

Health surveillance and response on a regional scale: a preliminary study of the Zika virus fever case

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Abstract *Although awareness of the Zika virus has existed since the 1950s, only recently has it attracted the interest of the international community. In 2015 and 2016, the virus spread throughout Brazil and suspicions on the possible relation between parallel increases in neurological disorders and the infection arose. By November 2015, this concern had developed into a National Public Health Emergency. On February 1, 2016, WHO formally declared its suspicion that this was a Public Health Emergency of International Concern (PHEIC), and sent a response in accordance with International Health Regulations (2005). Zika is present in almost all South American countries, and PAHO/WHO, Unasur, and Mercosur are developing responsive actions to the epidemic. The aim of this article is to present a critical analysis of the regional South American and Brazilian responses of February through September 2016, in respect of this PHEIC announcement, utilizing qualitative methodologies via bibliographical examination and document analysis. In this context, the PAHO/WHO played a prominent role as compared with the other organizations. Moreover, the political environment of the region also played a major role in the instability of both Mercosur and Unasur, which could impact the capacity and effectiveness of the response.*

Key words *Zika virus, International cooperation, Global health, Regional Integration*

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Introduction

The Zika virus was identified in humans in Africa in the early 1950s. Since then, other countries on this continent, the Americas, and Asia became affected by the virus, a situation which attracted little interest from the global community.

The Zika virus is chiefly transmitted by a bite from the *Aedes Aegypti* mosquito, the vector for endemic diseases in South America such as Dengue Fever and Chikungunya. The endemic nature of these diseases exposes the ineffectiveness of vector prevention and control actions and highlights problems of urbanization, sanitation, use of the soil, and social inequality. All of these require structural changes significantly beyond just biomedical focus or pure and simple vigilance. Furthermore, they once again focus on the need for important discussions on women's sexual health and reproductive rights^{1,2}.

The Zika symptoms of fever, headache, joint pain, conjunctivitis, nausea, and rashes were regarded as unimportant until countries, such as Brazil, France, and the USA, warned about a possible association between microcephaly and other neurological disorders and the Zika infection³.

On November 11, 2015, the Brazilian Government declared that the current epidemic – with cases registered throughout all states⁴ – was a national public health emergency. This was due to the significant increase of microcephaly in new-born infants, mainly in the Northeast of Brazil, the country's poorest region that has historically been neglected by public policies⁵.

These data were formally communicated to the World Health Organization (WHO) and the Pan American Health Organization (PAHO), in compliance with the requirements of Art. 6 of the International Health Regulations (IHR)⁵. This led to a declaration confirming the relationship between the Zika virus fever and neurological alterations to be a Public Health Emergency of International Concern (PHEIC).

To contain this epidemic, that spread rapidly throughout the South American continent, regional organizations, in addition to PAHO, like the Union of South American Nations (Unasur) and the Mercosur responded to the epidemic technically and/or politically. These organizations play vital roles in the regional and global health diplomatic scenario, specially Unasur that, since 2010, has led joint interventions as a bloc, drawing world attention to the integration process of South America⁶. Its actions are impacted

not only by economic or technical factors but, chiefly, by political issues.

The region's political and economic context is one of significant instability, mainly caused by the emergence of conservative governments and exacerbated ideological conflicts, added to the economic crises that engulf so many of this sub-continent's countries. There was also been a change in direction of Brazil's foreign policy, particularly under the government of former President Dilma Rousseff, as compared with that of her predecessor, Luís Inácio Lula da Silva, in respect of this region and the role of healthcare in this context.

The Zika epidemic and the PHEIC declaration require inter-sector answers. These answers are not limited to the technical/biological environment but, also, to upgrading healthcare and social protection systems, to infrastructure improvement and the creation of a legal framework supporting women to take their own reproductive health decisions. Joint solutions on a regional basis would empower the effects of this response and bolster international and healthcare diplomacy in South America.

The purpose of this article is to critically analyze the Brazilian and the South American regional response, from February to September, 2016, in the context of the declaration of the microcephaly outbreak and other neurological disorders such as PHEIC, announced by WHO in 2016.

Materials and methods

This article was based on the principles of a qualitative research approach. Accordingly, it includes techniques for its bibliographical research development – in specialized portals such as Capes (Coordination for Perfecting Graduate Personnel – Brazilian Portal) and Scielo (Scientific Electronic Library Online) Portals – and a document analysis via the study of official documents issued in the context of the organizations under study, relating to the scope of the studies launched after the PHEIC declaration, in February through September 2016. No studies similar to those proposed in the present article were found. Given the novelty of the epidemic and the response, this is a preliminary study seeking to identify and critically analyze the main responses and channels of action by Brazil and regional organizations in South America.

