

# The Importance of International Technical Cooperation Agreements facing Syphilis Epidemic in Brazil

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**Abstract:** The research deals with an experience report about the importance of international technical cooperation agreements facing the Syphilis epidemic in Brazil. Due to the constant increase in the number of cases of Syphilis in pregnant women, congenital and acquired, the Brazilian Ministry of Health (MS) decreed in October 2016, a Syphilis epidemic in the country. From then on, the MS adopted a national induction strategy, structured in the field of Syphilis, culminating in a project of the Ministry of Health in partnership with the District and Municipal Health Secretariats, the Federal University of Rio Grande do Norte (UFRN) and the Pan American Health Organization (PAHO) to combat the Syphilis epidemic. The objective of this article was to analyze the importance of the agreements signed between UFRN and reference institutions in other countries to address public health concerns, with emphasis on the national response to Syphilis and taking into account the objectives of Sustainable Development contained in Agenda 2030, of the United Nations. This analysis was based on UFRN's experience with the bilateral cooperation agreements recently signed within the framework of the ongoing project to combat Syphilis. A descriptive study was carried out based on the documentary analysis of the agreements concluded within the scope of the rapid response project for Syphilis and a review of the qualitative approach literature on international technical cooperation in the area of health, in addition to the authors' perception of the subject. The results obtained to date lead to the conclusion that these partnerships, besides contributing to the interdisciplinary and institutional formation in Brazil, also contribute to the international scientific and academic projection of the country. It is important to highlight UFRN's innovation in the way it has carried out the recent partnerships, since all the work plans elaborated within the context of the bilateral cooperation agreements are focused on producing applied research so that its results function as inducers of public policies in the Health area. The analysis shows that harmonization of interests and mobilization of the capacities of both institutions of an agreement allow for the expansion of the potential impact of programs and projects, as well as enhancing the gains and benefits of the countries involved. Corroborating with this fact, it is clear the importance of promoting the mobility of the academic community as a way to diversify and improve the training of human resources and generation of knowledge. In this context, we believe that this study can contribute to discussions and reflections in the development and strengthening of research in the area of international technical cooperation agreements as a strategy to overcome challenges found in the scope of global health.

**Keywords:** *Global Health; International Cooperation in Health; Syphilis.*

## I. INTRODUCTION

When analyzing the importance of international technical cooperation agreements, they prove to be as an important

instrument of development for the countries, as they help to promote important structural changes in the social and economic fields, including State action, through actions that strengthen their institutions [1]. It should be noted that the capacity of national states to deal with health problems is increasingly limited, recognizing the emergence of what has been called global health [2] [3]. In this sense, the Federal University of Rio Grande do North through its Institutional Development Plan has been implementing its internationalization policy, which aims to guide and institutionalize internationalization actions related to teaching, research, extension and innovation, as well as academic management.

The official recognition of technical, scientific and academic cooperation with other international institutions takes place through the elaboration of cooperation agreements, duly protected by Brazilian legislation. Currently, UFRN has 181 active cooperation agreements with universities located in more than 30 countries. As justification for this study, the contribution to increasing specific knowledge is highlighted, due to the lack of studies and publications dealing with this topic and, also, to support to UFRN and other institutions in what concerns the strengthening of international technical cooperation actions in the health area.

The objective of this research, however, was to analyze the importance of the agreements concluded between UFRN and reference institutions in other countries, to address public health concerns, with emphasis on the national response to Syphilis and taking into account the objectives of Sustainable Development contained in the 2030 Agenda of the United Nations.

## II. PROBLEM IDENTIFICATION AND BASIC PRINCIPLE

Syphilis is a curable infection caused by the bacterium *Treponema pallidum*. [4] It can be transmitted via sexual encounters (acquired Syphilis) and from the mother's placenta to the fetus (congenital Syphilis), causing consequences, such as abortion, stillbirth, preterm delivery, neuropsychomotor retardation, skin lesions and malformations, with the death rate reaching approximately 40% of infected children [5]. According to the World Health Organization, Syphilis affects more than 12 million people worldwide. One of its most damaging manifestations, congenital Syphilis, accounts for 1.6 million cases [5] [6] [7]. Due to the constant increase in the number of cases of Syphilis in pregnant women, congenital and acquired, the Brazilian Ministry of Health decreed in October 2016, a Syphilis epidemic in the country [5]. This culminated later in a national induction strategy adopted by the MS, by means of a structural intervention in the field of Syphilis. Giving rise to a project of the Ministry of Health in partnership with the State and Municipal Health Secretariats, the Federal University of Rio Grande do Norte and the Pan American Health Organization to combat the Syphilis

epidemic. In this context, the present research aims to report on the experience of the Laboratory of Technological Innovation in Health (LAIS) as the executing party of the project for Syphilis confrontation in UFRN. The cooperation agreements signed in the context of this project with foreign institutions stipulate the activities to be developed so that the product of such cooperation become applicable and may take the form of inducers of public policies in the area of Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS). In order to consolidate the internationalization, the priority areas of the project are observed and, therefore, new agreements with institutions of proven excellence in the determined area of operation are prospected.

