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Evaluation of the decentralization of the sanitary surveillance practices of the municipality of Olinda, Pernambuco

Avaliação da descentralização das práticas de Vigilância Sanitária do município de Olinda, Pernambuco

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ABSTRACT

Introduction: The Sanitary Surveillance Actions (Visa) informs the population about risks to health. Health system evaluations are important to amplify the Visa actions and inform policy makers. **Objective:** Evaluate the level of implementation of decentralized practices in the Visa at the municipality of Olinda, Pernambuco. **Methods:** Normative evaluation of two components, structure and process, adopting a logical model and image-objective approaches. A self-applied questionnaire was adopted to collect information from a stratified and representative random sample including professionals form different sectors. The decentralization was ranked according to scores: incipient (0.0%-33.33%), partial (33.4%-66.6%) and implemented (66.7%-100.0%). **Results:** 62.3% of professionals classified the level of decentralization as partial (62.3%). The structure ranked 55.0% and the process ranked 84.2%. Managers, agents and inspectors gave different scores for the evaluation components. **Conclusions:** The decentralization of the Visa was classified as partially implemented, health system evaluations have the potential to strengthen the public health system in Olinda.

KEYWORDS: Health Evaluation; Decentralization; Sanitary Surveillance

RESUMO

Introdução: As ações de vigilância sanitária (Visa) devem estar pautadas para manter a sociedade informada sobre os riscos à saúde e as avaliações periódicas são importantes para ampliar o poder de operação e decisão local da gestão. Objetivo: Avaliar o grau de implantação (GI) da descentralização das práticas de Visa no município de Olinda, Pernambuco. Método: Foi realizada uma avaliação normativa dos componentes estrutura e processo a partir de um modelo lógico que corresponde à imagem-objetivo da descentralização das práticas de Visa. Adotou-se um questionário estruturado e autoaplicável para uma amostra aleatória, estratificada e representativa dos profissionais por divisões e setores. A descentralização das práticas de Visa foi classificada segundo sistema de escores: GI incipiente (até 33,3%), parcial (33,4% a 66,6%) e implantado (66,7% a 100,0%). Resultados: O GI da descentralização das práticas de Visa em Olinda foi avaliado como parcial por 62,3% dos profissionais, sendo 55,0% para a estrutura e 84,2% para o processo. Observaram-se diferenças quanto à avaliação do GI entre gerentes e inspetores/agentes sanitários, bem como diferenças quanto à pontuação dos subcomponentes e respectivo GI. Conclusões: A descentralização das ações de Visa está parcialmente implantada e o planejamento e avaliação são fundamentais para fortalecer o processo do Sistema Único de Saúde de Olinda.

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INTRODUCTION

Health surveillance practices in Brazil date back to the 16th century. The role of health surveillance includes regulating the production, circulation and marketing of goods, technologies and services of interest to health, in order to eliminate, reduce or prevent health risks for consumers and producers^{1,2}.

The National Health Surveillance System (SNVS), according to Law n. 9.782, of January 26, 1999, is formed at the federal level by the National Health Surveillance Agency (Anvisa) and the National Institute for Quality Control in Health of the Oswaldo Foundation Cruz (INCQS/Fiocruz). In Brazilian states, health surveillance is under the Departments of Health and their Central Laboratories (LACEN) and, in the municipalities, it is under local health surveillance bodies³.

Decentralization is understood as an important guideline to strengthen the Unified Health System (SUS). It was gradually implemented at municipal health surveillance bodies through the transfer of resources and the assignment of responsibilities for the conduction of initiatives through agreements between the various levels of government^{4,5}.

The creation of the SNVS provided funds for states and municipalities to structure and strengthen the decentralization of health surveillance work. However, the funding was implemented by SUS Basic Operating Standard n. 01, of November 6, 1996, without prior and effective structuring of health surveillance initiatives⁵. The magnitude of the funds⁶ and Anvisa's centralizing stance were mentioned as barriers to the decentralization of health surveillance initiatives⁷.

Other challenges or weaknesses have been identified in the decentralization of health surveillance initiatives, like the complexity and specificity of its object; the lack of regulation of competences, attributions and monitoring of states and municipalities; the scarcity of indicators that express the effectiveness of health surveillance initiatives; bringing its rigid organization closer to the municipal model, more compatible with public market policies; the lack of proposals for more articulated work with epidemiological surveillance and the SUS; poor articulation between health surveillance initiatives and between these and those of assistance; the late and irregular process of decentralization of health surveillance initiatives when compared to epidemiological surveillance and healthcare with standardized competencies in each sphere; and the insufficient ability to evaluate the decentralization process^{4,8,9,10,11}.

