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The decentralization of health surveillance in Minas Gerais: characterization of counties' services, 2014

A descentralização da Vigilância em Saúde em Minas Gerais: caracterização dos serviços municipais, 2014

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ABSTRACT

Introduction: The Health Surveillance Strengthening Project implemented in 2012 in Minas Gerais -subsidized by a local diagnosis- aimed at decentralizing Health Surveillance. **Objectives:** To characterizes the local Health Surveillance services in the state of Minas Gerais in 2014. **Method:** Descriptive study that analyzed 527 (62%) out of a total of 853 counties. The common variables to the Health Surveillance areas were instruments of management, financing, professional category, qualification and information system. Specific variables to the Health Surveillance areas were characterized infrastructure, reference services and actions. Frequencies, medians, interquartile differences and Spearman's coefficient ($p< 0.05$) were analyzed. **Results:** An association among management tools, availability of professional categories, information system and population size ($p<0.001$) was observed. Insufficient infrastructure in the Sanitary and Environmental Surveillance and predominance of programmatic actions against monitoring actions were observed. **Conclusions:** The challenge of Health Surveillance demands confrontations in the field of management, practices and financing.

KEYWORDS: Health Surveillance; Integrality; Health Programs; Evaluation of Health Projects

RESUMO

Introdução: O Projeto de Fortalecimento da Vigilância em Saúde implantado em 2012, em Minas Gerais, visava a descentralização da Vigilância Sanitária, subsidiada no diagnóstico local. **Objetivos:** Caracterizar os serviços municipais de Vigilância em Saúde no estado de Minas Gerais em 2014. **Método:** Estudo transversal que analisou diagnósticos de 527/853 (62%) municípios do total do estado de MG. As variáveis comuns às áreas da Vigilância em Saúde foram instrumentos de gestão, financiamento, categoria profissional, qualificação e sistema de informação. Aquelas específicas às áreas da Vigilância em Saúde caracterizaram infraestrutura, serviços de referência e ações. Analisaram-se frequências, medianas, diferenças interquartílicas e coeficiente de Spearman ($p< 0,05$). **Resultados:** Observou-se associação entre instrumentos de gestão, disponibilidade de categorias profissionais, sistema de informação e porte populacional ($p<0,001$). Identificou-se infraestrutura insuficiente nas Vigilâncias Sanitária e Ambiental e predomínio das ações programáticas frente àquelas de monitoramento. **Conclusões:** O desafio da Vigilância em Saúde demanda enfrentamentos no campo da gestão, das práticas e do financiamento.

PALAVRAS-CHAVE: Vigilância em Saúde; Integralidade; Programas de Saúde; Avaliação de Projetos de Saúde

INTRODUCTION

The development and institutionalization of Health Surveillance (VS) in Brazil involves the continuous improvement of the policies formulated from the construction of knowledge about the topic and the health practices implemented[1]. The challenge of reorienting surveillance beyond disease, addressing determinants and conditions of the health situation, is associated with the necessary incorporation of Environmental Surveillance (VA), Occupational Health Surveillance (Visat), Health Promotion to traditional areas of Epidemiological Surveillance (VE) and Sanitary Surveillance (VISA)[2]. The objective image of the policies of VS pervades this dialogue, without disregarding particularities, as a response to the complexity of the Brazilian healthcare system.

The inclusion of principles such as territoriality, planning and evidence-based decisions is a prerequisite for the articulation of actions of promotion, early diagnosis, protection and healthcare[3,4]. Thus, the interaction between the work processes between the VS areas, in interface with the Health Situation Surveillance, requires the change of knowledge and management practices and attention[5,6].

In the Brazilian state of Minas Gerais (MG), a proposal called Health Surveillance Strengthening Project (PFVS) aimed at decentralizing VS actions and services in an articulated manner with Primary Health Care (APS) units, supported by the reorganization of Superintendencies and Regional Health Management. This involved the transfer of state funds to municipalities, according to type of adhesion (1, 2 or 3) to actions of increasing complexity in VS and qualification of Human Resources in healthcare[7,8,9].

The types/levels of adhesion referred to the commitment of the municipal administration to executing sets of actions of VS, organized according to the level of analysis and monitoring of the health situation, the types of laboratory diagnoses or clinical/therapeutic protocols developed and the types of establishment under the responsibility of the municipal VISA[7,8]. At adhesion level 3, the population criterion is also included, and only municipalities with 100,000 inhabitants or more could claim this level.

The state of MG is composed of 853 municipalities, distributed in 13 expanded health regions and 77 health regions, which are considered the territorial base of healthcare planning[10]. The municipalities present different demographic, economic, social, cultural and sanitary realities, with variations in the population size[11].