Foreign policy and healthcare diplomacy in the Zika era

Foreign policy deals with the actions and decisions generated by a country's internal and external demands and opportunities that can be taken by players such as the States and international organizations⁷. If we regard as diplomacy the art and practice of conducting international relations, as a component of national foreign policy, healthcare diplomacy aims to comprehend-negotiation processes that involve several levels and players, and administer the global healthcare policy environment⁸.

A vital healthcare diplomacy component is international technical cooperation, "technical and communal approach, whereby know-how, strategic guidance, and work can be shared, to ensure a more equitable development between different countries"⁹. In turn, the term 'global healthcare' refers to healthcare matters deemed borderless and of collective responsibility, which demands collaborative actions between the countries in question¹⁰.

Although healthcare began to be treated as an international issue as early as the 19th century, its tardy appearance in Brazilian foreign policy can be explained: The access of non-specialists and diplomats was extremely difficult. It was subordinated as an economic issue related to trade and the workforce, which were adverse to the culture of healthcare, and healthcare structures played an extremely limited role in the Brazilian state environment¹¹.

The introduction of an open, independent, universal, and integral discourse of healthcare in 1988 with the *SUS* (Single Healthcare System), the expansion of the role of the Ministry of Health (*Ministério de Saúde – MS*), and of its budget, and, on the external level, renewed international interest in social matters, justify the emergence of healthcare as a Brazilian foreign policy issue¹¹.

The impact of the healthcare area on foreign policy, and vice-versa, suggests¹² that Brazilian foreign policy is focusing increasingly on healthcare, to protect the country's national security, free trade, and economic progress. One example is how Brazil used healthcare as a key point in its development and basis of the South-South Cooperation. Other authors¹³ claim that foreign policy interests were the main influence on the Global Health diplomacy agenda and that, as a rule, they determine the financing of its actions. This explains why certain topics such as endemic

arboviruses receive neither the attention nor the money needed in proportion to their high disease rate.

The post-Cold War period has been identified as the moment of international cooperation expansion¹⁴⁻¹⁷, since the end of the bipolar world and of the dominance of war and peace issues gave way to the emergence of new interests and relationships between countries. Brazil has become increasingly involved in the diversification of foreign policy topics and players in healthcare-related matters. This is spearheaded by the Ministry of Health, with the support of its International Advisory team and their branches, such as Fiocruz, which are involved in coordinating and expediting several cooperation projects¹⁸.

It is possible to identify four international cooperation categories¹⁹: vertical: in an assistance role; *tout court*: which works with developing countries as partners, and subsequently rising to a more active position; horizontal: cooperation with developing countries, by assuming the horizontal/South-South position; and, lastly, decentralized: incorporating horizontal cooperation features but, not necessarily, involving the Nation-State, such as that developed between municipalities, i.e., paradiplomacy.

The South-South Cooperation concept is not homogeneous. It is marred by an absence of specificity, normativism, and reductionism, and should be regarded²⁰ as a complex process of exchanges, one that presumes there will be a complex give-and-take process, that presumes the existence of mutual compensation between the cooperation players, thereby circumventing the reproduction of a vertical logic, the distinguishing feature of the North-South cooperation.

The innovative aspects of Brazil's healthcare cooperation approach²¹ – Structuring Cooperation – are the emphasis on training human resources, organizational upgrades, and institutional development, in addition to utilizing autochthonic capacities and resources.

During former President Lula's two governments (2003-2010) healthcare was a foreign policy agenda²² highlight, but, during Dilma Rousseff's presidency, there was a significant deceleration or, certainly, a systemic decline in Brazilian foreign policy²³ instigated by Lula. This was caused mainly by factors such as decreasing budget support for the Ministry of Foreign Relations and also due to the President's focus on domestic matters, and thus impacted the efforts of the Federal Government seeking to unite civil society to collaborate in an international plan²⁴.

The problems encountered by healthcare diplomacy in the Rousseff Government significantly impacted the possibility of an international Brazil response to the Zika epidemic and the attempts by the regional players to carry out coordinated actions. Furthermore, Brazilian foreign policy was redirected under the Government of Michel Temer, which led to disquieting diplomatic conflicts for South America and the Regional Integration bodies.