### III. METHODOLOGY

This study consists of an experience report by LAIS/UFRN with the bilateral cooperation agreements recently signed within the scope of the ongoing project to combat the Syphilis epidemic in Brazil. A descriptive study was carried out based on the documentary analysis of the agreements concluded in the context of the project on Syphilis, the reports of missions received and carried out in the countries that have active agreements and a qualitative literature review on international technical cooperation in the area of health, besides the authors' perception regarding the subject matter. For each cooperation agreement signed, the particularities, objectives and targets established in the work plans were analysed in order to identify the areas of knowledge involved in each agreement and how they apply to coping with the Syphilis epidemic in Brazil. Finally, a reflective analysis of the gaps and opportunities for improvement to make the process of technical cooperation between countries more efficient, in addition to the strengthening and use of technical resources in each region.

### IV. RESULTS AND DISCUSSIONS

The analysis shows that harmonization of interests and mobilization of the capacities of both institutions of an agreement allow for the expansion of the potential impact of programs and projects, as well as enhancing the gains and benefits of the countries involved. Corroborating this fact, it is clear the importance of promoting the mobility of the academic community, as a way to diversify and improve the training of human resources and generation of knowledge.

At the time of the research, new bilateral cooperation agreements were signed with higher education institutions from the following countries: Portugal; France; Canada and the United States. For the first half of 2019, international missions are scheduled with representatives from other universities in the United States, Israel and Spain to define possibilities and synergies of technical, scientific and technological cooperation with institutions of education and research.

However, within the setting of the international technical cooperation already celebrated within the context of the Syphilis confrontational project, it is important to say that all agreements have a work plan focused on areas where specific and technical knowledge gaps have been identified. In this sense, in the bilateral cooperation with the Open University of Portugal (UAb), 17 researchers were defined to participate in the postgraduate programs (Doctoral and Master's) of the UAb and will develop the research objects in line with the goals of the Syphilis confrontational project, especially in the areas of Education and Communication, resulting in applicable technologies during the term of the project, among them, the development of audiovisual products with cinema resources.

On the other hand, the University of Lorraine (UL) was part of the first international mission of technical cooperation in France, and the cooperation agenda was directed at completing the training of masters, doctors and post-doctoral students of LAIS/UFRN in the areas of Learning analytics, Big Data and Machine learning, whose results and/or technologies developed should be applied in the implementation of the Epidemic Control Rooms that will be created throughout the country under the Syphilis Confrontational Project. Another work plan agreed between LAIS/UFRN and the Athabasca University (AU) in Canada will further enhance the actions of distance education in health in Brazil, with an emphasis on tackling the Syphilis epidemic. Finally, the partnership between the LAIS and Harvard's T.H. Chan School of Public Health has as its proposal the development of research and technical cooperation actions in the following areas: analysis and evaluation of health, socioeconomic, geographic, training and workforce data; Big Data, data visualization, data mining and multivariate analysis; complex systems and artificial intelligence; epidemiology and collective health; and, finally, distance education. Initially, priority will be given to the areas that promote the discussion regarding the resilience of health systems, taking into account the results of the Project to face Syphilis in Brazil.

### CONCLUSIONS

The results obtained to date lead to the conclusion that these partnerships, besides contributing to the interdisciplinary and institutional formation in Brazil, also contribute to the scientific and academic projection of the country in the international scope. It is important to highlight UFRN's innovation in the way it has carried out the recent partnerships since all the work plans elaborated within the framework of bilateral cooperation agreements are focused on producing applied research so that its results function as inducers of public policies in the area of global health.

In this context, we believe that this work can contribute to discussions and reflections in the process of respecting the research development process in the area of international technical cooperation agreements as a strategy to overcome challenges found in the global health area, in order to create a network of cooperation between countries by allowing them to share their experiences and strengthen international technical cooperation actions.

### Abbreviations

AIDS – Acquired Immunodeficiency Syndrome;  
AU – Athabasca University;  
HIV – Human Immunodeficiency Virus;  
HUOL – University Hospital Onofre Lopes;  
LAIS – Laboratory of Technological Innovation in Health;  
MS – Ministry of Health;  
PAHO – Pan American Health Organization;  
UAB – Open University of Portugal;  
UFRN – Federal University of Rio Grande do Norte;  
UL – University of Lorraine.

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