Evaluation of the Influenza-like Syndrome Surveillance: case studies in sentinel unit

Avaliação da Vigilância da Síndrome Gripal: estudo de casos em unidade sentinela

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ABSTRACT The article describes the implementation of the Influenza-like Syndrome Surveillance in Pernambuco through an evaluative research that incorporated the degree of implementation, the political and organizational context analysis and its influence on the implementation degree. A logic model and a matrix of indicators were developed, and a context analysis was employed based on Matus Government Triangle: government project, government capacity, and governability. It was identified that the strategy is implemented in one of the six units assessed, that the degree is influenced in different ways by the context and that more favorable policies and organizational characteristics can contribute to the achievement of more advanced degrees.

KEYWORDS Health evaluation. Sentinel surveillance. Influenza, human. Epidemiological surveillance.

RESUMO *O artigo descreve a avaliação de implantação da Vigilância da Síndrome Gripal em Pernambuco por meio de pesquisa avaliativa que compreendeu a determinação do grau de implantação, a análise de contexto político-organizacional e da influência deste sobre o grau. Foram elaborados um modelo lógico e uma matriz de indicadores, e a análise do contexto baseou-se no Triângulo de Governo, de Matus, no projeto de governo, na capacidade de governo e na governabilidade. Identificou-se que a estratégia está implantada em uma das seis unidades avaliadas, que o grau é influenciado de forma variada pelo contexto e que características políticas e organizacionais mais favoráveis podem contribuir para o alcance de graus mais avançados.*

PALAVRAS-CHAVE *Avaliação em saúde. Vigilância de evento sentinela. Influenza humana. Vigilância epidemiológica.*

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Introduction

Flu is an acute infection of the respiratory system caused by the *influenza* virus, which is associated with high transmission capacity and the presence of complications that can lead to hospitalization and death (SAKAY, 2010). Its rapid dissemination among countries, caused by the development of the international trade and the reduction of the geographical barriers, may be responsible for the appearance of pandemics, with repercussions in the global economy and health policies, a cautionary reason for sanitary authorities and object of national and international surveillance (GRECO; TUPINAMBÁS; FONSECA, 2009).

In Brazil, the Epidemiological Surveillance of the *Influenza* was initiated in 2000, with the surveillance of cases of influenza-like syndrome in sentinel health units (BARROS *ET AL.*, 2004). Since then, new strategies have been adopted as a consequence of the *influenza* virus A (H1N1) pandemic and to improve surveillance. There was implantation of the Severe Acute Respiratory Syndrome Surveillance (Sars) in all hospitalized patients and in deaths; expansion of the sentinel surveillance with definition of new sentinel units for cases of influenza-like syndrome; and implementation of sentinel Intensive Care Units (ICU) for the cases of Sars (REIS *ET AL.*, 2011)

The objectives of the Epidemiological Surveillance of *Influenza* are: identification of respiratory viruses for suitability of the seasonal *influenza* vaccine and characterization of the pathogenicity and virulence, aiming at therapeutic orientation in each seasonal period; the isolation of viral specimens and their sending to the Collaborating Center for *Influenza* of the World Health Organization (WHO); the guarantee of the minimum representativeness of viral circulation in all the states of the Country; and the early identification of a new viral subtype (BRAZIL, 2013).

The information produced by this surveillance in Brazil, in 2013, showed that, of the total cases (36.134) and deaths (4.328) reported as Sars, 16,4% (5.935) and 22,1% (955) were confirmed for *influenza*, respectively. Of the confirmed cases and deaths, 62,9% (3.733) and 80,3% (768), respectively, were caused by type A(H1N1)pdm09, with the south and southeast regions having the highest number of registrations (BRAZIL, 2013).

In Pernambuco, in 2013, 1.098 cases of SARS and 35 deaths were reported, being, respectively, 2,7% (30) and 8,6% (3) positive for the *influenza* virus. With regard to the influenza-like syndrome, 21.515 attendances were recorded through sentinel surveillance and 364 samples were collected, corresponding to 35,8% of the total advocated. Of these, 15,1% were positive for *influenza* and other respiratory viruses.

The surveillance of influenza-like syndrome cases in sentinel units is a strategic activity for the Epidemiological Surveillance of the *Influenza*, because it helps in understanding the epidemiological situation and in the prevention and control of the rapid spread of the *influenza*, preventing or reducing the negative impact on the conditions of the health of the population. However, problems are identified for the good performance of this surveillance, whether these arise from structural difficulties of the health system or from the lack of integration between the surveillance actions and the care actions in the services (BEZERRA *ET AL.*, 2009).

The implementation of this surveillance in Brazil and in the states requires a broad institutional effort of the Unified Health System (SUS) in order to achieve its objectives. Therefore, evaluative processes can help to plan this intervention at the time of its implementation, as well as provide information that can improve it, contributing to the health of the population (DENIZ; CHAMPAGNE, 1997). The evaluation of surveillance systems has allowed only important problems to be monitored in an efficient and effective way

and that deficiencies detected can be the object of recommendations for their improvement (SILVA JUNIOR, 2004).

