

## Promoting Immunization Equity in the Americas

# Emergency Response and Vaccine Equity among Migrant Populations and Border Communities

### GUYANA

In response to concurrent measles, diphtheria, and yellow fever outbreaks in the Americas Region alongside increasing migratory movement, the Pan American Health Organization (PAHO) declared an emergency situation in Guyana (as well as Brazil, Colombia, and Venezuela) on March 22nd, 2018, offering guidance and technical support in assessing country situations and developing emergency response plans.

Guyana’s Ministry of Health (MoH) acted immediately, targeting border areas for pro-equity, emergency action. Through a case study design utilizing in-depth interviews, focus groups, and site visits conducted in September 2019, this research:

1. Documents Guyana’s equity-focused Emergency Response Plan (ERP);
2. Identifies key data, data sources, and data recording and reporting practices involved in the development, implementation, and monitoring of the ERP; and
3. Describes challenges encountered, facilitating strengths, and other considerations that can help promote immunization equity among migrant populations and at-risk border communities in public health emergency situations.

Guided by the Global Vaccine Action Plan’s third strategic objective to ensure that “the benefits of immunization are equitably extended to all people,” this case study provides evidence-based insights and shares lessons learned with other countries seeking to ensure immunization equity within the context of resurging VPDs and high migratory movement. This research was made possible thanks to funding provided by Gavi, the vaccine alliance.

## A FOUNDATION OF IMMUNIZATION EQUITY

Prior to the declaration of an emergency situation, Guyana’s EPI demonstrated an approach that promoted equity through a number of policies and practices focused on addressing challenges to immunization access and demand, providing a solid foundation on which to build the ERP. These include **a national policy of immunization for all, an integrated approach to health outreach, inter-sectorial collaboration, and a decentralized public health system with strong multi-level coordination** that enhances the adaptation of national public health strategies to local contexts.

*Our job is to give care. It doesn’t matter who you are, what’s your social background, what race, or what ethnicity. I hold on to that bill of rights that every patient deserves care. So it does not matter where you come from, as long as I have vaccines [in stock], you’ll have your vaccine.*

– HEALTH CENTER NURSE



Photo credit: PAHO




*A toshao is a village leader, and these are people respected within their community. They have their own councils within each one of those areas, and they make decisions, local decisions, and they know who has been born, who has moved away, and other things like that. So this is not national census that the government goes there to do. You get this [information] by going to these communities... Firsthand, reliable information you get."*

– REGIONAL HEALTH OFFICER

## EMERGENCY RESPONSE TO THE THREAT OF VPDS

The following presents the main phases and key activities of Guyana’s ERP targeted at border Regions 1, 7, 8, and 9 (see Figure 1).

**01. REGIONAL RAPID ASSESSMENT.** Strategic response planning began with the establishment of an Inter-Agency Coordinating Committee on Immunization (ICC) to organize rapid assessments in target Regions 1, 7, 8, and 9, including visits to local health facilities, migrant points of entry (POEs), and border communities in the interior. Joint ICC teams comprised of MoH officials and PAHO personnel conducted rapid assessments between March–May 2018 with the support of regional and local authorities, including Amerindian village councils and toshaos (community leaders), immigration officers, and community health workers (CHWs). **Assessment objectives included:**

-  Assess measles, yellow fever, and diphtheria risks;
-  Evaluate emergency response capacity; and
-  Mobilize community partnerships (see Figure 2 for details).

Findings were shared with regional authorities and community partners to develop collaborative plans of action. Additionally, a two-week long evaluation of the national disease surveillance system identified areas for improvement and working groups were organized to provide technical guidance on intensifying VPD surveillance, reinforcing standardized recording and reporting procedures, coordinating data sharing, and developing national tools for the analysis of daily surveillance data from target ERP Regions.