A Local Diagnostic Tool of VS was elaborated for local policy execution and monitoring of PFVS implementation, which collected information on management tools and means, the availability of various resources, the provision of procedures in referral services and the performance of actions according to the VS* area. Therefore, the recognition and systematization of norms, work processes and purposes of the area could subsidize and guide the implementation of these services in various municipal scenarios[12]. This study aimed to characterize the municipal services of VS in the state of MG in 2014, contributing to its decentralization.

METHOD

This is a cross-sectional study that analyzed organizational aspects of the municipal VS, based on information from the Local Diagnosis of VS, carried out in MG, in the year 2014. The diagnosis was the initial milestone of the implementation of the PFVS, which subsidized guidance and agreement of municipal surveillance services.

For this study, the municipalities were distributed by population size (less than 20,000 inhabitants, 20,000-49,999 inhabitants, more than 50,000 inhabitants) and type of adhesion (1, 2 or 3) to the PFVS, according to lists of actions of increasing complexity taken on by the municipal administration.

We analyzed the data from the 853 municipalities that completed the VS diagnosis instrument in 2014. The consistency of the database was considered, and we verified whether there were incomplete fields in terms of missing information or duplicate records.

The variables we analyzed refer to the organization of VS - VE, VA, VISA, Visat, Health Promotion and Health Situation Surveillance - grouped as:

- Management tools (presence of VS service regulations in force, planning documents including VS, use of the sanitary code and existence of legal support);
- Funding (allocation of funds according to the VS Financing Block, enforcement of Fees and Fines);
- HR (professional categories that are present, training, existence of daily workload for VS technicians);
- Information system (computer presence, internet presence).
- Availability of infrastructure (physical spaces, materials, equipment);
- Actions developed in Health Promotion, VE, VISA, VA, Visat, Health Situation Surveillance;
- Provision of referral services (diagnostic exams, specialized appointments). Two variables relevant to the coverage of the Family Health Strategy (ESF) and the existence of the Family Health Support Center (NASF) were also considered.

Descriptive analysis of the data was performed by checking the distribution of relative frequencies and position measurements as median and interquartile range. The degree of association between the variables was based on Spearman's correlation coefficient, taking values of $p < 0.05$ as statistically significant. The analyses included continuous and stratified assessment of population size. We used the Statistical Analysis Program R, version 3.0.0 (2013-04-03).

This study had no conflict of interest and was approved by the Ethics Committee of the René Rachou Research Center/Oswaldo Cruz Foundation/CpQRR, under n. 874.775, of November 2, 2014.

RESULT

Of the 853 eligible municipalities, 792 filled out the VS diagnosis instrument in 2014. Of these, 265 municipalities were excluded from the analysis, with over 20% of blank fields, which was considered poor quality data because it compromised the characterization of local surveillance services[13]. After analyzing the consistency of the database, 527 municipalities were included in the study, representing 62% of the total in the state of MG.

Among the total of the municipalities selected, 417 (79%) had less than 20,000 inhabitants, 75 (14%) between 20,000 and 49,999 inhabitants, and 35 (7%) had more than 50,000 inhabitants. Regarding the type of PFVS adhesion, 511 (97%) had type 1 adhesion, 14 (2.5%), type 2 adhesion and two (0.5%), type 3 adhesion.

Table 1 shows the type of adhesion to PFVS and aspects of management, financing, availability of HR, computer and internet, according to the population size strata of the municipalities.

The results showed a gradual increase in the aspects related to the organization of the VS with the population size of the municipalities, but also to the presence of several shortcomings in these services. This last fact may explain the majority adhesion to the list of basic actions in VS proposed by the PFVS. Among the 14 municipalities of the sample with more than 100,000 inhabitants and that could agree to carry out more complex actions, ten of them chose to adhere to basic actions in VS.

In Table 1 we can see that the number of municipalities with regulations (laws, ordinances) that instituted the local VS was low, ranging from 8% to 31% among the population strata. VISA's activities without the support of the enforcement of fees or fines can also be verified in most of the localities. Regarding HR, there was insufficiency of professional categories working in VS, in addition to low percentage of municipalities with qualified personnel. In municipalities with less than 20,000 inhabitants, only 14% had a VS technician working with an average workload of six hours a week. The existence of computers for each specific area of the VS was also low, as was the availability of internet connection (Table 1).

The analysis of the professional categories showed that a coordinator of the VS with exclusive dedication, references with technical training in VS, in Noncommunicable Diseases (NCDs) or in Sexually Transmissible Diseases (STDs) was not always available in the personnel of the municipalities.