Studies using the guidelines proposed by the CDC (Centers for Disease Control and Prevention) for evaluation of the systems of sentinel surveillance of the *influenza* have been carried out. These researches involved the evaluation of attributes such as acceptability, positive predictive value (AGUILERA; PAGET; VAN DER VELDEN, 2002), sensitivity, specificity, representativeness and opportunity (SKEWES-RAMM, 2009). Other researches have evaluated the viability and long-term sustainability (KEBEDE *ET AL.*, 2013). Studies that evaluated the implementation of this intervention, observing if the degree of operationalization of the actions is sensitive to the contextual variations of the sentinel health units and in the municipalities, were not found.

This study aimed to evaluate the implementation of the Influenza-like Syndrome Surveillance in the state of Pernambuco in 2014, observing the relationship between the political-organizational context of the sentinel health units, the municipalities and the state and its degree of implantation (DI).

Methods

An evaluative research of the type analysis of implantation was performed, observing the variation of the political-organizational context and its relation with the DI of the health units that perform the Influenza-like Syndrome Surveillance. The strategy adopted was the study of multiple cases with imbricated levels of analysis: state, municipal and health units.

The six health units that make up the Influenza-like Syndrome Surveillance in Pernambuco were studied, of which, three are located in the capital Recife: Unit Recife 1 and Unit Recife 2, both of which began operations in 2005, and the Unit Recife 3, in 2013. In this same year, three health units located in the municipalities of Olinda, Jaboatão dos Guararapes and Paulista, municipalities in the Metropolitan Region of Recife, were initiated. Each health unit was considered a 'case'.

In order to explain how the Influenza-like Syndrome Surveillance is organized in the state, a Theoretical-Logical Model was elaborated, composed of two main components: 'management' and 'development of actions', divided into subcomponents, with their respective activities and intermediate and final results. The model explains how this intervention should be implemented in the municipalities and in their respective health units and what the expected results are *(figure 1)*.

In order to determine the DI of the Influenza-like Syndrome Surveillance was constructed a matrix of analysis and judgment, to establish if the components management and development of the actions are in compliance with the legislation and the existing practices. For this purpose, a maximum score was established for each component and subcomponent, and it was distributed to the respective indicators according to the importance that it presented for the Surveillance of the Influenza-like Syndrome. The matrix was validated by the State Coordination of the Influenza-like Epidemiological Surveillance *(chart 1)*.

For the data collection, a semi-structured questionnaire was elaborated, using the indicators described in the Matrix of Analysis and Judgment. The interviews were conducted from january to march 2015 and were answered by the technical responsables and the coordinator of the Influenza-like Syndrome Surveillance in the health units and in the municipalities. The secondary data were collected in the *Influenza* Epidemiological Surveillance Information System, with reference to the year 2014.

The DI was obtained from the structure and process indicators of each component and

subcomponente, and, for its calculation, the ratio between the score achieved and the score assigned to each indicator was used, classified as: implanted: ≥ 80%; partially implanted: ≥ 50 and <80%; and not implanted: <50%.

The analysis of the political-organizational context was based on the Political and Contingent model, which considers the organization a "political arena within which actors pursue different strategies" (DENIS; CHAMPAGNE, 1997, P. 67). This model privileges the political perspective, however, is influenced by the structural characteristics of the organization, which are also considered by the actors in the search for their respective strategies.

For the operationalization of the Political and Contingent model was used the categories of analysis of the Government Triangle of Matus (MATUS, 1997), which involves government project, government capacity and governability. The government project corresponds to the set of actions proposed by local managers in order to achieve the objectives of the intervention. The government capacity is related to the leadership capacity, coupled with the experience and technical expertise of the leader and his governing team. Governability expresses the power of an actor to accomplish his project.

For the collection of data, a questionnaire was applied with open questions, elaborated based on the indicators listed for the context analysis, whose respondents were the manager and the technical responsible for the Influenza-like Syndrome Surveillance in the health unit, the director of the health surveillance and the coordinator of the municipal and state Influenza-like Syndrome Surveillance. All questionnaires were applied by external researchers, previously trained, so that the responses of the respondents were not influenced by them beyond acceptable. They were also recorded in audio and transcribed later.

