The Colombian decree should gradually allow Venezuelans to enroll in Colombia's health insurance system and promote more equal access to all types of health services. This policy makes Colombia similar to Portugal, Jordan, Qatar, and Ecuador in including displaced populations in its COVID-19 response and providing access to public services for displaced populations(22). Initially, as migratory regularization and insurance enrollment processes are coordinated, this policy should substantially increase Venezuelans' enrollment in the subsidized insurance regime. Over time, as Venezuelans are hired into formal sector employment, enrollment in contributory schemes should rise.

However, given that enrolling is a complex process, public policy makers should anticipate challenges in implementation. First, an undocumented Venezuelan must obtain a permit (*Permiso Especial de Permanencia*). This process may have considerable bottlenecks, such as providing legal evidence of residing in the country before January 31, 2021 or having valid identification documents. Then the migrant can proceed to enroll in an EPS through local government agencies or the national migration agency (*Migración Colombia*).

## WHAT DO WE RECOMMEND?

### **Assist Venezuelans in becoming official residents**

Colombia's experience demonstrates that a middle-income country has been able to provide at least emergency medical services to its refugee population within its national health service. The country's announced plan to allow most Venezuelan migrants to register to remain legally for 10 years should increase their integration in the future. As migrants are younger on average than their host counterparts and move between Colombia and Venezuela based on economic conditions, their skills and motivation could help grow the Colombian economy—not stealing jobs but building demand. The Colombian government could expedite this process by training government workers and non-government organizations to help identify those eligible and to assist their official registration.

### **Strengthen health promoters**

Colombians' dramatic drop in utilization of ambulatory services during the pandemic speaks to the population's fear of COVID-19 exposure. However, appropriate safeguards (social distancing, personal protective equipment, and careful training and procedure) and better communication could allow necessary care to proceed. The pandemic demonstrates the need to engage more

Colombians and Venezuelans as health promoters, building on a system Colombia has operated for decades(23).

## **Adjust metrics for assessing quality of care?**

A further recommendation relates to the metrics used by Colombian authorities to maintain quality in service provision. According to key informant interviews in a parallel component of this study, health facilities are regularly monitored with many of the key performance indicators based on outcomes.(16) A hospital serving many migrants will probably show worse outcomes, given their restricted access to preventive services and elevated poverty and malnutrition, than a comparable hospital serving fewer migrants. This perverse incentive could discourage health facilities from serving the migrant community and providing access to non-emergency care. A more sophisticated monitoring system that adjusts for population differences (e.g. the nationality of its patients) could incentivize outreach to migrant populations.

## **Ask international donors to accept their roles**

Finally, these findings highlight the need for international assistance in providing health services to migrants and refugees in Colombia and other countries which integrate migrants and refugees into their national health systems. Under the current system the emergency medical services provided to the unenrolled population are not covered by the insurance system. The direct financial burden is then covered by the health facility (hospital or clinic) that provided the services. Then, the facility must ask the local government's health secretariat to cover the cost. If the local government lacks sufficient resources, it may ask the national government for assistance. However, the process is inefficient, time consuming and uncertain. In the interim, health facilities operate at a deficit, missing payments to health workers and vendors and risking collapse and sudden shutdowns. In 2018, 42% of Colombia's 930 public hospitals were at medium or high levels of financial risk.(24)

Other countries with substantial numbers of refugees and displaced populations face similar challenges. UNHCR noted that in 2020 "seven in 10 people of concern to UNHCR live in urban settings, and the pandemic sharpened the challenge of supporting them" and "the needs remain vast...."(25) With international support, Colombia's well-designed national health system could address many of these needs.