Regarding the availability of infrastructure, the best situations were observed in the VE and in Health Promotion, areas that also stood out regarding the actions that were actually performed (Table 2). The infrastructure and actions performed by the municipal Visat presented the same median in the different population strata.

The VA and VISA areas presented the worst results regarding the availability of physical spaces, materials and equipment, mainly in municipalities with less than 50,000 inhabitants. Regarding the list of equipment related to VA, the analysis of this variable indicated that more than half of them, such as knapsack,

Table 1. Frequência das variáveis e tipo de adesão ao Projeto de Fortalecimento da Vigilância em Saúde (PFVS), Instrumentos de Gestão, Financiamento, Recursos Humanos e Sistema de Informação segundo porte populacional de 527 municípios, Diagnóstico Local da Vigilância em Saúde, Minas Gerais, 2014.

Variables	Less than 20,000		20,000 - 49,999		More than 50,000*	
	n	%	n	%	n	%
Type of PFVS adhesion						
1	415	99	71	95	25	71
2	2	1	4	5	8	23
3	0	0	0	0	2	6
Management tools						
VS service regulations instituted	32	8	13	17	11	31
Use of sanitary code	311	75	64	85	34	97
Existence of legal support	289	69	58	77	28	80
Institutional planning documents including VS	396	95	75	100	35	100
Funding						
Allocation of resources according to the VS Financing Block	404	97	74	99	35	100
Enforcement of VISA fees and fines	61	15	15	20	10	29
Human Resources						
Professional categories referred to in the present diagnosis	44	11	20	27	8	23
Training modalities referred to in the diagnosis	37	9	8	11	6	17
Existence of daily hours of VS technician	59	14	46	61	27	77
Information system						
Computer presence	120	29	31	41	20	57
Presence of internet	189	45	42	56	27	77

*In general, the larger cities in the sample of 527 municipalities had a positive association (p <0.0001) with all variables related to management, funding and human resources instruments.

Table 2. . Median and Interquartile Differences (Q1-Q3) of the variables of Availability of Infrastructure, Actions performed and Supply in Reference Services, according to population size, Local Diagnosis of Health Surveillance, Minas Gerais, 2014.

Variables	Less than 20,000	20,000 - 49,999	More than 50,000*
Availability of infrastructure (physical spaces, materials, equipment)			
VE	66 (15)	73 (14)	81 (16)
VISA	43 (32)	55 (24)	67 (26)
VA	40 (30)	59 (33)	79 (17)
Visat	67 (67)	67 (67)	67 (33)
Health promotion	67 (22)	72 (21)	80 (26)
Actions developed in VS			
VE	85 (23)	85 (15)	92 (15)
VISA	73 (32)	82 (23)	82 (18)
VA	60 (33)	80 (20)	80 (13)
Visat	63 (25)	63 (25)	63 (25)
Health promotion	83 (33)	83 (17)	83 (33)
Surveillance of the health situation	64 (20)	72 (16)	76 (26)
Offering of referral services (diagnostic exams, specialized appointments)			
VE	63 (46)	73 (32)	83 (19)
VA	33 (100)	67 (100)	67 (100)
Visat	47 (54)	55 (62)	65 (86)

VE: epidemiological surveillance; VISA: sanitary surveillance; VA: environmental surveillance; Visat: occupational health surveillance; VS: health surveillance.
Note 1: Sanitary Surveillance and Surveillance of Health Situation did not include referrals to Reference Services. Note 2: Health Promotion included only the request for complete blood count to referral services, where approximately 12 to 16% of the municipalities, according to the population, reported not having availability for this examination.

entomological magnifying lenses, microscope, chlorine meter, among others, were missing in 77% (404) of the sampled municipalities. A total of 22% (126) of them did not have any equipment.

The actions done in health promotion were predominantly related to Programs such as Health in School, Smoking Control, City Gym, Food and Nutrition Surveillance. Those related to the control of DANT or involving health education or monitoring of the health situation reached 0% to 50% of execution in half of the municipalities of the sample.

The offering of reference services pointed to VE as the area with greater availability of referrals for diagnostic exams and specialized appointments (Table 2). The smallest offering was found in municipalities with less than 20,000 inhabitants, either for VE, VA or Visat.

The analysis of the ESF and NASF coverage showed that the supply of equipment used to perform physical activities ($p < 0.001$) and health promotion and protection actions ($p < 0.0001$) correlated only with the presence of NASF.

DISCUSSION

The characterization of the municipal VS services showed that the PFVS had conditioning factors to its implementation, related to aspects of management, infrastructure and the organization of the services in a network. There are signs that the performance of proposed VS actions require an analysis of the municipal context and common planning between VS areas and other health units, with evidence-based guidelines and full care. Failure to complete the local diagnosis for about 40% of the state's municipalities and inconsistencies in the collection instrument may have been limiting factors to the analysis.