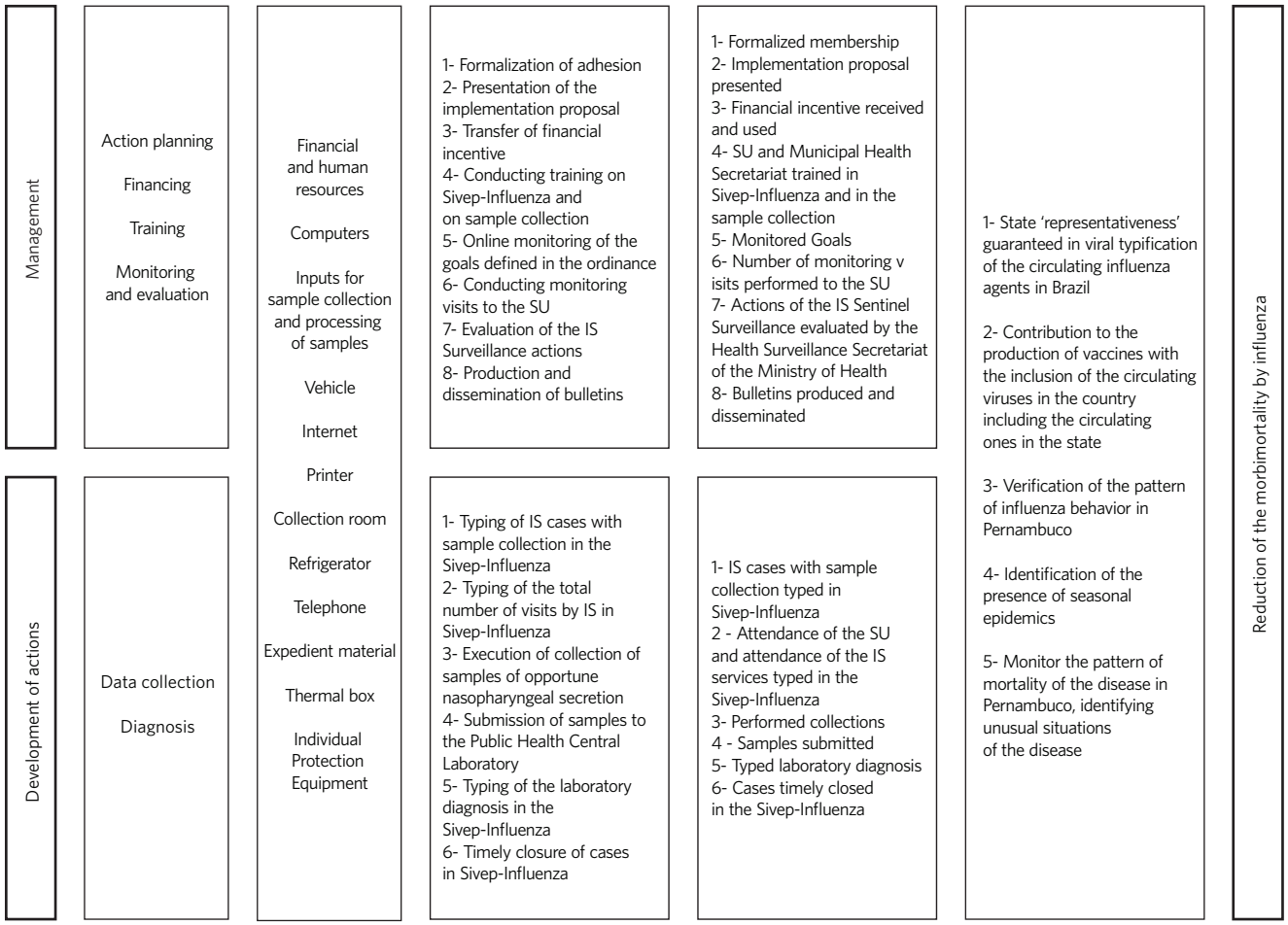
For the judgment of the political-organizational context, each indicator, at each level of analysis, was interpreted as to the influence of the context, and a classification was established: favorable, little favorable or unfavorable. Next, a summary of the category was obtained by 'case'.

The political context was confronted with the DI in order to analyze whether there is coherence between the political and organizational characteristics and the degree of operationalization of the surveillance in each of the sentinel health units considered as a case. For this purpose, a framework was constructed that allowed to relate each component with the categories of the context and its aspects.

The information collected in the interviews were inserted in the Excel program, for descriptive analysis of the data.

The project was approved by the Ethics Committee on Human Research of the Institute of Integral Medicine Prof. Fernando Figueira, according to the resolution 466/2012 and opinion nº 4492 – 14.

Figure 1. Theoretical-logical model of the Influenza-like Syndrome Surveillance in sentinel units. Pernambuco, 2015



Abbreviations: IS –Influenza-like Syndrome;
SU – Sentinel Unity;
Sivep-Influenza - Influenza Epidemiological Surveillance System.

Chart 1. Matrix of analysis and judgment of the degree of implantation of the Influenza-like Syndrome Surveillance. Pernambuco, 2015