Figure 1: Map of Guyana, including Regional Divisions (source: PAHO/WHO Guyana, 2016)



**779,004**

Population (2018)

**95%**

DTP3 coverage (2018)

**15,090**

Average annual birth cohort

**98%**

MMR1 coverage (2018)

Figure 2: Overview of rapid assessment objectives, activities, key data, and collaborating partners

### ASSESS VPD RISKS



- » **Evaluate Population Immunity**  
+ *Key Data:* Coverage reports, patient health charts, immunization registers, and local insights
- » **Gauge VPD Threats**  
+ *Key Data:* Surveillance data, outpatient registers, local observations, and migrant registration procedures
- » **Determine Population Vulnerabilities**  
+ *Key Data:* Migrant entry records and recording practices, POE contexts, and local insights

### EVALUATE EMERGENCY RESPONSE CAPACITY



- » **Site visits and observations**  
+ *Key Data:* Human resource availability, vaccine supplies, and cold chain capacity
- » **Local experiences with providing healthcare to migrants**  
+ *Key Data:* Impact of increasing migrant population on immunization services and challenges faced
- » **Disease surveillance practices**  
+ *Key Data:* Disease surveillance records, recording and reporting practices, and data quality
- » **National Surveillance Capacity Review**

### MOBILIZE COMMUNITY PARTNERSHIPS



- » **Activities:** Engage with regional authorities and local stakeholders to target rapid assessment activities; VPD orientation and education with stakeholders and collaborators; share assessment findings and collaborate on the planning of response activities
- » **Partners:** Health officials, local healthcare workers, village leaders, immigration officers, and police and army personnel, among others
- » **Contributions:** Identification of high traffic and unofficial POEs, community rapport, facilitating entry to Amerindian border communities, and local insights and day-to-day experiences on-the-ground, among others

**02. DATA-DRIVEN DECISION-MAKING.** Findings from regional rapid assessments and the national surveillance system review **informed decision-making regarding the focus of ERP activities, including high priority areas, vaccination strategies, human resource needs, vaccine requirements, and cooperative partnerships.** While inter-sectorial collaboration and data sharing are longstanding practices of Guyana’s EPI, these practices were expanded and formalized through the **establishment of the Multi-Agency Coordinating Committee for Addressing the Influx of Migrants into Guyana (MACC)**, which included members from various government entities, such as the Ministry of Health, the Department of Citizenship and Immigration (DCI), and the Ministry of Indigenous People’s Affairs, as well as external agencies, like Unicef and the UNHCR. With bi-weekly meetings and established lines of communication, the MACC provides an **inter-agency platform for coordinating ERP activities, consolidating resources, and sharing data** to ensure an integrated approach to addressing VPDs and migrant needs.

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*With that committee [MACC], we were able to identify as a team, as a country team, how it is that we will reprogram our pathways so that we can benefit each other in our responses.*  
 – FORMER MCH/EPI MANAGER

**03. REGIONAL AND LOCAL IMPLEMENTATION.** The ERP included three strategic areas of focus: 1) enhancing surveillance capacity and practices, 2) improving vaccination coverage through targeted mop-up campaigns, and 3) expanding EPI services to reach migrant populations. **Enhancing surveillance capacity** included **daily disease surveillance reporting, workforce capacity building, and the standardization of POEs operations.** Heightened disease surveillance reporting was key to ensuring timely and accurate monitoring of potential threats. Training on surveillance concepts and practices, reporting systems, and emergency response procedures, including **desktop simulation scenarios**, strengthened capacity among healthcare personnel as well as collaborating stakeholders. Such capacity building also included VPD orientation, **establishment of migrant health referral practices, and standardization of migrant registration procedures** with border personnel at POEs.

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*We setup connections with the [immigration] officers within those locations so that we can receive information. And from their records, we’re able to have a better estimation of this target population [migrants], and that has aided us with regards to the amount of vaccines that are needed to respond to this situation.*  
 – FORMER MCH/EPI MANAGER

**Improving vaccination coverage** among high risk populations involved **immunization promotion, mop-up activities in border communities, and vaccination campaigns targeted at first-contact personnel,** including immigration officers and the tourism and transportation sectors. National authorities managed the acquisition of vaccine supplies, equipment, and additional healthcare workers to support ERP activities, while regional and local health personnel **utilized rapid assessment findings, patient health charts, and locally-derived insights to coordinate immunization activities with village councils, border authorities, and other relevant collaborators, allowing for the implementation of ERP activities based on the varying and distinct regional and local contexts.** During mop-up visits and vaccination campaigns, administered vaccines were recorded in take-home cards and immunization registers specific for outreach. Administered doses were included in **monthly immunization reporting as well as ERP-specific reports** summarizing vaccines administered, migrants encountered, and healthcare worker observations, contributing to the planning of continued outreach activities.