The experience with evaluation in the West is very recent when compared to the East¹² and, in the health sector, it was initially applied to the treatment of infectious diseases and information systems in developed countries¹³. The evaluation was intended to measure, describe and judge, focused on management and with limited participation of the society¹⁴.

In Brazil, health evaluation was instituted as an object of investigation in the late 1980s, with studies of policies for the unification and decentralization of the health system, such as Integrated Health Actions (AIS) and Unified and Decentralized Systems (SUDS), linked to the Brazilian health reform movement¹⁵.

In the following decades, some areas were created in the Ministry of Health to formulate and conduct the evaluation processes of primary care¹⁶, but the institutionalization of health evaluation is still a challenge¹⁷. It is understood that evaluation is a strategy for strengthening organizational learning so as the improve the SUS¹⁸.

Studies to analyze the situation and context of decentralization, as well as health evaluation, have been produced for health surveillance^{19,20,21,22}.

Anvisa has prepared a theoretical-methodological framework to assess the effectiveness of its work, recognizing the scarcity and incipience of evaluation processes and projects at all levels of government. The document pointed out the fragility of the data sources that are essential for monitoring and evaluation, identified some SNVS initiatives for the monitoring of performance indicators and suggested the creation of collaborative networks of technical cooperation, training, cross-sector articulation and promotion of knowledge management, studies and research in health surveillance¹⁸.

The framework adopted a logical model with the following components and subcomponents of health surveillance: management (planning, competence building and knowledge management), regulation (legislation and regulatory framework, health licensing, regularization of products and services, market regulation, and regulation of health risk control, health risk monitoring (products, services, antimicrobial resistance, patient safety, health surveillance emergencies), information, communication and health education (relationship with society and cross-sector partnerships)¹⁸.

The municipalization of health represents an achievement and at the same time a challenge. It is the main tool to achieve decentralization²³. In order to build a health surveillance system that complies with the principles of the SUS, reduce the scarcity of studies in the evaluation area^{18,24}, as well as the amateurism or the lack of consensus on the criteria and parameters that compromise the comparison of decentralization experiences, we must encourage periodic and routinely evaluations of health surveillance²⁵.

The objective of the present study was to evaluate the level of implementation (LI) of the decentralization of health surveillance work in the municipality of Olinda, state of Pernambuco, Brazil.

METHOD

The selection of publications for this paper was done in the following databases: Latin American and Caribbean Literature

on Health Sciences (Lilacs) and Scientific Electronic Library Online (SciELO). The choice for these databases was due to the fact that they include Brazilian production with indexing in renowned journals in the health area. The following terms were used as descriptors "avaliação em saúde; descentralização; vigilância sanitária." (evaluation in health; decentralization; health surveillance). We chose to focus mainly on the content of the practices that form these three areas because of the importance of public health and the particularities of health surveillance.

The study was done in the municipality of Olinda, located in the Metropolitan Area of Recife, state of Pernambuco, Brazil. Olinda has a population of 377,779 inhabitants²⁶ spread over 41.68 km². The Health Surveillance Department (DEVS) is part of the Health Surveillance Steering Body (DVS). The DEVS consists of the following divisions and sectors: Food Control (DICAL); Sanitation and Environment Control (DICSAM); Medicines and Related Products Control (DICMECO); Health Services Control (DICOSS); Occupational Health (SST), Legal, Engineering/Architecture and Protocol.

To carry out this study we used normative evaluation, which involves the assessment of an intervention by comparing the resources employed and their organization (structure), the services or the goods produced (process)²⁷.

This research was cross-sectional, with a quantitative approach, whose trajectory was:

1. Application of a previously designed logical model (Figure), which corresponded to the "objective image" of health surveillance decentralization in the municipality, to function as a reference for the evaluation of the LI of health surveillance components with regard to the practices^{25,28}.

2. Application of the LI analysis matrix, built based on the logical model, to evaluate the structure and the process.

The study population was a stratified random sample of the divisions and sectors of the DEVS, composed of six managers, five inspectors and nine agents, which represented 40.0% of the participants, statutory or hired by the municipality of Olinda, with at least five years at health surveillance (nurses, pharmacists, architect, veterinarians, and nursing, pharmacy and sanitation technicians). Law n. 13.077, of July 20, 2006, provided for the Technical Unit of Pernambuco Health Surveillance Agency (Apevisa) and other arrangements. It defined health inspectors as professionals with higher education in the health area or in another area, with specialization in the area of public health, and health agents as mid-level technical professionals in nursing, labor safety, refrigeration, chemistry, laboratory, pharmacy, sanitation and the environment²⁹.