Component	Sub component	Responsable	Indicator	Expected score	Description of value or cut-off point
Management (160 pt)	Planning (20 pt)	Municipal	Municipality with VIS Adherence Term submitted to BIC	10	Yes = 10pt; No = 0 pt
			Municipality with proposal to implement VIS in SU	10	Yes = 10pt; No = 0 pt
	Financing (60 pt)	Municipal	Presence of expedient material	2	Yes = 2pt; No = 0 pt
			Presence of computer with internet and printer	8	Yes = 8pt; No = 0 pt
			Presence of collection room with adequate physical space	6	Yes = 6 pt; No = 0 pt
			Presence of exclusive refrigerator for packaging of the viral transport medium	7	Yes = 7 pt; No = 0 pt
			Presence of sufficient IPE (5 collections/week)	6	Yes = 6 pt; No = 0 pt
			Presence of supplies to collect samples of sufficient oro and nasopharyngeal secretion (5 collections/week)	9	Yes = 9 pt; No = 0 pt
			Presence of thermal box for the transport of sample	6	Yes = 6 pt; No = 0 pt
			Presence of vehicle for the transport of samples	6	Yes = 6 pt; No = 0 pt
			Municipality with financial resources to implement VIS	10	(100% = 10 pt); (≥70% e <100% = 7pt); (≥ 50% e < 70% = 4pt); (< 50% = 2 pt)
	Training (40 pt)	State	Training conducted in the SU on Sivep-Influenza	10	Yes = 10 pt; No = 0 pt
			Training conducted in the SU on clinical specimen collection	10	Yes = 10 pt; No = 0 pt
		SU	Time of the technician involvement with VIS	20	≥ 1 year = 20 pt; <1 year = 10pt
	Monitoring (40 pt)	SU	SU with monitoring of the goals of the VIS periodically performed	10	Weekly = 10pt; Monthly = 6pt; Six-monthly = 2pt; Anual = 1pt; Does not monitor = 0 pt
		Municipal	MHD with monitoring of the goals of the VIS periodically performed	10	Monthly = 10pt; Six-monthly = 5pt; Annual = 2 pt Does not monitor = 0 pt
		State	Monitoring visits performed by the SDH to the SU	10	2/year = 10 pt 1/year = 5 pt did not receive visit = 0pt
		SU	SU with periodically produced epidemiological bulletins/ reports	2	six-monthly = 2 pt; Annual = 1 pt; Does not produce = 0 pt
		Municipal	MHD with periodically produced epidemiological bulletins/ reports	4	six-monthly = 4 pt annual = 2 pt does not produce = 0 pt
		State	SDH with periodically produced epidemiological bulletins/ reports	4	six-monthly = 4 pt annual = 2 pt does not produce = 0 pt

Chart 1. (cont.)

Development of actions (90 pt)	Data collection (30 pt)	SU	Presence of VEH in the SU	10	Yes = 10 pt; No = 5 pt
			% of weeks with information of weekly aggregate of service per IS	20	(≥90% = 20pt); (≥70% and <90% = 15pt); (≥50% and <70% = 10pt); (≥0 and <50% = 5pt); (0 = 0pt)
	Diagnosis (60 pt)	SU	% of IS cases collected per week in relation to the recommended	20	(≥80% = 20pt); (≥60% and <80% = 15pt); (≥40% and <60% = 10pt);(≥0 and <40% = 5pt); (0 = 0 pt)
			% of IS cases with typing of the result	10	(≥80% = 10pt); (≥50% and <80% = 8 pt); (≥20% and <50% = 5pt); (≥0 <20% = 2pt); (0 = 0 pt)
			% of collected samples sent to Lacen in relation to the recommended	20	(≥80% = 20pt); (≥60% and <80% =15pt); (≥40% and <60% =10 pt); (≥0 and <40% = 5pt); (0 =0pt)
			% of closed IS cases	10	(≥ 80% = 10 pt); (≥70% and <80% = 8 pt); (≥50% and <70% = 5 pt); (≥0 and <50% = 2 pt); (0 = 0 pt)

Abbreviations: VIS – Vigilance of the Influenza-like Syndrome; BIC – Bipartite Interactive Commission; SU – Sentinel Health Units; IPE – Individual Protection Equipment; Sivep-Influenza – Influenza Epidemiological Surveillance System; MHD – Municipal Health Department; SDH – State Department of Health; VEH – VE Hospital; IS – Influenza-like Syndrome; Lacen – Central Laboratory of Public Health.

Results

Degree of implantation of the sentinel surveillance of the influenza-like syndrome

In the analysis of the DI of the health units, it was verified that the sentinel surveillance of the influenza-like syndrome is implanted only in one of the six health units evaluated. In the other two, the DI was 59,0% and 71,3%, classified as partial implantation, while in the three non-implanted the proportion ranged from 20,5% to 49,2% *(chart 2)*.

The subcomponent with the greatest degree of implantation was 'data collection', which presented a DI higher than 80% in all health units, except for one (DI = 50%). With a lower proportion of fulfillment of activities, the 'diagnostic' subcomponent (DI <45%) was presented, except one, with DI = 100%.

At the municipal level, there was partial implantation of the Influenza-like Syndrome Surveillance, except for one of them, considered not implanted (DI=34%). The subcomponent with the greatest homogeneity and degree of implementation was 'planning of actions', with DI=100% in all municipalities.

The subcomponents 'financing' and 'monitoring and evaluation' showed variations in the compliance of activities according to each municipality. The lowest deployment rate in the first subcomponent was 20%, and the highest 90%. In the subcomponent 'monitoring and evaluation', two municipalities did not develop such activities (DI=0%), while the others reached DI=71,4%.

The state level presented DI=88,2%, due to the accomplishment, by the state, of most of the activities advocated by the Influeza-like Syndrome Surveillance.

