OTIS EMERGENCY RESPONSE

SIX MONTH REPORT
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MEDICAL IMPACT

WHO ARE WE?

Medical IMPACT is a non-profit, non-political, and non-religious Non-Governmental Organization actively working to reduce the existent gap regarding health service’s accessibility directly on the field, promoting teamwork in natural disaster situations and communities with few available resources. It also provides medical equipment and medicines, does prevention campaigns, and offers the highest medical attention standards for people with the most worrying necessities. Our projects create a prevention culture while educating and creating personal continence for voluntary staff on-field for primary attention to health, including acute, chronic, and infectious illnesses.

Our work tries to correct social structures, attending to the need to bring firsthand multidisciplinary services to give the correct steps to achieve Universal Health Coverage, especially in regions where the Human Development Index is low or really low in critical populations.
In Medical IMPACT, our objectives and projects align with the 2030 Agenda by the United Nations (UN), mainly with the **third Sustainable Development Goal**: Ensure healthy lives and promote well-being for all at all ages.

Among the goals we aim to achieve are:

- **3.3** By 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other infectious diseases.
- **3.4** By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
- **3.8** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- **1.5** By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
This project required and had its present reach thanks to the collaboration between the private sector, the public sector, community leaders, and NGOs, achieving multisector solid alliances.
IMMEDIATE ATTENTION EXPERIENCE IN EMERGENCIES BECAUSE OF DISASTERS

Medical IMPACT has had an impact in several national and international emergencies, such as:

- Mexico City’s earthquake. 2017
- Eruption of the Volcán de Fuego in Guatemala. 2018
- Haiti’s earthquake. 2019
- Attention in war-affected areas on the Colombia-Venezuela border. 2020
- Response during the COVID-19 pandemic. 2020 - 2021
- Response to Hurricane Otis in Guerrero. 2023 - Actual
Nearly six months after Hurricane Otis made landfall, it’s easy for our memory of the event to have faded, which is why a recap of the events surrounding that fateful day is essential.

Sunday, October 22, 2023, was like any other day for Mexicans. The National Meteorological Service of the National Water Commission (CONAGUA) and the National Hurricane Center in the United States monitored the formation of a tropical depression in the Pacific Ocean. Both were closely watching this phenomenon as satellite information indicated its strengthening.

By the morning of Monday, the 23rd, there were already warnings of heavy rains due to Tropical Storm Otis, a situation not unfamiliar but concerning for the people of Guerrero. By midday, Otis had escalated to a Category 1 hurricane.
The hurricane grew from category two to category four in just a few hours, announced by CONAGUA, who predicted it would grow to category five before arriving at Guerrero’s coast. Nevertheless, it grew before it was predicted, at 9:00 PM on Tuesday, October 24th, 2023. According to the Saffir-Simpson scale, which uses wind speed and damage, Category five is the maximum stage a hurricane can achieve.

As if the hurricane could read the warnings emitted by authorities, it was faster than predicted times. It was supposed to arrive between 4:00 and 6:00 AM. Still, it surprised Acapulco’s Bay at 12:25 AM on Wednesday, October 25th, 2023, with wind gusts that reached 270 Km/h (165 mph), faster than a NASCAR car. It is easy to read these numbers. Nevertheless, this colossal natural phenomenon broke records, such as being the strongest hurricane in the Mexican Pacific and being the fastest-growing hurricane in the northwest Pacific, according to the National Aeronautics and Space Administration (NASA).
What happened in Guerrero?

On Monday, October 30, 2023, Guerrero was declared to be in a 'state of emergency,' with the official report including the municipalities of Acapulco and Coyuca de Benítez. According to UNICEF, approximately 273,844 homes were damaged in rural and urban areas, and more than 4,500 hectares of coastal areas suffered landslides and flooding. Additionally, 50 people lost their lives because of Hurricane Otis, according to official data. Fifty lights extinguished, no longer among us; that was the toll it took—a cost whose figure doesn't measure the height of their worth.