## Box 2: References, part 1 of 2

1. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19. 11 March 2020. Geneva: World Health Organization. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.
2. Langlois E, McKenzie A, Schneider H, Mecask J. Measures to strengthen primary health-care systems in low- and middle-income countries. *Bull World Health Organ*. 2020;98(11):781–91.
3. Global Fund. Global Fund Survey: Majority of HIV, TB and Malaria Programs Face Disruptions as a Result of COVID-19. 2020. Available from: <https://www.theglobalfund.org/en/covid-19/news/2020-06-17-global-fund-survey-majority-of-hiv-tb-and-malaria-programs-face-disruptions-as-a-result-of-covid-19/>.
4. UNHCR. Refugee Data Finder. 2021. Available from: <https://www.unhcr.org/refugee-statistics/>.
5. International Federation of Red Cross and Red Crescent Societies (IFRC). Least Protected, Most Affected: Migrants and refugees facing extraordinary risks during the COVID-19 pandemic. 2020. Available from: <https://media.ifrc.org/ifrc/document/least-protected-affected-migrants-refugees-facing-extraordinary-risks-covid-19-pandemic/>.
6. World Health Organization. Health of refugees and migrants: Regional situation analysis, practices, experiences, lessons learned and ways forward. 2018. Available from: <https://www.who.int/migrants/publications/EURO-report.pdf?ua=1>.
7. R4V. GIFMM Colombia: Venezuelans in Colombia - April 2020 (ES). Available from: <https://www.r4v.info/es/document/gifmm-colombia-venezolanos-en-colombia-abril-2020-es>.
8. Guataquí J, García-Suaza A, Ospina C, Londoño D, Rodríguez P, Baquero J. Características de los migrantes de Venezuela a Colombia. Observatorio Laboral de la Universidad del Rosario [Characteristics of migrants from Venezuela to Colombia. Labor Observatory of the Universidad del Rosario]. 2017. Available from: [https://www.comillas.edu/images/OBIMID/Noticias/Caracter%C3%ADsticas\\_migrantes\\_de\\_Venezuela.pdf](https://www.comillas.edu/images/OBIMID/Noticias/Caracter%C3%ADsticas_migrantes_de_Venezuela.pdf).
9. OFDA USAID. Desigualdades en salud de la población migrante y refugiada venezolana en Colombia. ¿Cómo mejorar la respuesta local dentro de la emergencia humanitaria? [Health inequalities of the Venezuelan migrant and refugee population in Colombia. How to improve the local response within the humanitarian emergency?] Available from: <https://www.profamilia.org.co/wp-content/uploads/2020/04/Desigualdades-en-salud-de-la-poblacion-migrante-y-refugiada-venezolana-en-Colombia-Como-manejar-la-respuesta-local-dentro-de-la-emergencia-humanitaria.pdf>.
10. World Health Organization. Primary health care systems (PRIMASYS): case study from Colombia. Geneva: World Health Organization, 2017.
11. Janetsky M. Here's why Colombia opened its arms to Venezuelan migrants - until now. FP News: 2019. Available from: <https://foreignpolicy.com/2019/01/14/heres-why-colombia-opened-its-arms-to-venezuelan-migrants-until-now/>.
12. Díaz Grajales C, Zapata Bermúdez Y, Aristizábal Grisales JC. Acceso y satisfacción con servicios curativos: Análisis de casos en afiliados al régimen contributivo y afiliados al régimen subsidiado en un barrio estrato 2. Cali, Colombia [Access and satisfaction related to curative services: Case analysis of the contributory regime and members of the subsidized regime in a strata 2 neighborhood. Cali, Colombia]. *Rev Gerenc Polít Salud*. 2015;14(29):155-78.
13. Hilarión-Gaitán L, Díaz-Jiménez D, Cotes-Cantillo K, Castañeda-Orjuela C. Desigualdades en salud según régimen de afiliación y eventos notificados al Sistema de Vigilancia (Sivigila) en Colombia, 2015 [Inequalities in health by regime of affiliation to the health system in events of obligatory notification, Colombia, 2015]. *Biomédica*. 2019;29:737-47.