Chart 2. Number and proportion of the DI reached by component, subcomponent and levels of analysis. Pernambuco, 2015

Component/ Subcomponent	SU													
	Expected score	Achieved score												
		Recife 1		Recife 2		Recife 3		Jaboatão dos Guararapes		Paulista		Olinda	
	Nº	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Management	**32**	**32**	**100**	**20**	**62,5**	**30**	**93,8**	**32**	**100**	**20**	**62,5**	**0**	**0**
Actions Planing	-	-	-	-	-	-	-	-	-	-	-	-	-
Financing	-	-	-	-	-	-	-	-	-	-	-	-	-
Training	20	20	100	10	50	20	100	20	100	20	100	0	0
Monitoring	12	12	100	10	83,3	10	83,3	12	100	0	0	0	0
Development of the actions	**90**	**90**	**100**	**52**	**57,8**	**30**	**33,3**	**55**	**61,1**	**25**	**27,8**	**25**	**27,8**
Data collection	30	30	100	25	83,3	30	100	30	100	25	83,3	15	50
Diagnostic	60	60	100	27	45	0	0	25	41,7	0	0	10	16,7
Total	**122**	**122**	**100**	**72**	**59**	**60**	**49,2**	**87**	**71,3**	**45**	**36,9**	**25**	**20,5**

Component/ Subcomponent	MHD									SDH		
	Expected score	Achieved score								Expected score	Achieved score	
		Olinda		Recife		Jaboatão dos Guararapes		Paulista				
	Nº	Nº	%	Nº	%	Nº	%	Nº	%	Nº		%
Management	94	74	78,7	70	74,1	69	73,4	32	34	34	30	88,2
Actions Planing	20	20	100	20	100	20	100	20	100	-	-	-
Financing	60	54	90	40	66,1	39	65	12	20	-	-	-
Training	-	-	-	-	-	-	-	-	-	20	20	100
Monitoring	14	0	0	10	71,4	10	71,4	0	0	14	10	71,4
Development of the actions	-	-	-	-	-	-	-	-	-	-	-	-
Data collection	-	-	-	-	-	-	-	-	-	-	-	-
Diagnostic	-	-	-	-	-	-	-	-	-	-	-	-
Total	94	74	78,7	75	79,8	69	73,4	32	34	34	30	88,2

Abbreviations: SU – Sentinel Units; SDH – State Department of Health; MHD – Municipal Health Department.

Political-organizational context of the sentinel surveillance of the influenza-like syndrome

LOCAL LEVEL (HEALTH UNIT)

The context of the level of local analysis influenced in a varied way the implantation of the Influenza-like Syndrome Surveillance in the health units, being identified positive and negative aspects from the categories of the Government Triangle, proposed by Matus. The *chart 3* shows some of the statements of the interviewees, which reflect the political-organizational context in which health units, municipalities and the state are inserted.

With regard to the government project, the most favorable contexts for the implementation of the Influenza-like Syndrome Surveillance were observed in those units whose staff had a high degree of commitment that, even in the absence of financial investments, sought to achieve the goals and improve surveillance. In addition to this aspect, the support of municipal management was also favorable, through the availability of human and financial resources for the structuring of the local surveillance. The difficulties that undermined the implantation were the absence and the turnover of professionals and managers.

As for the 'government capacity' category, more favorable aspects to implantation were identified than unfavorable ones. The technical capacity and the experience in public health of the local managers and technicians responsible for the intervention and evidence of mobilization and articulation of the interviewees with managers, care professionals and the laboratory were highlighted, in order to structure the health unit to meet the demands of the program. Punctual actions were also observed, such as motivation and valorization of the team and restructuring of the nucleus of Hospital Epidemiological Surveillance. These aspects were not observed only in a health unit, with unfavorable context in this category.

In relation to governability, there is the participation of the local and technical managers in the process of deciding actions in the health unit and autonomy to resolve internal conflicts, however, it is limited when the difficulties for the organization of the service depend on financial resources. Participation in decisions was not observed only for technicians in three health units, being identified as an aspect that could weaken surveillance.

MUNICIPAL LEVEL

The context of the municipal level was unfavorable to the implementation of the Influenza-like Syndrome Surveillance in the health units. In the 'government project' category, the lack or the absence of priority for the strategy was identified, with underutilization of the information and non-use of the financial resource, a non-homogeneous aspect in all municipalities.

In the 'government capacity' category, all interviewees showed technical capacity and experience in public health and epidemiological surveillance, with proposals for reviewing flows and attributions, encouraging training of technicians and employing strategies to raise awareness of the health professionals with respect to the importance of the epidemiological surveillance. The latter, posed as one of the main problems faced, in addition to the scarcity of human resources.

It was identified that both the technician and the manager articulated with the actors necessary for the implementation of the Influenza-like Syndrome Surveillance, however, they reported the difficulty of influencing them on the importance of the intervention, showing little leadership capacity and, therefore, little favorable context to deployment. With regard to social control, in general, this communication did not exist because it was considered a specific problem, which would not arouse interest.