In its wake, the hurricane created a health crisis that overwhelmed the capacity of healthcare systems, both due to damage to hospital infrastructure and the loss of supply chains and public services, leaving the population without access to care.
PHASES

Throughout the various phases of this project, the following was undertaken:

- Multidisciplinary health attention.
  - General medicine
  - Psychology
  - Physiotherapy
  - Nutrition
  - Certain medical specializations

- Diagnosis aids.
  - Electrocardiogram (EKG)
  - Portable Ultrasound (USG)
  - Spirometry
  - Glucometry
  - Rapid HIV and syphilis tests

- Vaccines

Based on what happened in Guerrero, Medical IMPACT, as a national example of humanitarian medical attention, activated its national disaster attention program, DISPATCH PROTOCOL, under the coordination of Dr. Karina Hernández Bravo.

The answer phases in this program are:

- PHASE 1. Immediate attention.
- PHASE 2. Early recovery and response to the health crisis.
- PHASE 3. Strengthening the healthcare system for long-term recovery.

Throughout the various phases of this project, the following was undertaken:

- Multidisciplinary health attention.
  - General medicine
  - Psychology
  - Physiotherapy
  - Nutrition
  - Certain medical specializations
- Free medications address the loss in the supply chain and various emerging issues.
  - Medications for chronic-degenerative diseases
  - Antibiotics (essential for addressing potential outbreaks secondary to overcrowding and lack of hygiene measures)
  - Deworming medication (necessary due to the loss of supply of clean water)
  - Vitamines and electrolites
Where were we?

Our attention area was focused on the central municipalities affected by the hurricane, which includes Acapulco de Juárez and Coyuca de Benítez.

ACAPULCO

With a territorial extension of 1882.6 km², it represents almost 3% of the total area of the state of Guerrero. According to official figures, it has a total population of 810,669 inhabitants, of which 67.1% belong to the working-age population (12-64 years old).

Its two main economic activities are retail sales, with 11,722 establishments, and services (mainly tourism), with 5913 registered establishments. It is the state's most important tourist center.

According to INEGI, the indigenous population makes up 1.42% of the total population (8,141 people). This group speaks Náhuatl and Mixteco, and its main economic activities are agriculture and selling handicrafts in the port.

1.- Gobierno del Estado de Guerrero (2024). Available in: https://www.guerrero.gob.mx/municipio/acapulco-de-juarez/#:~:text=Extensi%C3%B3n%20territorial.,que%20lo%20limita%20al%20sur.
WHERE WERE WE?

COHUCA

According to official 2020 figures, it has a territorial extension of 1,809 km² and a population of 73,056. Nearly 30% of its population is under 20 years old. The economically active population represents 62.8%, with an average monthly salary of MXN 3,670. Its primary economic activity corresponds to agriculture, followed by sales and trade.

In order of prevalence, 0.43% of its population (315 people) speaks at least one indigenous language, including Mixteco, Tlapaneco, Amuzgo, and Náhuatl. 38.3% of its population is in moderate poverty, and 27.3% in extreme poverty. Additionally, 25% have social deficiencies, including a lack of access to health services.

1.- Data México (2024). Available in: https://www.economia.gob.mx/datamexico/es/profile/geo/coyuca-de-benitez

Source: https://alternopedia.fandom.com/es/wiki/Coyuca_de_Ben%C3%ADtez?file=Mapa_de_Coyuca_de_Ben%C3%ADtez.png
WHERE WERE WE?

CDMX

We set up two specialized medical supply collection centers, which have helped us deliver more than 3,792 medications in these six months of work.

We conducted training sessions, such as “Introducción a las emergencias y desastres” for volunteers and healthcare professionals at least once before each brigade.

We received support from the community through cause-related events.
RESULTS
GENERAL REACH

WHERE ARE WE SIX MONTHS AFTER OTIS?

After six different interventions, our reach had positively impacted people’s lives. Proof of this is our attention data:

- **5,914** Total offered attention (with health services)
- **2,966** Directly Benefited People
- **1,737** Multidisciplinary consultations
- **16,560** Delivered medicines, vitamins, and electrolytes
- **636** Auxiliary diagnosis (USG, EKG, spirometries, etc.)
- **2,007** Dewormings
- **509** Vaccines
Due to the nature of some illnesses, without proper care and follow-up, they can lead to severe consequences such as disability, worsening health conditions, or irreversible sequelae. Fortunately for them, we arrived in time.

