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Public policies on healthcare associated infections: A case study of three countries

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ABSTRACT

Healthcare-associated infections (HAIs) are a global concern due to the impact on healthcare safety. Consequently, they demand the implementation of effective public policies for their prevention and control. The objective of this study was to analyze and compare the implementation of national programs for the prevention and control of HAIs in Brazil, Chile, and Israel. The triangle of health policy analysis was used to compare the context, process, and content of national HAI prevention and control programs. Common elements identified among the three countries led to the proposal of an explanatory theoretical model constituted of two nuclei: formation, and development & sustainability.This model may favor to understand the factors that can influence the progress of a national HAI program, providing insights into the elements for establishing programsin countries where they are still inceptive.

1. Introduction

Healthcare-associated infections (HAIs) are a phenomenon of global concern, leading to high morbidity and mortality, and requiring the implementation of effective public policies to defeat them [1,2]. So far, few national programs for prevention and control of HAIs are fully successful. Many countries still present insufficient actions to achieve good results [3].

The implementation of a public policy is not a linear process, and it is linked to a variety of power relations and interests that preexist to its conception [4]. Public policies triggering and sustaining depend on the positive confluence of several factors, ranging from the pointing out of the problem to stakeholders up to the formation of a structure for its development [4]. In fact, the determinants of success in different scenarios are still unknown. Case analyses and interpretation schemes can contribute to understanding the phenomenon. A detailed analysis of a public policy can support the design of models to answer classically proposed questions about how and why certain government decisions are made [4].

The objective of this study was to compare the implementation of national HAI programs in three countries, characterizing their implementation and development to design an explanatory theoretical model that could guide the formation of national programs in other scenarios.

2. Methods

2.1. Study design

We performed a descriptive and exploratory case study that used the triangle of health policy analysis [5] to compare national programs for HAI prevention and control. This triangulation helps to systematically explore public policies through approaching to the relationships between their context, process, and contents, by assuming social actors as central elements [4].

The case analysis unit was the national HAI prevention and control program. The description of the evolutionary process of the programs followed the phases proposed by Padoveze et al. organizing the temporal occurrences according to the following phases: "*Formation:* development of infection prevention techniques and practices; *Consolidation*: acknowledgement of HAI as a public health problem and development of the initial proposals of national program; *Standardization:* consolidation of program and establishment of nationwide regulations; *Monitoring and Evaluation*: full establishment of program at national level including mechanisms for measurement; recognition of HAI as a relevant patient safety issue, focus on continuous quality improvement, and cost savings" [6].

2.2. Cases selection

The countries were selected based on a preliminary study about HAI surveillance systems through literature review, and consulting to electronic pages of several countries [7], taking into account

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that these systems reflect a certain maturity of HAI public policies. At this stage, 11 countries were pre-selected: Argentina, Australia, Brazil, Chile, Colombia, the United States, the Netherlands, England, Israel, and Uruguay. Additionally, in 2014 a "Cycle of Debates on Public Policies for the Prevention and Control of HAIs and Patient Safety" [8] was carried out, identifying relevant information for the definition of inclusion criteria in the study: existence of a national program prevention and control of HAIs; approval from the relevant authority for a visit to the program's headquarters, and possibility of communication in Portuguese, English or Spanish. Based on these criteria, six countries were selected: Australia, Brazil, Chile, USA, United Kingdom and Israel. Two countries were excluded from planning visits for logistical reasons: insufficient time to obtain formal authorization and limited financial resources. USA was considered as a major national program with international repercussion and was excluded to avoid bias. Therefore, three countries were included: Brazil, Chile and Israel.

2.3. Data collection

Data were collected between 2014–2017 in three phases: **Phase I** - bibliographical and documentary research, by consulting the electronic pages of the programs of the selected countries; **Phase II** - visit to the headquarters of the national program to access supplementary information. In this phase, we used a structured roadmap to guide the data collection. We performed non-structured interviews with national team members and observations during meetings or other ordinary activities of the program. In addition, we carried out visits to healthcare facilities and meetings with other professionals in these settings. **Phase III** - development of the theoretical explanatory model.