Regarding governability, the existence of specific funding for the strategy should facilitate its use, ensuring certain autonomy to health surveillance managers. However, the bureaucracy and the manager's interest made its operationalization more difficult and influenced management autonomy, limiting its scope. Concomitantly, dependence on other sectors was considered a negative point, which influenced the agility of implementation of the surveillance. From the point of view of most respondents, there is consistency between the objectives of the Influenza-like Syndrome Surveillance and government plans, even if it is not explicit in the document.

STATE LEVEL

The context of the state level has favorably influenced the implementation of Influenza-like

Syndrome Surveillance in municipalities. Regarding the government project, there was presentation and discussion of the surveillance proposal with support to the operationalization with the municipalities and health units and prioritization of the state in the implementation of the proposed activities. However, according to the interviewee, for some municipalities, it was not a priority, due to the unfavorable epidemiological situation of other diseases and the reduced number of epidemiological surveillance technicians. The availability of the financial resource was unfavorable to the implementation, mainly due to the administrative difficulties to use the resource, contributing only to favor the initial adhesion of the managers to the proposal.

In the 'government capacity' category, the length of stay at the head of the *Influenza* Epidemiological Surveillance and the experience acquired during the 2009 pandemic were considered positive points for the implementation process, however, they were not enough for the accomplishment of all the actions described in the intervention because some of them depended on other instances. This fact was evident in the category 'governability', in which was observed that the power of decision was not with who demanded and/or carried out the action.

The DI relationship with the context, in general, showed that there was coherence between the political and organizational characteristics and the degree of operationalization of the surveillance in the sentinel health units *(chart 4)*.

Chart 3. Classification of the political-organizational context by levels and categories of analysis. Pernambuco, 2015

Levels of analysis	Government project	Government capacity	Governability
SU Recife 1	*"[...] what makes the differential is the commitment of the people who are part of the nucleus [...]. We observed that some changes, both in patient selection and in the form of collection, influenced the quality of the collection and we started to have more positivity [...]."*	*"[...] the team makes the motivation, one person motivating the other.Financial incentive does not exist.We seek, every time that there is a qualification, to involve the whole team, which is for everyone to feel important [...]. "*	*""The ones on duty were removed without any prior communication and without any substitution [...]. We are simply not informed, and no one cares how this can affect the progress of the program."*
SU Recife 2	*"They have never invested anything in influenza, as far as I know. In fact, we are asking for an internet to work, which is the least, because I make the report at home [...]."*	*"[...] we were even having a problem with the issue of the ones on duty [...] but we are talking to them and explaining, because many do not even know that this is done [...]"*	*"If it is a problem related to the conflicts of people, I have autonomy to solve. But, once I need inputs, I do not have autonomy, because I depend on the secretariat."*
SU Recife 3	*"[...] So far, what we have received was simply a notice board. There is nothing. Tthere is no refrigerator [...] There is no space, no professional, [...] I use my 4G internet, I create my connection with my netbook, and, then, I log into the system."*	*"[...] now there is a nurse who will be staying here every day, a day labourer, we are bringing in another nurse technician just to try to compile the Nepi data, leaving only one for HICC [...]."*	*"For some things, I really have autonomy. For others I need someone hierarchically superior. For example, health professionals who work in the vanguard doing the notifications, during the weekends [...]."*
SU Jaboatão dos Guararapes	*"[...] came the bench, the vacuum, the clamp [...] the priority within the unit, of the HES, is the search. Within that search, we have to be committed to influenza."*	*"[...] we had an employee, who gave in to the laboratory to help with the collection ... [...] the major problem is the quantity of people at the time of the search so that we can make the collection."*	*"There are things we can do with the head of the section ... Now, there are other things, for example, the notifications, we wanted the doctors to do it, but we did not get it."*

Chart 3. (cont.)