Individuals who, without our intervention, could have experienced significant consequences
GENERAL REACH

MEDIA COVERAGE

Several national and international media outlets managed to convey the message of support to the communities in Guerrero affected by the passage of Hurricane Otis, giving visibility to the work we have been doing. Some of the most widely covered notes are as follows:

NMAS

Courthouse News
The Guardian

El País
https://elpais.com/mexico/2023-11-05/mexico-se-enfrenta-a-su-gran-huracan.html
Direct Relief


Relief Web

Males respiratorios, infecciones estomacales y heridas con riesgo de septicemia, los problemas médicos urgentes que enfrenta la población afectada por el huracán Otis en Acapulco y sus comunidades circundantes, constataron brigadas de Medical IMPACT.

Te interesa: Calentamiento de los océanos provocará más huracanes como Otis en los próximos años

El equipo de profesionales médicos se trasladó al estado de Guerrero para proporcionar servicios esenciales y apoyo a los afectados por el huracán, y su trabajo en el terreno sacó a la luz el papel fundamental de la ayuda especializada en los esfuerzos de recuperación.

**MSN**

**Corresponsables**
https://mexico.corresponsables.com/actualidad/unidos-por-ellos-en-apoyo-a-la-poblacion-de-guerrero-por-el-huracan-otis/
BRIGADE RESULTS

First brigade (Phase 1: immediate attention)

This phase helped us to get to know the population and their needs. It showed us a confused Guerrero after a disaster never seen by the population, a state plunged into mud and debris that required urgent help. Faced with the emergency, we brought general physicians who could assess health needs.

Graph 1. “Distribution by Affected System Brigade 1”. Own creation. The percentages sum to more than 100%, as one person may have more than one affected system.
In Graph 1, we can observe that most people were affected in their respiratory system, with acute infections being the most common (a common situation after a disaster), followed closely by the percentage of people affected in their musculoskeletal system. In the pathologies included in this category, we found fractures, sprains, and strains, among other situations with chronic evolution. It is worth mentioning that the skin and mucosal lesions were all caused by sharp wounds generated during repair and debris removal work.
First brigade
Visited communities

During the first brigade, we visited diverse communities, all seriously affected.

ACAPULCO

Colonia Ampliación
Cardenista

COYUCA DE BENITEZ

Ejido Viejo
Yetla
Emergency flight for Insulin delivery

An emergency flight was conducted with Edificate AC’s support to deliver insulin to inaccessible areas after the hurricane. This ensured that this vital medication was administered immediately when the population needed it most.
BRIGADE RESULTS

Second brigade

We returned with more than 1,300 offered consultations, better prepared, with medicines, deworming medicines, vaccines, and diagnosis aids.

1,301

Offered consultations
Second brigade

- Dewormings: 432
- Delivered medicines: 320
Second brigade

509 Vaccines

130 Diagnosis aids
Second brigade
Visited communities

COYUCA DE BENITEZ

Colonia Zumpango

Espinalillo

Colonia Emiliano Zapata

ACAPULCO

Barra Vieja

La Zanja

Bonfil
BRIGADE RESULTS

Third brigade

From this phase, we got to bring various multidisciplinary equipment to adapt ourselves to the detected on-field necessities.