We used a structured, self-administered questionnaire with the structure and process components in the dimension of health surveillance work. Data collection was done in those professionals' workplace, in a private room, to avoid interference from third parties.

The data analysis followed the logical model, which corresponds to an "objective-image"²⁵ that describes each LI and classifies them as incipient, partial and implemented.



Figure. Logical model²⁵ for the evaluation of municipal health surveillance work.



The LI of health decentralization is a synthetic indicator that was determined based on weighting the structure and process dimensions. This system assigns a specific score for each aspect of the health surveillance work structure and process, with the objective of reaching a maximum final score. Next, we present the calculation used to estimate health surveillance scores:

- a. Structure: score = sum of the scores of the structure indicators
- b. Process: score = sum of the scores of the process indicators
- c. Final score = LI of work decentralization = (Σ Structure + Σ Process X 100)/(Total score of the questionnaire X Number of participants)

For the construction of the scoring system, a score was determined for each indicator, according to its importance, through discussion and consensus among the project proponents and based on their experience in the area of health surveillance. Based on these maximum scores, the LI was calculated through cross multiplication. The results were implemented (66.7% to 100.0%); partial (33.4% to 66.6%) and incipient (up to 33.3%) of the implemented health surveillance work.

Study limitations: during the application of the questionnaire composed of 19 questions, a question that was not relevant was identified in the instrument. It was related to the control of water quality for human consumption. This is the responsibility of Companhia Pernambucana de Saneamento (Compesa) with the assistance of the Environmental Monitoring Center of Olinda (CEVAO). Therefore, the question score was canceled and the instrument then had 18 valid questions.

Additionally, during the completion of the questionnaire by the participants, some reported difficulties in questions like the use of a thermometer and container for collecting samples and personal protective equipment. The justifications for not filling out a field and/or questions ranged from the lack of an alternative that addressed the issue to the lack of knowledge about

the responsibilities of other divisions and departments. In these cases, the score for these questions was zeroed only for the participants who made these remarks.

At the time of data collection, two managers were temporarily replaced, since they were participating in a specialization course. Therefore, the instrument was applied to two deputy managers, who had previously experienced the management role through the DVS. With that, the fact did not impair the evaluation process of the study.

Finally, there was no analysis of the context of the municipal management and/or the Health Surveillance Steering Body and/ or the Health Surveillance Department, which could have added elements for the analysis of the results.

This study offered minimal risk to the participants, as it ensured their privacy and anonymity through the Informed Consent Form (ICF). It was also approved by the Research Ethics Committee of the University of Pernambuco, under number: CAAE 06836918.5.0000.5207.

RESULTS

Evaluation of the structure component

Of the 20 participating DEVS, nine (45.0%) considered that their structure had an LI between 66.7% and 100.0% (implemented). Among managers, 66.6% classified their structure as implemented. The inspectors and agents of health surveillance divisions and departments were divided into the three LI: implemented (35.7%, mainly at the expense of professionals in the Health Services Control Division); partial (35.7%, because of professionals in the Medicines and Related Products Control Division) and incipient (28.6%, based on the evaluation of inspectors and agents from the Food Control division and the Occupational Health department) (Table 1).

Regarding the analysis of the structure's subcomponents, the use of standardized operational protocols for the work and the use

 Table 1. Classification of the level of implementation of decentralization of the practices of the structure component, according to the role in the

 Health Surveillance body. Olinda - PE, 2019.

	Classification of the level of implementation				
Role in Health Surveillance	Implemented N (%)	Partial N (%)	Incipient N (%)		
Management	4 (66.6)	1 (16.7)	1 (16.7)		
Inspection (Division and Department)	5 (35.7)	5 (35.7)	4 (28.6)		
Food Control	0 (0.0)	2 (50.0)	2 (50.0)		
Health Services Control	2 (66.7)	0 (0.0)	1 (33.3)		
Sanitation and Environment Control	1 (50.0)	1 (50.0)	0 (0.0)		
Medicines and Related Products Control	1 (33.3)	2 (66.7)	0 (0.0)		
Occupational Health	1 (50.0)	0 (0.0)	1 (50.0)		
TOTAL	9 (45.0)	6 (30.0)	5 (25.0)		

Source: Olinda Health Surveillance Department.



of personal protective equipment were the items with the lowest scores and consensus regarding the LI. The LI of structure was partial (55.0%) (Table 2).