SU Paulista	*"Today we work exactly like since the first moment [...] The unit has not received any benefits since its implementation until today."*	*"[...] I think there has to have a nucleus here in the hospital that it does not exist. [...] if the collecting is really about to start, that person will help me in some way that I didn't know [...]" .*	*"[...] It depends a lot on the problem itself. If this problem involves the financial part, we know how to solve it, but we are dependent on the MHS."*
US Olinda	*"[...] I found the service stopped [...] there was a room, the equipment, the supplies, and the person who was trained to do the activity did not correspond to what he had committed to. [...] I think that, at the beginning [...], there was an effort to assemble because of the incentive [...]."*	*"We involved Nepi from here, which had no involvement, so Nepi could make a capture. We made a little flux."*	*"[...] autonomy has to do with the management and the support to take action, but, there, it is the conviction at the tip of a history of years in the public service, that things are like that and they are anyway".*
MHD Recife	*"[...] influenza, itself, was not a major public health problem [...] there were other problems of a much greater magnitude, and they needed a much more immediate response [...] Because there was no priority, they have not used this resource."*	*"Our work here, as a central level, is much more about articulation and analysis ... When I arrived and saw this need to focus on influenza, talking to the bigger staff, we saw that we needed to have someone just for influenza. [...]. "*	*"[...] I have a management that gives me freedom and understands the importance of this surveillance [...] On the other hand, this surveillance happens inside a SU that, in turn, is subordinated to another executive secretariat, which is the health care."*
MHD Jaboatão dos Guararapes	*"[...] we were able to structure a room inside the hospital, equipping it with a refrigerator, with a computer, with air conditioning [...]".*	*"We always try during the discussions [...], in surveillance in general, [...] to open the eyes of professionals, of the general population, the importance of surveillance as a whole."*	*"I can (use the resource). [...] it is little, [...] but it can keep this structure, even though it is a state hospital, that allows us to give this support."*
MHD Paulista	*"[...] we got a space, the professionals to work [...] In 2013, we lost a material purchasing process [...] In 2014, we returned, there was exchange of professionals, other discussions [....] political problems that have disrupted us [...]. "*	*"[...] First he presented the superintendence [...], articulating with the secretary, because we were going to take a space of the SU. To make everyone aware [...], even for the unit personnel not to have the barrier, see that it is something that has to do with the management, not with surveillance."*	*"I can have the knowledge of the problem ... But the solution does not depend on me alone, no. [...] I alone can say, detect, [...] but solve it alone without a laboratory, without the involvement of the secretariat itself, I find it difficult. "*
MHD Olinda	*" [...] it has material, room, refrigerator, computer, everything ready for operation. The problem is human resources [...] I do not see much interest from the municipality with IS [...] I think they do not see it as a public health problem."*	*"[...] until now, the Nepi, [...] the impression given was that this was a second "plan" activity, because it was not part of the routine of the unity. [...] we want surveillance to happen effectively and that this technician makes part of it ... "*	*"[...] it is difficult the bureaucracy because it is public money and they can not dispose it the form they think it's better. But, what comes specifically to the technical areas is used within them. I don't have this difficulty [...] it's more the operationalization of this. "*
SDH	*"[...] each municipality indicated the sentinel unit, discussing in conjunction with the state [...] then there was a project and an agreement, a term of commitment, which was signed by the municipality's health secretary."*	*"I followed the construction of the influenza surveillance in the state because it did not exist like that, in fact."*	*"Now, there are situations where autonomy is not in any of those who are there. It is something above. So, sometimes, we have the construction, but not the resoluteness. [...]"*

Abbreviations: SU – Sentinel Units; SDH – State Department of Health; MHD – Municipal Health Department; HES – Hospital Epidemiological Surveillance; IS – Influenza-like Syndrome; Nepi – Nucleus of Epidemiology; HICC – Hospital Infection Control Commission.

Favourable

Littli favourable

Unfavourable

Chart 4. Relation of the degree of implantation with the political-organizational context per case. Pernambuco, 2015

Case	% DI per component		DI synthesis		Context Categories			Context Synthesis
	Management	Development of actions	%	Classification	PG	CG	GO	
Recife 1	86,9	100,0	91,6	Implanted				
Recife 2	78,1	57,8	70,8	Partially implanted				
Recife 3	73,1	33,3	58,8	Partially implanted				
Jaboatão dos Guararapes	81,9	61,1	74,4	Partially implanted				
Paulista	51,3	27,8	42,8	Not implanted				
Olinda	65,0	27,8	51,6	Partially implanted				

Abbreviations: DI – Degree of Implantation; GP – Government Project; GC – Government Capacity; GO – Governability.

Favorable

Little ffavorable

Unfavorable

Discussion

The analysis of the Influenza-like Syndrome Surveillance, in its different levels of management, allowed the identification of different organizational contexts and levels of implantation in the six sentinel units that are part of this vigilance in the state. It could be observed that less favorable contexts influenced the partial implantation or non-implementation of the activities.

Although it was a vigilance announced in Brazil for more than 10 years, no documents with clear definitions of the attributions of each sphere of government were found, which may have influenced a construction of the theoretical-logical model closer to what is routinely performed. This fact may have impaired the analysis of some aspects of the intervention, such as planning and training, which were not considered in the evaluation of certain levels of intervention. This finding evidences the need to improve the theoretical-logical model adopted for each definition and incorporated standard, due to its dynamic and transitional characteristics (BEZERRA *ET AL.*, 2009). In addition, it is recognized that operational options for analyzing the organizational context related to concepts, collection techniques and respondents may have implied a simplification of the empirical reality of the evaluated health organizations.

However, the analysis model adopted favored a better understanding of the interdependence relations between different spheres of management of the intervention when considering the state, municipal levels and units of health sentinel in the light of the theory of Matus. The analyzes of the government project, the government capacity and governability, based on their respective operational definitions, demonstrated the strengths and possibilities to contribute to the level of implementation of the intervention, even though a significant part of the routine activities is executed in the sentinel units.

The results of the evaluation did not allow to infer about the quality of data produced by the Influenza-like Syndrome Surveillance in the sentinel units of Pernambuco, but

allowed the reflection of its capacity to reach advanced levels of implantation, influenced by the work process of the people who are ahead of this surveillance in the state, in the municipality and in the health unit.