### Box 3: References, part 2 of 2

14. Frydenlund E, Padilla JJ, Palacio K. Colombia gives nearly 1 million Venezuelan migrants legal status and right to work: The Conversation; 3 July 2021. Available from: [Theconversation.com/colombia-gives-nearly-1-million-venezuelan-migrants-legal-status-and-right-to-work](https://www.theconversation.com/colombia-gives-nearly-1-million-venezuelan-migrants-legal-status-and-right-to-work).
15. Tresman R. Colombia offers temporary legal status to nearly 1 million Venezuelan migrants: National Public Radio; 9 Feb 2021. Available from: <https://www.npr.org/2021/02/09/965853031/colombia-offers-temporary-legal-status-to-nearly-1-million-venezuelan-migrants>.
16. ELRHA. Strengthening the humanitarian response to COVID-19 in Colombia. London: ELRHA. 2021. Available from: <https://www.elrha.org/project/strengthening-the-humanitarian-response-to-covid-19-in-colombia/>.
17. World Health Organization. International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) Geneva, Switzerland: World Health Organization; 2016. Available from: <https://icd.who.int/browse10/2016/en>.
18. National Administrative Department of Statistics of Colombia (DANE). Annex on population projections by municipality with simple ages, 2018-23 (Anexo-proyecciones-poblacion-municipios-edadessimples-2018-2023). Available from: <https://www.dane.gov.co/index.php/estadisticas-por-tema/demografia-y-poblacion/proyecciones-de-poblacion>.
19. Ministry of Foreign Affairs. Infographic: Distribution of Venezuelans in Colombia as of 30 July 2020. 2021. Available from: <https://www.migracioncolombia.gov.co/infografias/venezolanos-en-colombia-corte-a-30-de-julio-de-2020>
20. Ministry of Foreign Affairs. Infographic: Distribution of Venezuelans in Colombia as of 31 October 2019. Available from: <https://www.migracioncolombia.gov.co/infografias/total-de-venezolanos-en-colombia-corte-a-31-de-octubre-de-2019>.
21. Center for Disease Control and Prevention (CDC). Risk for COVID-19 infection, hospitalization, and death by age group. 2021. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-age.html>.
22. Columbia University. Preventing and Mitigating Indirect Health Impacts of COVID-19 on Displaced Populations in Humanitarian Settings. 2021. Available from: [https://www.publichealth.columbia.edu/sites/default/files/knowledge\\_brief\\_1.pdf](https://www.publichealth.columbia.edu/sites/default/files/knowledge_brief_1.pdf).
23. Robertson RL, Becerra VH, Shepard DS, Becerra J, Bongiovanni A, V E. Un programa de atención primaria en salud basado en voluntarias en Cali: Metas vs. realidades. [A volunteer-based primary health care program in Cali: Goals vs. realities]. *Colombia Medica*. 1997;28(4):167-76.
24. Amat Y. El 42 % de los hospitales públicos, en riesgo financiero Minsalud. [42% of public hospitals at financial risk]: *El Tiempo*; 2018. Available from: <https://www.eltiempo.com/salud/el-42-por-ciento-de-los-hospitales-publicos-en-riesgo-financiero-ministro-de-salud-289522>.
25. UNHCR. Global Report Geneva: UNCHR; 2020. Available from: [https://reporting.unhcr.org/sites/default/files/gr2020/pdf/GR2020\\_English\\_Full\\_lowres.pdf#\\_ga=2.92763101.1738074412.1630494463-431691143.1630494463](https://reporting.unhcr.org/sites/default/files/gr2020/pdf/GR2020_English_Full_lowres.pdf#_ga=2.92763101.1738074412.1630494463-431691143.1630494463).

## Authors:

**Donald S. Shepard,<sup>1</sup> Adelaida Boada,<sup>2</sup> Douglas Newball-Ramirez,<sup>2</sup>, Anna G Sombrio,<sup>1</sup> Carlos William Rincon Perez,<sup>2</sup> Priya Agarwal-Harding,<sup>1</sup>, Jamie S Jason,<sup>1</sup> Arturo Harker Roa,<sup>2</sup> Diana M. Bowser<sup>1</sup>**

<sup>1</sup>Brandeis University, Waltham, MA USA; <sup>2</sup>Universidad de los Andes, Bogotá, Colombia;

## Acknowledgments:

The authors thank members of the project's advisory panel for insights, Nicole Levesque for thoughtful comments and Clare L Hurley for editorial assistance. The authors appreciate the financial support from the program "Building the Evidence on Protracted Forced Displacement: A Multi-Stakeholder Partnership" described on the cover page. The authors also gratefully acknowledge grant 51487 from Enhancing Learning and Research for Humanitarian Assistance (ELRHA) to Brandeis University under its R2HC program.