WHO as a global health authority

WHO (founded in 1948) is the United Nations body specializing in health and, among its many roles, it acts as an international healthcare directing and coordinating authority. Its duties are to provide technical assistance, propose conventions, agreements, regulations and recommendations on international health²⁵.

WHO authority has been challenged with the loss of its major role before other organizations²⁶, such as the World Bank²⁷. The combination of its financing crisis (only 25% of its financing consists of regular contributions from member countries)²⁸ and, recently, the influenza-A (H1N1) pandemic further exacerbated this situation and revealed conflicts of interest²⁹, communication difficulties, and internal governance problems²⁶.

A complete WHO Reform (2010) was justified by operational and financial issues, to reinforce its leadership position³⁰. Despite all this, WHO is still the hub where Global Health matters are debated, examined, and approved, since no substitute authority has been identified among existing organizations³¹.

The IHR

WHO has already approved two binding international legal agreements: a Framework Convention on Tobacco Control (2003) and the International Health Regulations (2005).

The IHR (International Health Regulations) is an international, binding, legal instrument whose objective is to “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade”⁵. Its most recent edition introduces some innovation in relation to the preceding regulations (1969) since it does not limit its application to specific events; it presumes that each country has the ca-

capacity to respond to the regulations; it requires countries to report events that could represent a PHEIC; it authorizes WHO to utilize unofficial information; it authorizes the Director-General to formally declare a PHEIC and to issue recommendations after an Emergency Committee meeting, etc.⁵.

“Thus, membership of the IHR, is bound by an health emergency law, and to have appropriate conditions for its application, which shall be measured and controlled by an international mechanism”⁹, indicating the need for structural changes in the healthcare systems, which are frequently difficult to attain. Assessments on the basic capacity of the member States in the context of the IHR could be deemed fragile since they are self-declared and non-compulsory. This generated a debate in the 69th WHA (World Health Assembly) Session, when countries debated the possibility of an outside assessment, claiming that this would have to be voluntary³². Moreover, these capacities relate to a legal structure to permit a response to these condition, requiring WHO to act to strengthen the legal structure as a means of improving responses to emergencies³³.

PHEIC (Public Health Emergency of International Concern)

When an event is deemed to be a PHEIC, formal notification to WHO must be delivered by the affected country, and must give a positive answer to at least two of the following questions⁵: Will there be grave public health consequences arising from the event? Is this an irregular or unexpected event? Is there a grave risk of international proliferation? Is there a grave risk of restrictions to international travel or to international trade?

After such notification, the Director-General may convene the Emergency Committee, comprised of experts on the event, to assess the case. The decision to announce a PHEIC is based on the information reported by the respective Member State in the decision agreement (Annex 2), on the Committee’s recommendations, in scientific evidence submitted, on the human health risk assessments, on the possibility that the disease could spread, and on the risk of interference with international traffic (Art.12/IHR).

There is no doubt that a declaration of a PHEIC raises the consciousness of the population regarding the event in question. It can also empower the Ministry of Health to increase its appeal for international funds, in addition to increasing coordination and international cooperation to report such events. However, this fre-

quently has a negative impact on the transit of individuals and goods to the affected locations, since it brings economic losses, the risk of stigmatization of the affected population, and panic, with obvious political consequences³⁴.

Up until 2015, WHO declared three PHEIC: influenza-A H1N1 pandemic (2009), wild poliovirus (2014) and Ebola (2014), diseases spread via human contact. The specific distinctive idiosyncrasy of Zika is that it is chiefly transmitted by mosquitoes and also that it can cause mild symptoms in the population as a whole, but does not necessarily require those affected to seek medical assistance, thereby causing especially difficult control conditions.

Microcephaly and neurological disorders connected with Zika virus fever as a PHEIC

Three months after Brazil officially reported an disquieting increase in its own microcephaly cases and, after negative signs in France and the USA, WHO called the Committee that, on February 1, 2016, declared the recent outbreak to be PHEIC. This showed that “international cooperation has begun, and with a very specific basic concern: the containing of certain infectious diseases, in order to prevent their migration to the developed western world”²².

During the first meeting of the Committee, three chief recommendations were issued: standardization of, and increase in, the surveillance of microcephaly cases in the areas affected by the Zika virus and more in-depth etiological research to establish the causal relationship with the virus. For the Committee members, the difference between the Ebola and the Zika declarations were that, in the former case the emergency was declared based on what was already known about the disease and, in the latter, based on what was not known³⁵.

Once again, WHO leadership and action timing were criticized, as in the case of the Ebola epidemic. An article published on January 27 pointed out that this worldwide emergency was unquestionable³⁶ and that the Committee should have taken immediate action.

