

Cuba's Medical Team in the European Epicenter of COVID-19:

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On March 23, 2020, Cuba's Henry Reeve Emergency Medical Contingent began treating COVID-19 patients at Maggiore Hospital in Crema, Lombardy. Within days, the 52-member contingent comprised of 36 doctors and 15 nurses (plus 1 logistics specialist), together with Italian colleagues, were receiving patients in an adjacent field hospital established and equipped for this purpose. At the time, Lombardy was the epicenter of COVID-19 transmission in Europe.

Many of the Cubans in Lombardy were Contingent veterans, having served in post-disaster and epidemic scenarios in Chile, Pakistan, Haiti and elsewhere since the founding of the emergency medical team in 2005.

Importantly, some had worked fighting the 2014 Ebola epidemic in West Africa. Even so, providing medical care during COVID-19 is a unique challenge, the likes of which had never before been seen by the Cuban team.

Dr Carlos R. Pérez-Díaz, one of the Contingent's founding members, headed the team during its 60-day rotation in Lombardy, drawing on a wide array of professional experience. From 2006 to 2009, Dr Pérez-Díaz led the Cuban team posted at the Peltier Hospital in Djibouti, where he worked in the infectious disease department; in 2008, this team helped control a cholera outbreak that had spread to three countries. Following the 2010 earthquake in Chile, Dr Pérez-Díaz headed the team of Henry Reeve volunteers that provided free health services for 10 months in a tent hospital established to treat victims; he returned to Chile in 2015, again as head of the Henry Reeve Contingent, after severe flooding struck the Atacama region.

Dr Pérez-Díaz has dual specialties in family and internal medicine and a doctorate in medical education. Additionally,



in 2014 he was accredited as a medical expert to treat victims of chemical warfare and dangerous chemical substances by the Organization for the Prohibition of Chemical Weapons (OPCW); in 2019 he began imparting classes for the OPCW. Dr Pérez-Díaz is currently the director of the Joaquín Albarrán Provincial Clinical-Surgical Hospital in Havana, a post he has held since 2015. He is a member of the expert panel formed in January 2020 by Cuba's Ministry of Public Health (MINSAP) to confront COVID-19. Since returning from Lombardy, Dr Pérez-Díaz has worked in hospitals, multi-service community polyclinics and isolation centers in various provinces helping contain the pandemic at home, and participates in training future Henry Reeve teams at Cuba's Central Medical Cooperation Unit (UCCM). **MEDICC Review** had the opportunity to interview Dr Pérez-Díaz as he juggled various responsibilities—including the possibility of heading overseas again as subsequent waves of COVID-19 strike around the world.

MEDICC Review: You—and the team you headed—have extensive overseas experience, but Cuban medical professionals had never before served in Europe, nor during a pandemic of this magnitude. Can you describe how the Lombardy COVID-19 effort differed from other overseas postings?

Carlos R. Pérez: Everyone on the team knew we'd be facing a huge challenge in Lombardy. Although the scientific and medical standards there are high, COVID-19 was new, it was ravaging

the region and we had to apply our knowledge and incorporate emerging evidence within this difficult context. We began treating patients in late March; our Italian colleagues had been battling COVID-19 for some time before we arrived and had developed protocols based on autopsy studies.

Fortunately, 31 of the Contingent's 52 members in Lombardy had also served in West Africa during the Ebola epidemic. This previous epidemic-control experience helped; we understood the need

for strict biosafety protocols, for example, and were able to share firsthand experiences with others. I think this was particularly useful for the younger members of our team.

MEDICC Review: Given the factors particular to providing medical services during COVID-19, did volunteer recruitment differ for this Henry Reeve team?

We learned a lot from our Italian colleagues and were confident that working together we could save lives

Carlos R. Pérez: Recruitment principles for the Lombardy team were the same as in previous efforts over the past 15 years: everyone was a

volunteer; local health authorities indicated which specialists they most needed; selection was based on availability; and only those who would not affect services in Cuba were eligible. Nevertheless, given the risk entailed, priority was given to experienced Henry Reeve veterans—especially those who had worked in West Africa fighting Ebola.