663

Offered consultations
Third brigade

Dewormings

421

Medicines and electrolites

8,501
Third brigade

Diagnosis aids
Third brigade
Visited communities

ACAPULCO
Colonia Nuevo Horizonte
Colonia San Isidro
Pie de la Cuesta
El Salto

COYUCA DE BENITEZ
Casitas de Colores
Colonia Lázaro Cárdenas
Guamuchito
BRIGADE RESULTS

Fourth brigade

906

Offered consultations
Fourth brigade

5,078

Medicines, vitaminas, and electrolites

333

Dewormings
Fourth brigade

Diagnosis aids
Fourth brigade
Visited communities

ACAPULCO
Valle de las Flores
El Salto
Llano Largo

COYUCA DE BENITEZ
Colonia Lázaro Cárdenas
Los Cimientos
Guamuchito
BRIGADE RESULTS

Fifth brigade

805

Offered consultations
Fifth brigade

- Dewormings: 234
- Delivered medications: 894
Fifth brigade

Diagnosis aids
Fifth brigade
Visited communities

COYUCA DE BENITEZ

Tepetixtla
Rancho el Santo
Pueblo Viejo
Las Lomas
BRIGADE RESULTS
Sixth brigade

1936
Offered consultations
Sixth brigade

Dewormings

587
Sixth brigade

1,386
Delivered medicines and vitamins
Sixth brigade

Diagnosis aids
Sixth brigade
Visited communities

COYUCA DE BENITEZ

Pueblo Viejo

Atoyaquillo

Rancho el Santo

Fuerte Emiliano Zapata
WHAT DO WE SEE IN A BRIGADE?

Without a doubt, each brigade is a different experience. Different stories are heard, new faces are seen, changing challenges are faced, and new lessons are learned. However, we can always notice:

EMPATHY
PROFESIONALISM
TEAMWORK
AN EXPRESSION OF LOVE

AND BROTHERHOOD
Axes

We faced various challenges along the way. One of the first challenges was the accessibility to the disaster area. Communication routes were closed due to debris from houses and trees, roads were lost due to flooding, mud with a height of up to 1 meter, and a loss of electricity, preventing passage and continuity of the cold chain. Thanks to the population’s organization, the roads were gradually cleared of obstacles without the government’s or agency’s support. Additionally, thanks to various donations, we strengthened our equipment to address the need for more electricity.
Crime

Another challenge was the presence of crime, insecurity, and organized crime that controls the area and does not allow access to specific populations. Curfews were in place, restricting free movement between 6 a.m. and 6 p.m., thus reducing the available time for assistance. Through the support of community leaders, we obtained safe conduct to access and operate in the communities.

Access

Likewise, travel times are lengthy due to the distance and the type of roads, mostly dirt roads. These roads can only be accessed with the necessary experience or the appropriate type of vehicle. The displacements and the locations where bases were established were organized with the support of community leaders. They facilitated our stay within the more remote communities, allowing us to optimize the assistance times.
Upon arrival, more suitable and dignified space was needed to provide medical services, as many of the available spaces lacked roofs or walls, which had been torn off by the winds or washed away by the water. **Spaces were gradually enabled and rehabilitated together with the population.** Once the communities began to spread the effectiveness of our services, enthusiasm for offering us space and supporting us in setting up the services also spread.
Acceptance

Another critical challenge is people need to gain knowledge about the available multidisciplinary services. This made it difficult for them to accept receiving care because they did not understand the importance and function of other areas of health. There was resistance to receiving these services, such as psychology, nutrition, and physiotherapy. To address this challenge, healthcare professionals offered face-to-face or group explanations about the services provided, their benefits, and the problems they could address.
WHAT HAVE WE LEARNED?

Thanks to the information gathered in each phase, we can comprehensively view the population served. We have learned life lessons, and we have also managed to take a glimpse at the general health condition of the people. Out of the 1,170 medical consultation registrations obtained during our brigades, we know that...

Most of the people we assist are women

Graph 2. “Men and Women Distribution”. Own creation. (2024)
We also know that the average age of the people we serve is 40; 57% of our population is between 17 and 64 years old, and 17% are elderly adults (>65 years old).

More than 25% are children and adolescents under 16 years old.
We identified that 28% of the people treated already had previous diagnoses of chronic degenerative diseases, and only 57% of the patients seen declared having their vaccination schedule complete.

Furthermore, tracking the distribution of affected systems was conducted, thus generating an approximation to a population diagnosis, resulting in the following graph.

![Distribution By Affected System](image)

Graph 4. “Distribution By Affected System.” Own creation. (2024). The total exceeds the sample as each person may have more than one affected system.