For the scientific community, even at the beginning of the PHEIC, the probability of a connection between the Zika infection and neurological alterations, such as the Guillain-Barré Syndrome (GBS) was high. But, the Committee³⁷ had not yet confirmed this connection. Only during its third meeting, held on June 14, was a definitive statement issued confirming that the Zika virus caused microcephaly and a trigger for GBS³⁸.

During the meeting, the Committee deemed the risk of increase in the number of Zika virus infections arising from the sheer numbers attending the 2016 Olympic Games, to be low. After the conclusion of the Games, at its fourth meeting, the Committee commended Brazil for its prevention and control actions³⁹. Brazil put in place two major surveillance fronts during the Olympic Games, via The Brazilian Health Regulatory Agency, with Guidelines for increased vigilance at crowded events and, also, the Integrated Operating Plan on Sanitary Surveillance, highlighting triangular planning for clinical analysis laboratories. In addition, Fiocruz introduced the Olympic Biome Project to analyze the transformation caused by this mega-event to the Rio de Janeiro microbiome⁴⁰.

Overall, the Committee’s recommendations related to the need to improve the following actions: surveillance, communication and risk assessment, vector control, clinical indications, and research and development. These involved investigating new diagnostics and treatments, development of vaccines, and other vector control measures.

Given the ongoing geographic expansion and the significant gaps in comprehension of Zika virus infections, the decision was taken to maintain the PHEIC⁴¹.

Brazil’s response to the PHEIC

In Brazil, the autochthonic transmission of the Zika virus was identified in April 2015. Since then, there has been an increase of more than twenty times in suspected microcephaly cases. Moreover, French Polynesia, which was affected from 2013 to 2015 by the Zika virus, noted the occurrence in infants of neurological disorders deriving from this virus^{36,42}.

The definition of the cases utilized by Brazil was challenged⁴³, because they were overstated. This served to underscore the importance of applying more specific parameters, including laboratory or radiological testing. In the first week of March, Brazil introduced new standards aligned with WHO parameters, which differed for girls (< 31.5cm) and boys (< 31.9 cm), thereby increasing the capacity to identify positive cases.

According to epidemiology report No. 40⁴⁴, since November 2015, 9,091 suspected cases of central nervous system alterations were reported and the link with the Zika virus infection was confirmed in 1,845 cases, of which 83.3% were found in the Northeast of Brazil.

According to the Healthcare Surveillance Secretariat of the Ministry of Health (June 2016)⁴⁵,

the Brazilian response to the epidemic is based on three chief pillars of inter-sector actions involving areas such as Social Development and Defense. Mobilization and combating the vector are based on triangular epidemiology surveillance system, basic sanitation actions, and communication. Care, which comprehends action to develop protocols and diagnostics and treatment guidelines, organization of the healthcare network and human resource training. And technological development, education and research, promoting the investigation of diagnostics, vector control, protocols, and guidelines for clinical handling, vaccines, and treatments.

A fourth and additional pillar, which is justified by the international importance of this epidemic and by action in Brazil in the field of health diplomacy is international cooperation. Brazil is in the process of forming alliances to increase its response with technical cooperation and by entering into specific international conventions on the Zika virus.

Brazil has carried out laboratory diagnostics training actions in five of the other eleven Unasur member countries (Bolivia, Ecuador, Paraguay, Peru, and Uruguay⁴⁵) and has also signed two international agreements with the USA and issued two letters of intent on the cooperation activities between these countries on this matter, relating to vaccine research and development among other aspects, including CDC (Centers for Disease Control and Prevention). It is important to point out that, in addition to the Ministry of Health, another vital partner in these achievements is the *Instituto Evandro Chagas*, associated with Fiocruz, which has played a prominent role in Global Health diplomacy⁴⁶.

The regional response in South America

By September 2016, ten of the twelve independent South American countries had reported Zika virus fever cases, but only Brazil, Colombia (the two countries with the highest number of cases⁴⁷), and Paraguay identified cases of neurological disorders in newborn infants. Suriname and Venezuela reported cases of GBS only.

The PHEIC Declaration by WHO, allied to the epidemic on our continent, require increased coordination and international cooperation⁴⁸ efforts to tackle the situation. International health organizations active throughout South America are joining forces to combat this epidemic.