Rapid risk assessment findings also informed the **expansion of EPI services through health facility capacity improvements and inter-sectorial collaboration for migrant outreach and referral. Additional healthcare personnel,** many recently retired nurses, were (re)hired for fixed-terms to support ERP outreach activities and heightened

disease surveillance in Regions 1, 7, 8, and 9. Permanent health facility staff were also hired for areas experiencing high influxes of migrants. **Cold chain capacity** in health facilities along the border was strengthened, including installation of solar fridges in Eteringbang, Kaikan, and Paruima health posts, which now allow for **on-site vaccination storage.** Such improvements have been crucial to effectively accommodate the increased demand for immunization services along Guyana’s borders, especially as ERP activities included the establishment of referral procedures to encourage migrant use of health services. Healthcare workers also reported **coordinating with border personnel, port authorities, and village councils for immunization outreach upon arrival** as well as **visiting temporary migrant settlements and border communities** migrants pass through, receive support from, and/or settle in. Village Councils and toshaos were described as supporting tracking of migrants in their communities for vaccination follow-up through responsive, informal data sharing as well as providing linguistic support in the case of Amerindian migrants, particularly Warao-speakers.



## CHALLENGES ENCOUNTERED

**! ACCESS AND OUTREACH-RELATED CHALLENGES** due to the **time-consuming and difficult-to-navigate terrain of the interior** as well as **weather-related complications** washing out roads, overflowing rivers, and/or drying out waterways to the point of inaccessibility made ERP outreach to border communities and remote POEs difficult. These issues also **complicated cold-chain maintenance, strained limited transportation, and increased the competing demands on healthcare personnel**, which were further exacerbated by **linguistic challenges** presented by the increased interaction with migrants and Amerindians, as Guyana is the sole English-speaking country in South America surrounded by Spanish, Portuguese, and Dutch-speaking countries.

*Strategic Responses:* Acquisition of additional transportation resources, strategic expansion of cold chain capacity, and data-informed placement of healthcare workers through the ERP. Moreover, strong inter-sectorial collaboration at the local-level has helped to mitigate linguistic barriers, particularly with Warao-speakers, as well as facilitating migrant use of health services through POE referrals, allowing healthcare workers to focus on in-service care. With respect to Spanish-speaking migrants, most participants reported at least one staff member in their health facility or nearby who spoke some level of Spanish and could support translation. Others described using translation apps on their cell phones to aid patient-provider communication.

**! DATA REPORTING DELAYS** were also associated with the climate and terrain difficulties in the remote interior, impeding the timely delivery of paper-based immunization and disease surveillance reports to the MoH.

*Strategic Responses:* Healthcare workers described reporting immunization and surveillance data over the phone or radio to ensure timeliness, with later-arriving paper reports to ensure data accuracy. However, limited connectivity in the rural interior often required healthcare workers to walk long distances or climb trees to access service, while other times service simply was not available. As a result, quarterly EPI meetings were identified as additional opportunities to share data, verify data quality, and voice concerns about these challenges.

**! LIMITED DATA AVAILABILITY WITH RESPECT TO BORDER COMMUNITIES AND MIGRANT POPULATIONS**, complicated ERP activities, including patient-tracking and vaccine forecasting.

*Strategic Responses:* Informal data sharing by village councils and *toshaos* helped address outdated population data and patient tracking of semi-nomadic Amerindian populations. Similarly, healthcare worker coordination with border personnel and border community leaders has allowed for short-term anticipation of migrant arrivals and preparation of vaccine supplies. Healthcare workers also discussed measures to aid patient-tracking, including the provision of immunization cards with follow-up dates, asking about travel plans in order to notify corresponding health facilities and provide contact information to patients, and, for migrants remaining in the area, requesting an address, landmark, and phone number. With respect to anticipating fluctuating migration flows, EPI supervisors and other regional authorities described analyzing migrant-specific immunization records to forecast migrant-specific vaccine supplies and prevent stock-outs.