Evaluation of the process component

As for the process, 12 participants (60.0%) classified it as implemented, followed by partial and incipient with equal frequency, four (20.0%). All managers evaluated it as implemented. Most employees/contractors evaluated the process as implemented (6; 42.8%). As for divisions and departments, 50.0% and more of the professionals in the Health Services Control Division, Sanitation and Environment Control Division and the Occupational Health Department classified it as implemented; 50.0% and more of the professionals of the Food Control Division, Sanitation and Environment Control Division, Medicines and Related Products Control Division and Occupational Health Department rated the LI as partial (Table 3).

In the analysis of the subcomponents of the process, we found that the items of informative activities for health professionals and educational activities were those that obtained the lowest scores, with the latter item reaching 70.0% of incipient LI. Among the essential roles of health surveillance, health control

actions for cosmetics obtained the least consensus as to the LI. The LI classification was full (84.2%) (Table 4).

Thus, the evaluation of the LI of health surveillance decentralization in Olinda, according to the structure and process components, was 62.3%, classified as partial.

DISCUSSION

Health surveillance is a recent topic of research and education in Brazil and, with regard to its policies and organizational culture, there is a lack of scientific studies that address health surveillance as their object of interest^{24,30}.

Although it is an extremely important component, health surveillance is somewhat distant from the National Health Policy and loosely linked to the SUS itself. This is evidenced by the scarcity of indicators to express the effectiveness of its work, reinforcing the notion of health surveillance as a practice that is focused on control only³¹.

Despite some progress, many challenges still need to be overcome, mainly because of health surveillance's strong connection

Table 2. Score and classification of the level of implementation (%) of the decentralization of the practices of Health Surveillance regarding its structure and its subcomponents. Olinda - PE, 2019.

Structure and its subcomponents	Maximum score Ac	Achieved score	Classification of the level of implementation			
		Achieved score	Implemented	Partial	Incipient	
Existence of supplies and work tools for routine performance						
1. Use of standardized inspection scripts	20.0	12.0	50.0	20.0	30.0	
2. Use of standardized operational protocols for work	20.0	10.5	40.0	25.0	35.0	
3. Use of personal protective equipment	20.0	8.0	5.0	60.0	35.0	
 Use of equipment like thermometers and sample collection containers 	20.0	13.5	55.0	25.0	20.0	
TOTAL	80.0	44.0	Partial level of implementation (55.0%)			

Source: Olinda Health Surveillance Department.

Table 3. Classification of the level of implementation of decentralization of the practices of the process component, according to the role in the Health Surveillance body. Olinda - PE, 2019.

	Classification of the level of implementation					
Role in Health Surveillance	Implemented N (%)	Partial N (%)	Incipient N (%)			
Management	6 (100.0)	0 (0.0)	0 (0.0)			
Inspection (Division and Department)	6 (42.8)	4 (28.6)	4 (28.6)			
Food Control	0 (0.0)	2 (50.0)	2 (50.0)			
Health Services Control	2 (66.6)	0 (0.0)	1 (33.3)			
Sanitation and Environment Control	1 (50.0)	1 (50.0)	0 (0.0)			
Medicines and Related Products Control	1 (33.3)	2 (66.7)	0 (0.0)			
Occupational Health	1 (50.0)	1 (50.0)	0 (0.0)			
TOTAL	12 (60.0)	4 (20.0)	4 (20.0)			

Source: Olinda Health Surveillance Department.



Table 4. Evaluation of the level of implementation (%) of the decentralization of Health Surveillance practices regarding the process and its subcomponents. Olinda - PE, 2019.

Process and its subcomponents	M	Achieved score	Classification of the level of implementation			
Essential roles of health surveillance	Maximum score		Implemented	Partial	Incipient	
1. Food surveillance and sanitary control	20.0	15.5	70.0	15.0	15.0	
2. Health control of medicines	20.0	13.5	55.0	35.0	10.0	
3. Health control initiatives for cosmetics	20.0	13.5	45.0	35.0	20.0	
4. Health control initiatives for cleaning products	20.0	13.5	55.0	35.0	10.0	
5. Health control initiatives for medical products	20.0	14.5	55.0	35.0	10.0	
6. Health surveillance initiatives in healthcare services	20.0	15.5	75.0	5.0	20.0	
7. Health surveillance initiatives in diagnostic support services	20.0	14.5	65.0	15.0	20.0	
8. Surveillance in establishments of interest to health	20.0	14.5	70.0	5.0	25.0	
9. Surveillance in work environments to protect workers' health	20.0	15.5	60.0	35.0	5.0	
10. Forwarding complaints that reach health surveillance to the responsible/ competent bodies	10.0	8.7	85.0	5.0	10.0	
11. Customer service with qualified health surveillance professionals	10.0	8.7	70.0	5.0	25.0	
Information, education and communication activities						
 Information-sharing activities for healthcare professionals 	20.0	12.0	50.0	25.0	25.0	
2. Educational activities	20.0	5.5	25.0	5.0	70.0	
3. Risk communication activities for the population	20.0	15.0	25.0	55.0	20.0	
TOTAL	260.0	180.5	Level of full implementation (84.2%)			

Source: Olinda Health Surveillance Department.

with a disease-oriented model of medical care and its dissociation from other health policies. There are many gaps on the topic that, as we have seen, need constant evaluation of their theoretical and practical foundations³⁰.