By this point, several countries had requested Cuba's help to address COVID-19, and mixed brigades—with a combination of veterans from the Ebola outbreak and other volunteers—became the norm. In this way, the intense work in Africa and the valuable lessons learned could be shared across different teams now facing COVID-19.

MEDICC Review: What preparation did you receive before leaving for Italy? The biosafety protocols for COVID-19 plus working in a tent hospital must have warranted special consideration...

Carlos R. Pérez: First, it's worth pointing out that in February 2020, MINSAP provided countrywide, province-by-province training for all our health professionals on prevention and control of the novel coronavirus. So we had a jump-start. Once the members for the Lombardy team were selected, we received a specialized course from professors of the Pedro Kourí Tropical Medicine Institute (IPK) in Havana. This covered all the latest COVID-19 protocols and biosafety measures, plus step-by-step training on working in wards for confirmed cases, also known as 'red zones'. (IPK, Cuba's national reference center for infectious diseases is where Henry Reeve members received biosecurity training before departing for West Africa. The institute has provided COVID-19 testing, research and patient care since the first cases in Cuba were diagnosed on March 11, 2020, Eds).

Personally, the OPCW courses I took related to injuries sustained from chemical weapons and dangerous substances helped immensely in my preparation. This included biosafety measures of course, but also disaster modeling scenarios where I gained invaluable organizational, planning and resource allocation experience.

MEDICC Review: How was the work organized in Crema?

Carlos R. Pérez: As soon as we arrived our shifts were organized and distributed between the Cuban team and our Italian colleagues. We received supplementary training on proper use of personal protective equipment (PPE), plus learned local protocols for case classification, and patient management and treatment

regimens for each case based on their clinical evolution and imaging studies. During this process, various recommendations from our epidemiologists were adopted to assure maximum protection for personnel working with red zone patients. Next we familiarized ourselves with nursing procedures and how to perform arterial blood gas analysis adapted to the technology used in Italy—some of which was new to us. We also updated emergency fire safety and protection protocols while we were at it.

MEDICC Review: Working with professionals from a different culture, in a different language, in an extraordinarily difficult context—medical and personal. Can you talk about the collaborative aspect of your work?

Carlos R. Pérez: The language barrier was challenging at first when we all defaulted to English, but since Spanish and Italian are both romance languages with similar vocabulary and phrases, we quickly adapted. Another factor that facilitated our cooperation despite these differences was the fact that it had been established from the outset that the Cuban team would be subordinate to the needs of the region and would adhere strictly to local case management and treatment protocols. As a result, we developed great relationships with our Italian colleagues during our two-month rotation. It was a very positive work atmosphere marked by cooperation and scientific exchange. Every day we—Italians and Cubans alike—learned more about the physiopathology of COVID-19, the evolution of the disease and how to apply this knowledge to patient care. Emerging evidence from autopsies; the negative effects of invasive mechanical ventilation and the benefits of regular prone position ventilation; and the importance of early, comprehensive and individualized treatment meant we were constantly incorporating new knowledge and developing ideas together about how to better treat patients.

Successful cooperation of this type depends on mutual respect

The learning process was a two-way street. We came to appreciate

on a deeper level that successful cooperation of this type depends on mutual respect—between and among colleagues and patients. This includes respecting each other's customs, culture and religious beliefs. Fundamental as well is support from local government, religious leaders, civil society and support groups, police and the armed forces. The Italian army proved vital during our collaboration, resolving complex logistical problems quickly.

Once they got to know us and our work ethic, I think our Italian counterparts learned from us as well. Our humane and affectionate manner with patients and our diagnostic capabilities—using our skills and whatever tools are available—are things Cuban doctors are known for. But it wasn't only our clinical methods and economic use of resources—it was also our adaptability to new, advanced technologies that they came to value.