Pan American Health Organization – PAHO

PAHO (1902) is the WHO regional office for the Americas. Its mission is “to strengthen national and local health systems and improve the health of the peoples of the Americas”⁴⁹. PAHO plays a vital role in regional healthcare cooperation. In 2013, its member countries approved RESCD52/11 on health development cooperation, and accepted an updated policy on this topic. Its objective is “to strengthen cooperation among countries, agencies, and other agents of change to effectively address common health issues”⁵⁰. It also states that one of the Director’s responsibilities is to strengthen relations between sub-regional organizations, reinforcing what was originally proposed in its Constitution.

In the context of health surveillance, it is the Organization’s⁵¹ to constantly prepare for dealing with disasters, pandemics, and disease, to strengthen joint actions at sub-regional, regional, and global levels, to prevent and control disease, among other actions.

In the context of the Zika virus epidemic⁵², PAHO has carried out missions in affected countries in order to support their governments’ surveillance, control and prevention actions, not only of Zika, but, also dengue fever and Chikungunya outbreaks. They carry out training work, workshops, and provide technical support for studies and policies. They have organized 58 technical cooperation missions to 26 countries; eight regional meetings on bioethics, surveillance, sexual and reproductive healthcare, etc., eleven sub-regional workshops on surveillance, vector control, and laboratories. It also distributed laboratory reagents to 22 countries and created an instrument partnership with the CDC, etc.

According to Document CD55/INF/4, which updates the situation of the epidemic in the Americas region, in December 2015, PAHO introduced an incident management structure, enabling the allocation of resources from its Epidemic Emergency Fund to fund actions involving monitoring the epidemic, vector controls, reinforcing healthcare systems and Zika virus research work. The Organization has also carried out communication actions in order to minimize risks and to control mosquito infestations. However, there is still a 70% gap in the total budget required to carry out the proposed activities⁵³. PAHO has also carried out joint actions with international bodies, such as *Mercosur* and Unasur.

Mercosur (Trade Association of Brazil, Paraguay, Uruguay, Venezuela, and Argentina)

Mercosur (1991) originally consisted of Argentina, Brazil, Paraguay, and Uruguay, with the addition of Venezuela (2012), with associate member countries (Chile, Peru, Colombia, Ecuador, Guyana, and Surinam)⁵⁴. These associate countries take part in all meetings but hold no voting rights⁵⁵.

Its basic objective was to deal with economic and trade-related issues, but social topics were gradually included in its agenda. Health involves two specific areas: the Ministers of Health Meeting, which tackles political and other relevant matters affecting the bloc, and the Health Work Sub-Group (HWSG), which handles technical topics, such as legislation coordination, health surveillance, etc.⁵⁶.

A study⁵⁶ on the bloc's health issue showed that the Intergovernmental Dengue Fever Control Commission has been in existence since the year 2000, in addition to the Healthcare Information and Communication Systems, inaugurated in 2006. At HWSG, healthcare surveillance (2006) represents 15% of the resolutions issued by the organization, and implementation of the IHR (International Health Regulations) is an integral part of its agenda.

On February 3, 2016, an extraordinary meeting of the bloc's Health Ministers was called to discuss the epidemic of diseases transmitted by the *Aedes Aegypti* mosquito. Other organizations also took part, such as the South American Institute of Government in Health (ISAGS) and PAHO.

During this encounter, the Ministers discussed the possibility of improved integrated management strategies for dengue fever and other vector diseases as the major measure for confronting the regional epidemic. They also defined education campaigns and communication mechanisms, in addition to drawing up clinical protocols and guidelines, updating healthcare personnel, reciprocal support for Zika fever diagnostics. They also assessed the possibility of including Guillain-Barré Syndrome (GBS) medications in joint bloc negotiation rounds. An important achievement was the creation of an *ad hoc* emergency follow-up Group, during the *Pro Tempore* Presidency (PTP) of Uruguay which, at that time, also held the PTP of Unasur.

The bloc has experienced a number of major political reversals over the last few months, caused by the procedures for impeaching former

President Dilma Rousseff and by the diplomatic divergences between the member States and Venezuela⁵⁷. Under the rules, the latter country should have taken over the bloc PTP during the second semester of 2016. Due to the standoff involving *Mercosur*, all Zika virus actions have been stalled and the *Ad Hoc* Committee has not convened again.

Unasur (Union of South American Nations)

Unasur is a pioneering intergovernmental regional organization in South America, comprising its twelve independent countries. It is regarded as innovative as compared with all other prior experiments which made few advances in forming an effective continental integration system. It has submitted a wide-ranging regional development project which, in addition to covering economic or defense topics, also tackles social matters aimed at South American citizenship⁵⁸.