With the respiratory system being prominently affected, it's worth noting that most of these detections were acute infections, which would not have received appropriate treatment without the intervention of our volunteer doctors.
Additionally, it's important to note that a significant number of cases with cardiovascular system involvement and metabolic diseases (Endocrine system) were detected, often represented by the presence of arterial hypertension and type 2 diabetes, chronic-degenerative diseases that, without proper management (medical monitoring and medication administration) can lead to significant sequelae and worsening health conditions.

Following our interventions, 57% of patients with metabolic diseases received a prognosis of "Good," as did 54% of patients with cardiovascular system involvement. It's important to remember that healthcare services and medication supply chains were affected following Hurricane Otis. This percentage represents the people who received quality medical consultation and sufficient, free medication, enabling them to maintain an adequate level of health and prevent future complications.
WHAT IS NEXT?

In a community that already had limitations in healthcare services before the passage of Otis, in a state with the second lowest development index (according to the Office of Human Development Research PNUD, Mexico), a natural phenomenon of this magnitude leaves affected people in an impossible situation to resolve without the support of external agents.

Therefore, although our actions have significantly impacted the population, we are responsible for continuing this work. Thanks to the support we have received so far, we can commit to maintaining the presence of health brigades for another six months, thus promoting the resilience of the most affected individuals and strengthening the local healthcare system.

Few organizations continue to support the affected people of Guerrero, but we will only relent once we achieve a change that impacts their lives and leaves a footprint of hope.

Likewise, the training of the team and volunteers will continue to strengthen the DISPATCH PROTOCOL emergency program, and we will remain as benchmarks for healthcare response in natural disasters.

We also aim to be a trusted reference, and while we have what it takes to continue helping, your support multiplies the reach and improves the quality of the services offered. That's why we invite you to join this project of prevention, preparation, and care through:

- Volunteering program
- Cash donation
- In-kind donation
- Sharing our work
ACKNOWLEDGEMENTS

ALL THIS SUPPORT TO GUERRERO WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE PARTICIPATION THROUGH CASH AND IN-KIND DONATIONS THAT WE RECEIVED FROM INDIVIDUALS, COMPANIES, AND OTHER CIVIL SOCIETY ORGANIZATIONS COMMITTED TO THE MOST AFFECTED PEOPLE.

IT IS ALMOST IMPOSSIBLE TO MENTION EVERYONE WHO HAS BEEN A PART OF THE PROJECT, BUT THANK YOU TO EVERY ONE OF YOU:

DIRECT RELIEF
C&A
PYMO HUB
FUNDACIÓN DEACERO
ESTACIÓN SAN MIGUEL
JOHNSON & JOHNSON
FUNDACIÓN SANFER
GLAXOSMITHKLINE
RED DE UNIDOS POR ELLES
MÉDICA-CRD
WORLD CENTRAL KITCHEN
GENOMMA LAB
BAYER
NANOPROTECT
MENAT STUDIO

PRESBYTER JOSUE AROYO, MARISELA GALLARDO, MA. VICTORIA RODRIGUEZ, MARISELA PONCE, GENOVEVA, COYUCA AND ACAPOULCO’S COMMUNITY, JAIME, MARÍA GUADALUPE, ELIZABETH, ARMANDO, PALOMA, JULIETTE, ALEJANDRO AND ALL THE ANONYMOUS DONATIONS WE HAVE RECEIVED.

THANK YOU!
ACKNOWLEDGEMENTS

WE ALSO THANK EVERYONE WHO RESPONDED TO THE CALL TO GO TO GUERRERO TO PROVIDE HEALTH SERVICES. THESE BRIGADE MEMBERS CONTINUE TO GO MONTH AFTER MONTH AND HAVE BECOME PART OF THE MEDICAL IMPACT FAMILY.

DRA. ANA KAREN MAGALLANES
DRA. DIANA CÁRDENAS
DR. MANUEL VILLAVICENCIO
DR. DIEGO RAMÍREZ
ITALI THIENSEN
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F.T. CELESTE CRISTÓBAL
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PSIC. FABIOLA BELTRÁN
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THANK YOU!
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