MEDICC Review: And the local population, the patients? How did they respond to your presence and work?

Carlos R. Pérez: The care and affection we showed our patients was reciprocated by them and their families. We were shown tremendous hospitality and after a few weeks, Cuban flags and banners with messages of gratitude for our coopera-

tion began appearing on balconies throughout Crema. Solidarity abounded and it was inspiring to see all these messages of hope, a ray of light in this very dark time, with so many people dying.

MEDICC Review: Indeed, this pandemic has filled the world with so much pain and loss. How did you and the team confront this—especially given the risky work you were doing and the possibility of getting infected yourselves?

Carlos R. Pérez: To be honest, it was Dantesque, especially at the beginning. The fear of infection and death was always there and the context in which we were working was difficult, to say the least. All of us were thinking of our families, our children and the possibility that we might not return... But we knew the best way to overcome this fear was through discipline, by adhering strictly to biosafety protocols and maintaining a positive attitude—individually and collectively. Before leaving Cuba, we were conscious of the commitment we were making and that it wouldn't be an easy undertaking. Every day before heading to the hospital, we reminded ourselves of this commitment, underscoring the importance of observing all biosafety measures—even though they were a pain. Persistence and determination became our mantra.

It helped that we were in constant contact with our families. This kept our spirits up and allowed us to face each day with the good humor for which Cubans are known. It's ingrained in us—you could say it's in our blood—and accompanies us wherever we go.

MEDICC Review: How about results? What would you consider the main outcomes of your work in Lombardy?

Carlos R. Pérez: Our 60-day rotation was intense, and virtually all of it in red zones, with highly complex patients. The bulk of the work was conducting consultations (5526), and performing nursing procedures (3676). Members of our team also worked in the coronary ICU attending critical patients, where we carried out 228 interventions. In the internal medicine department, we attended 1800 serious patients, and in the pulmonology department, we managed another 854 serious patients. Our records show that 219 seriously ill patients in our care were saved, while 10 lost their lives to the disease.

Beyond the statistics, the experience itself was an important result—reinforcing our biosafety knowledge on control and management of serious epidemics in a field hospital is an invaluable takeaway; this will serve us well in future collaborations, wherever they may take us.

Cuba's Henry Reeve Medical Contingent was awarded the Dr Lee Jong-wook Memorial Prize for Public Health by WHO in 2017. The Contingent has been nominated for the 2021 Nobel Peace Prize.

MEDICC Review: Given the high-risk work you were doing, what steps were taken to protect you, your families and the local community when you returned from Italy?

Carlos R. Pérez: Upon returning, the entire team underwent a ten-day quarantine in La Pradera (located in Havana, La Pradera is an international health facility offering a variety of specialized medical and health services; a wing was equipped as a quarantine center for the Henry Reeve team, Eds). Once there, we continued observing strict national COVID-19 protocols and were each tested by RT-PCR; on the ninth day of quarantine the test was repeated. The entire team tested negative for COVID-19 in the first and second tests. Each member also received immunoglobulin antibody tests (both IgG and IgM) to determine whether we had been exposed to the virus at any point, all of us testing negative again. After these results were in, we received the okay to return to our homes and communities—again, following the protocols established nationally for COVID-19 control.

MEDICC Review: Have this and other postings made a difference in your work back in Cuba?

Carlos R. Pérez: These experiences are enriching both professionally and personally. Helping save lives, far from home, makes you look at life differently. Of course, we gain knowledge—medical, scientific, cultural—working with colleagues from around the world. But international postings go beyond that, helping us broaden our horizons and develop into more well-rounded individuals and doctors, as we interact with patients and families from differing backgrounds, social classes, belief systems and languages.

MEDICC Review: Would you do it again? Volunteer overseas?

Carlos R. Pérez: Absolutely. Saving lives and helping mitigate the impact of natural disasters or epidemics is something I will always be ready to do—no matter where in the world. The indelible lessons and experiences, especially the gratitude shown us by our patients, their families and the local population, are the greatest reward imaginable. 