The bloc consists of Councils and other political and technical bodies, including twelve sector Councils. Health is the responsibility of the South American Health Council, and is formed by Ministers of Health of its member countries (highest level of decision making); a Coordinating Committee, consisting of ministers' delegates; a technical secretariat formed by the current, past, and future PTP representatives; Technical Groups (TG), Structuring Networks, and the South American Institute of Government in Health (ISAGS) (2011), headquartered in Brazil, an advanced study and political think tank for the development of health leadership and strategic human resources⁵⁹.

Health surveillance issues are handled by the Technical Group (TG) Health Surveillance and Response Network (2009), based on the 2010-2015 Five-Year Plan. This Plan reports results such as how to ensure capacity for the application of the IHR (International Health Regulations) and the formation of Dengue Fever Network to alleviate its regional impact⁶⁰.

On the IHR (International Health Regulations), a need has been noted to intensify cooperation strategies due to current gaps and for some "regional oversight of events, not only to share information on circumstances in the countries of the region, but, also to learn from each country's experiences"⁶¹.

ISAGS and the Technical Groups (TG) drew up a joint report on the Zika virus epidemic in the region and on the activities in which the Council became involved on the issue of surveillance and responses. In a press conference, the

Unasur Secretary-General, Ernesto Samper, and the then ISAGS Director, José Gomes Temporão, announced the creation of a Regional Protocol to combat and prevent the Zika virus. The proposal was accepted in the Mercosur Meeting, in order to reinforce cooperation, guarantee ongoing communication, increase the exchange of experiences, reinforce joint frontier surveillance capacities, etc.⁶².

The region's conflicting policies, which impact Mercosur, also affect Unasur. The relationship between these countries and the Unasur PTP, currently headed by Venezuela, has cooled significantly, culminating in the deceleration of structures and projects. Another blow was the announcement of Samper's resignation in January 2017⁶³. He was regarded as an important leader and mover in the region.

Closing considerations

The impacts of a PHEIC declaration are numerous and, as a result, the Zika virus epidemic in South America has been transformed into a highly favorable event for international cooperation, thanks to the demand for coordinated surveillance and response actions. Some authors predicted that the resulting increased visibility of the epidemic could attract greater investments to combat the disease^{34,64}, thereby mobilizing regional structures to actually take on the commitments assumed in the past. However, what has actually been observed is a retreat in action by regional bodies, such as Unasur e Mercosur, to take action to jointly respond to the regional challenges imposed by PHEIC.

In the political context, several regional, national, and diplomatic aspects have interfered in this process. At the regional level, we highlight the emergence of the more conservative governments challenging the concept of the regional cooperation era that began in the year 2000. Then there was the lack of interest displayed by the Rousseff Government in foreign policy and health issues, and which underscored that the national context of Brazil, a major player in the international scenario, significantly impacted the progress of international cooperation in the region. Furthermore, with the impeachment procedures that removed President Dilma Rousseff from office, several member states withdrew or recalled their ambassadors to Brazil for consultation, as was the case with Bolivia, Ecuador, and Venezuela, and which had serious diplomatic outcomes.

The economic crisis, followed by a lack of funding, also significantly contributed to the subsequent constraints imposed on regional Zika virus combat operations. They also impacted financing of the sub-continent's healthcare systems and, in all, seriously undermined the actions of these organizations.

Although all these factors also impacted the actions of PAHO and WHO, both organizations have maintained their actions, and commenced the surveillance and response mechanisms set forth in the IHR (International Health Regulations). In addition to the fact that have been in existence for a much longer time, are more established and institutionalized, they also both have significant penetration in the field of health diplomacy and in their Member-States. This greatly contributes to the greater resonance of their intervention actions.

We also highlight the interest of the USA in the Zika virus research and development field. This includes bilateral agreements with Brazil, with particular emphasis on a technical and biological response to the epidemic, as clearly evidenced by the leading role of the CDC in these agreements.

It must also be borne in mind that the PHEIC declaration represents an opportunity for governments and society in general, that cannot be allowed to vanish⁶⁵, to call attention to diseases that have been neglected for far too long and that never attracted sufficient international attention in the first place. It also highlights the need to structure healthcare systems as a means to respond to the consequences of this epidemic – for instance, the irreversible neurological damage suffered by infants. It is also an opportunity for international organizations to reinforce their health diplomacy and international cooperation, by negotiating regional actions that could lead to common policies. Lastly, it also raises the question of what kind of regional integration we want.

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