2.4. Data analysis

Data were analyzed from the perspective of the triangle of analysis of public health policies [5] in combination with two other methods [9]: 1) *descriptive-comparative*: the context, process and contents of the programs were described and then paired; after this, 2) *descriptive-analytical:* data were categorized and discussed grounded by theories of public policies [4]. Briefly, by reading several times the results gathered through the roadmap, similarities and dissimilarities among three cases were extracted. Subsequently, the authors discussed and deeply analyzed these characteristics to identify elements which could be the base for developing the theoretical explanatory model.

2.5. Ethics

The present study was formally approved by the Ethics Research Committee (CRP) at the School of Nursing, University of São Paulo, under approval protocol number 1.400.148, on February 01, 2016.

3. Results

3.1. Case study 1 – Brazil

3.1.1. Context

Brazil is a Federative Republic with 26 states, one Federal District, and around 5570 municipalities, all with relative autonomy [10]. Several parties perform the political representation into the system. Its political-administrative organization is composed of the Union, States and Municipalities. Brazil has a continental territorial dimension, subdivided into five regions. It is the largest country in Latin America and the fifth largest in the world [10]. The Brazilian population is approximately 190 million inhabitants [11].

Its economy is among the ten largest in the world [12]. Brazil is a member of important political-economic organizations such as the United Nations (UN), Group of 20 (G-20), Southern Common Market (Mercosur) [13]. However, it is characterized by a wide regional and social inequality mainly due to poor income distribution and access to education and health. [11,14].

The current model of healthcare system was established by the 1988 Constitution, which defined the social welfare as a right for all and a duty of the State. During this period, the Unified Healthcare System (SUS) was settled, based on principles of universality, equity, integrality, decentralization, and community participation. The system splits into public and private subsectors, and the population is free to transit between them, predominantly according to their financial conditions [11]. Data of 2017 from the National Register of Health Establishments presented more than 6 thousand hospitals, with approximately 495 thousand beds. There is a high concentration of services in the southeast region [15].

The first documented committee for the prevention and control of HAIs in a Brazilian hospital was created in the 1960s [16]. In the late 1980s, many other committees were created, highlighting the professionals' awareness of the problem. This movement guided the formation of a critical mass in the country, and a first governmental initiative with the promulgation of a law requiring these committees as being mandatory in Brazilian hospitals. During the same period, with the funding of the Pan American Health Organization (PAHO), a training program was developed aiming to disseminate knowledge about HAIs [16,17].

In 1985, the first democratically elected president after the end of the military dictatorship died, supposedly due to HAI. As a result, a countrywide process of sanitary audits in hospitals was evolved to scrutiny compliance with the legislation [7,16].

The national program was instituted in 1988, marking the inclusion of this health problem into the government's agenda. The first actions of the program refer to training centers and educational activities supported by the Ministry of Health. The results were poorly documented [7,16].

3.1.2. Process

The *formation phase* of the program was characterized by decisions at the sphere of the Ministry of Health until the end of the 1990s, when the Brazilian Health Regulatory Agency (ANVISA) took over the responsibilities. There are no reports of widespread involvement of civil society in this development process (Fig. 1) [7,16,17].

The *consolidation phase* of the national program covered more than two decades, in which the actions were scarcely documented. Attempts to operate the program began to take shape with the management by ANVISA [7,16]. In 2011, a committee of experts including professionals outside ANVISA was established to support the national program (National Committee for HAI Prevention and Control). The national plan has been driven to strengthen the alignment between the federal level and the states [18].

The first project for an HAI surveillance system was instituted in 2005 but was unsuccessful. In the following decade, a new surveillance system was implemented with standardized criteria to define HAIs (*standardization phase*). Furthermore, a situational diagnosis supported the definition of goals and strategic actions. Initially, this system targeted on hospitals with ICU beds, in order to monitor the primary bloodstream infections. The first results were analyzed, supporting the reformulation of the program's goals [7,16] (*monitoring and evaluation phase*). Currently, surveillance is targeted at all hospitals, and the scope of surveillance has also been extended to pneumonia associated with mechanical ventilation, urinary tract infections and surgical site infections (Chart 1) [19].

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