*The good thing is that we did not really go outside of the normal EPI program for this emergency response plan. The distribution and logistics are done through the normal system that we have. ... The reporting format remains the same, it's just that it's being done on a more regular basis, and the active surveillance, that was just heightened to be a lot more responsive. ... It was a strength because the costs were drastically reduced by utilizing the same systems and personnel that we have.*

– FORMER EPI/MCH MANAGER

## FACILITATING STRENGTHS

**INTEGRATION WITH EXISTING EPI STRUCTURE.** Emergency response activities were planned and implemented within the existing EPI structure and goals. In doing so, the ERP leveraged existing data flows, distribution chains, skilled healthcare workers with strong community ties, and collaborative coordination practices throughout emergency response activities, which enhanced ERP and EPI impacts. Healthcare workers who participated in ERP mop-ups explained that these communities were already targeted for their low coverage, but additional ERP resources improved outreach capacity, allowing for improved outcomes.

**DATA-DRIVEN, EQUITY-FOCUSED DECISION-MAKING.**

Conducting regional rapid assessments focused on assessing population immunity, VPD threats, population vulnerabilities, and emergency response capacity was crucial to informing ERP decision-making regarding high priority areas, immunization strategies, surveillance system improvements, strategic expansion of EPI services, and collaborative partnerships. Moreover, data collected through EPR activities, including mop-up reports and heightened disease surveillance, were used to monitor ERP progress and potential emergent threats.

**MULTI-LEVEL, INTER-SECTORIAL COLLABORATION.** Data-driven decision-making was reinforced with inter-sectorial collaboration that served two important purposes: 1) expanding data availability through MACC data sharing, including information on high-traffic POEs, informal POEs, and border community census data; and 2) collaborative, multi-level engagement in the implementation of ERP activities, such as border personnel participating in public health training and the establishment of health referral procedures for incoming migrants.

**DEDICATED FRONTLINE WORKERS.** The dedication of frontline healthcare workers was fundamental to the success of the ERP as well as everyday EPI activities. From the close community ties healthcare workers maintain with the communities they serve to the arduous and time-consuming travel they undertake to conduct immunization outreach in the remote interior, healthcare workers in Guyana demonstrated a strong commitment to ensuring immunization equity for all.

## LESSONS LEARNED

✔ **DATA-DRIVEN EMERGENCY RESPONSE PLANNING IS CRUCIAL** for targeting high priority, at-risk populations, identifying vulnerabilities, and mobilizing community partnerships.

*Key Data Sources:* Immunization coverage reports, surveillance data, migrant entry records, health facility site visits, and insights and experiences of regional authorities and local stakeholders

✔ **MULTI-LEVEL, INTER-SECTORIAL DATA SHARING** of rapid assessment findings, disease surveillance data, and other ERP reports is useful for motivating emergency response and encouraging participation at all-levels.

✔ **PROMOTING IMMUNIZATION EQUITY IS NOT ISOLATED TO THE HEALTH-SECTOR.** Inter-sectorial and community collaboration can enhance pro-equity emergency response through improved data availability, expanded immunization promotion and referral, and local support in the coordination of immunization outreach.

*Data gives us the opportunity to make representations for funding so that we're able to respond. Data is also useful to encourage the local level of the need to have action. ... We now have not only our health care workers who give us information, but people in the community! ... For locations where there's no health worker, people will call. Data was able to convince other sectors to work along with us.*

– MINISTRY OF HEALTH OFFICIAL

*I think one thing we have to do as healthcare providers is keeping in mind that sometimes you have to go above and beyond. So you have to go and meet with people where they are, because sometimes not everyone has access or the means of getting to you, so we have to go to them. So basically, I say if you can't come to me, I'm coming to you. So I think that's one of the most important things [for addressing vaccine] equity.*