Therefore, we must place new emphasis on health surveillance's important role in structuring and strengthening the SUS, not only through normative and supervisory work, but also because it is an important instrument for strengthening citizenship, promoting health and improving communication³².

The logical model proposed by the Institutional Development Support Program of the Unified Health System (Proadi-SUS) contains several indicators that evaluate the effectiveness and efficiency of the national sphere, but these are not applicable to local realities¹⁸.

Few studies have been found in the literature on health surveillance decentralization and no studies addressing the normative evaluation (structure and process) of health surveillance work were found.

Among the reviewed studies, Brito²⁴ stands out for its description and analysis of the current landscape of health surveillance decentralization policies in Brazil. The study highlighted the need to prioritize the work of health surveillance on the health sector agenda.

The decentralization of health surveillance from the states to the municipalities was analyzed by Michaloski²², in São Paulo, and by Fehn²⁰, in Espírito Santo. In the first study, the description of the municipalization of health surveillance initiatives was done according to the managers' perception. It reinforced the need for integrality as a principle of the SUS, as well as the political strengthening and management of health surveillance initiatives. Fehn argued that population size cannot be used to explain any shortcomings nor be used as an attribute for the classification and approximation to municipal capabilities²⁰. At the municipal level, the decentralization of health surveillance initiatives in Salvador was analyzed by Leal²¹, who emphasized the importance of human resources and suggested prioritizing the structuring of health surveillance initiatives and services in the municipality.

In the present study, the subcomponents of standardized inspection scripts and use of equipment, such as a thermometer and material collection container, obtained the highest score and the best LI classification. However, the score achieved for the use of personal protective equipment (PPE) was considered worrying,



since only one participant reported its use, even though these professionals are daily exposed to various risks (hospital-acquired infections, contamination with sewage, vectors and disease transmitters, among others). This suggests that PPE may have often been considered expendable in the work process^{33,34,35}.

Regarding the process component, the highest scores achieved may indicate relevant advances for the SUS and health surveillance, such as: food surveillance and control; health surveillance initiatives in healthcare facilities; surveillance in work environments with a view to protecting workers' health; submission of complaints made to health surveillance to the appropriate departments; customer service with qualified health surveillance professionals.

The high score of the items above may indicate the adoption of good manufacturing practices, identification of adequate physical structure and regularized documentation of the establishments, in accordance with the current legislation^{34,35}.

The performance of educational activities obtained the lowest score, as well as the highest incipient LI. This result can be understood as a significant problem in the sharing of information that could strengthen individual and collective capabilities, and, thus, contribute to improving the health conditions and the level of health education of both producers and consumers. Bringing health surveillance closer to the society with communication initiatives in defense of health is of the utmost important^{33,34,35}.

CONCLUSIONS

The present study classified the LI of decentralization in Olinda's health surveillance as partial (62.3%). It also identified some questions that deserve attention, since Olinda's health surveillance, as well as in other municipalities, needs to be planned systematically in order to overcome the challenges to the SUS consolidation.

Health evaluation has much potential to strengthen management with several methodological frameworks.

Practices focused on bureaucratic and authoritarian conceptions and some resistance from health surveillance professionals need to be overcome in favor of a proposal to protect and defend health. Health evaluation can be a strong ally in this pursuit.

We recommend holding workshops and seminars in the municipality to prepare an agenda of commitments between managers and civil servants to tackle the constraints found in the study. New projects need to be conducted with continuous communication with the society.

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Authors' Contribution

Silva JMR, Siqueira MT - Conception, planning (study design), acquisition, analysis, interpretation of data and writing of the paper. Cazumbá JC - Conception and planning (study design). Almeida KS - Conception, planning (study design), acquisition, analysis, interpretation of data and writing of the paper. Siqueira Filha NT - Review of the paper. All authors approved the final draft of the paper.

Conflict of interest

Authors have no potential conflict of interest to declare, related to this study's political or financial peers and institutions.



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