The Influenza-like Syndrome Surveillance occurs in emergency care and hospital units, and can be performed in an articulated manner among care and epidemiological surveillance professionals. In the analysis of the DI, the problems in this articulation made it difficult to start and the continuity of the surveillance activities, and the presence of a nucleus of hospital epidemiological surveillance can contribute in a favorable way to the implantation process. The lack of articulation was reported by Menezes (2012) in a study that evaluates the Epidemiological Surveillance System of schistosomiasis in two municipalities of Bahia.

It was observed that there is a deficiency in the use of data produced by the Influenza-like Syndrome Surveillance, since there is no elaboration of bulletins and/or reports. Additionally, it was evidenced that the monitoring of the goals to be achieved by the health units does not reflect the quality of the actions performed, only the amount of what is done. The reduced capacity of the municipalities to evaluate the data generated in the information systems and produce epidemiological reports and bulletins was also reported by Santos and collaborators (2012) in an evaluative study on the management of epidemiological surveillance in municipalities in the state of Bahia.

Despite the monitored goals, countless difficulties had to be overcome in order to comply, among them, the precariousness or lack of structure for the achievement of the collection of clinical samples and for the feeding of the information system. The effort to overcome these difficulties may have contributed to broadening the DI of the Influenza-like Syndrome Surveillance in sentinel health units.

The analysis of the political-organizational context allowed to broaden the understanding about the facilitating and limiting factors with regard to the implementation of the Influenza-like Syndrome Surveillance. The less favorable contexts were identified in those municipalities and health units in which *influenza* was not considered a major public health problem and, therefore, was not prioritized, and the presence of the financial resource did not guarantee the use of surveillance for specific purposes for which it was created. Although a plan of implementation was presented and approved at the Bipartite Interagency Commission, its actions were not incorporated into the Municipal Health Plan. Similar findings were also identified by other studies, which concluded that the design of a previous project is important to facilitate the process of implementation of policies (SOARES; PAIM, 2011).

The Influenza-like Syndrome Surveillance, before 2011, did not have financial resources, and the responsibilities were shared among the three levels of government. With the specific decentralized resource, defined in the Ordinance nº 2.693/2011, the responsibility of structuring and maintaining the strategy functioning in the sentinel health unit was handed to the municipality, implying the need for greater articulation and mobilization of different sectors at the same level of management. About this question, the interviewees pointed out as positive this articulation arising from the spaces of listening and agreement. However, the promotion of these spaces does not guarantee shared decision-making power nor the positive influence on the actors involved. Moreover, if the intervention is not considered a social problem and if the interested actors do not have enough political bargaining power, it will not be included in the agenda of priorities of a given government or institution (QUEIROZ, 2011).

In the municipality and in the health unit, the deficit and the turnover of professionals and managers influenced to an unfavorable

context of implantation. Studies indicate that the lack of human resources influences the structure of the epidemiological surveillance in the hospital environment (SIQUEIRA FILHA; VANDERLEI; MENDES, 2011) and complicates the deconcentration of the actions to the levels of the system (BEZERRA *ET AL.*, 2009). Moreover, the change of municipal managers may represent limited commitment of the political agents with the health sector (COSTA, 2013). The turnover of professionals contributes to the discontinuity of the work and, when frequent, mainly in the management, can interfere negatively in the conduction of a program. The capacity of government is expressed through the team leadership, in the definition of profiles and the amount of professionals needed for the organization (SAMPAIO *ET AL.*, 2011; PAIM, 2007).

This study showed that more favorable political and organizational characteristics can contribute to the achievement of more advanced levels of implantation. However, it points out the continuous need for improvement and involvement of the local, municipal and state levels with the Influenza-like Syndrome Surveillance so that it can be monitored over the years.

Conclusion

With the development of this study, it was possible to relate the political-organizational context, through the categories of the Government Triangle of Matus, with the level of implantation of the Influenza-like Syndrome Surveillance. Although much more problems have been identified in the government project and governability, these are conditioned to the ability to govern, and, for Matus, this is the central variable, composed of three elements: experience, knowledge and leadership, the latter, evaluated in this study as the ability to positively influence the actors involved with the strategy.

In order for the Influenza-like Surveillance to progress with higher levels of implantation, actions at the local level can not be dissociated from the political decision making, a fundamental process in the development of health policies and programs. Concomitantly, the individual and collective efforts of the professionals included in the strategy are essential to maintain operating structures, even in the face of adversity.

In this sense, some recommendations can be made for the improvement of the sentinel surveillance of the influenza-like syndrome, among them: discussion of the logical model, with the definition of attributions of the three spheres of government and implantation drawings that can be applied to varied organizational contexts, and the possibility of inclusion of decision criteria of sentinel places, in addition to those defined by the Ministry of Health; prioritization of Influenza-like Syndrome Surveillance in the municipal health plans as an instrument to guide actions, in order to guarantee political and financial support for its implementation; greater articulation between the various areas of the state and municipal health secretariats and instances of social control, such as the Municipal Health Councils. ■

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