– HEALTH POST MEDEX

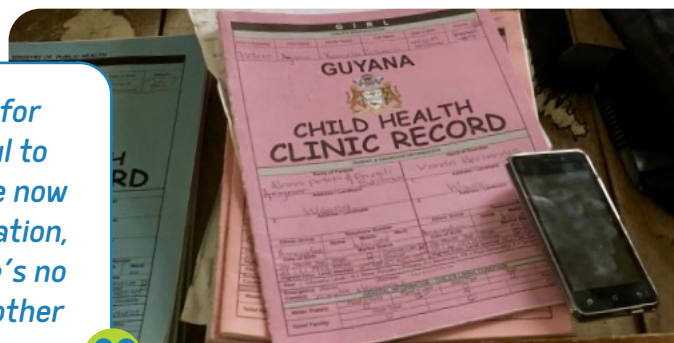


Photo credit: PAHO

## CONCLUSION

Guyana's equity-focused emergency response to the threat of measles, diphtheria, and yellow fever has been effective in preventing the spread of VPDs despite high levels of in-migration from countries with on-going outbreaks and deserves recognition for its success.

Integration of ERP activities into the existing EPI structure, strong inter-sectorial collaboration, and robust multi-level coordination facilitated the undertaking of regional rapid assessments which informed equity-focused decision-making and ensured the effective implementation of ERP activities. Guyana has been able to increase its immunization coverage among border populations and facilitate migrant use of health services despite intrinsic terrain, mobility, and climate-related challenges, unreliable communication connectivity in the interior, and limited data on border communities and migrant populations. Data-driven decision-making, collaborative approach to public health, and dedicated healthcare workforce have helped the country remain VPD free. Guyana's experience provides a learning opportunity for other countries responding to VPD outbreaks alongside increased migration by offering evidence-based insight into the collaborative, data-driven development and implementation of an equity-focused emergency response plan.

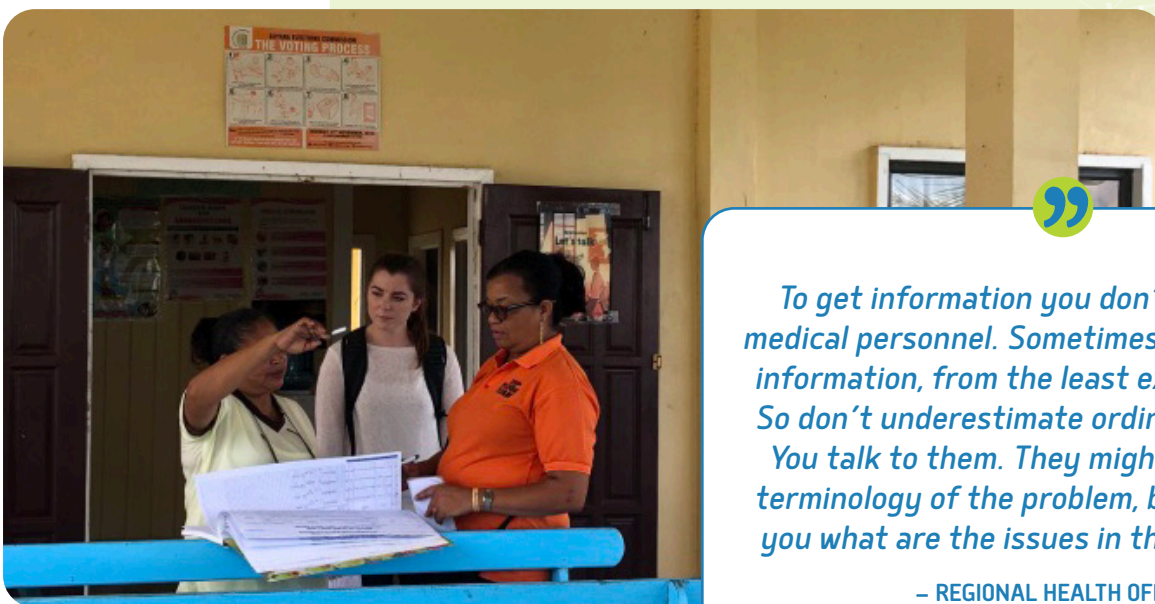


Photo credit: PAHO

*To get information you don't have to be a medical personnel. Sometimes you'll get ideas, information, from the least expected source. So don't underestimate ordinary individuals. You talk to them. They might not know the terminology of the problem, but they will tell you what are the issues in their community.*

– REGIONAL HEALTH OFFICER

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