The insufficient institutionalization of VS services within the scope of the municipal health systems was inconsistent with the statements regarding the incorporation of VS actions into documents such as Health Plan, Annual Schedule and Management Report. The planning itself shows signs of impairment, considering the infrastructure shortcomings related to the Health Information Systems (SIS), essential to the monitoring and evaluation of the processes and results pertinent to the proposed VS actions.

This reflection should also incorporate the SIS beyond its technological apparatus, but as a tool for a dynamic and public analysis of the health situation and as support for the regulation of work processes, to overcome the prescriptive and bureaucratic nature of planning in the sector[14,15].

The problems detected in the workforce in the municipal VS services of MG coincided with the results of local-based studies in other states that identified the shortcomings and deficiencies in the training of professionals to act in the perspective of the integral care, plausible causes of the occasional and fragmented actions of VS between its areas and other services in the network[16,17].

Answers to these obstacles could be identified from recent training actions by the SUS Technical Schools Network (RET-SUS) and by the offering of Continued Health Education (EPS) courses, via the Open University of the Unified Health System (UNASUS), both focusing on VS[18,19]. Regardless of the modality of the proposed educational action, the essential aspect is that it stems from the reality of the territory in which the healthcare professional is inserted, in favor of the re-signification of practices and community involvement[20].

The fact that the worse infrastructure gap occurs in the VA and VISA services may be related to the difficulties these services face in financing and cross-sector coordination, which involves challenges in the political and technical-operational arena[21,22,23]. This highlights the need for more research on the execution of the actions mentioned by the municipalities, especially regarding VISA, including the fact that the diagnostic tool does not present the description of exams related to its performance.

Such absence may express a problem inherent in the diagnostic instrument in question, as well as a historical-institutional difficulty of VISA in establishing an interface with other healthcare practices, which may contribute to the fact that it is not contemplated in a previous planning that ensures laboratory backing[24].

The role of the NASF in the execution of Health Promotion actions was supported by a national study that identified the greatest development of corporal practices and physical activities in municipalities with the presence of these services, with highlights to the Southeast region of Brazil[25]. On the other hand, the predominant execution of these actions, based on vertical programs, is explained by their prescriptive nature, with implementation preceded by well-defined objectives, transfer of specific funds and/or infrastructure, without requiring management capacity or changes in the core of health practices[26].

The limits of integral VS in relation to the services of specialized diagnosis and appointment are in line with aspects of the PFVS implementation itself, by not addressing the differences in the conformation of this service network among the regions of the state[7,8,11]. This is a critical issue that involves political and financial determinants that foster access based on the contracted service offer, insufficiency and inefficiency of the laboratory network, immediacy and conflicting regional governance, resulting in visible facts such as lack of accountability for horizontal care of the network user and the weakening of the link[27,28,29].

Studies point out that healthcare in network is supposed to rethink the conformation of the Health Regions based on political conjuncture, demographic, socioeconomic and health aspects, with a more proactive role of municipal managers[30]. Thus, the PFVS, in the current state management called VS Actions Monitoring Program, can be a timely instrument to support the training of managers and technical references in spaces such as health inter-management committees or in the municipality itself[31].

One-off actions can also be identified within some municipalities to address some of the issues referred to as investment in decentralized and computerized regulation for the monitoring of waiting queues, as well as the implementation of electronic medical

records and guidelines for care, as management tools of the system and of the clinical practice, compatible with the proposal of integration of primary care to the other services of the network[32].

This reflection is supported by Cecílio[33], when pointing out that integral care is built in multiprofessional healthcare teams, in which jointly liable work processes constitute of a set of knowledge and practices directed to individual and collective health needs. This completeness also lies in the way services are organized and articulated to promote an optimized approach to health needs[34].

CONCLUSIONS

The weaknesses of municipal VS services, identified in the respondent municipalities, can explain the lack of information by a significant part of the others, revealing the importance of the different realities of the municipal contexts for the implementation of PFVS. This fact supports an evaluation of the current proposal with the perspective of ensuring the protection of the population, prioritizing health regions with greater socioeconomic inequities and access to services. Such reflection would imply considering the smaller towns and their respective management capacities (municipal or shared).

The limitations of the diagnostic tool point to the necessary interaction between stakeholders from VS and APS areas at the state level, as drivers of the implementation of the policy. The joint improvement of this instrument would help to foster strategic planning strategies that would enhance the actions of VS and the perception of the convergence of goals agreed by the various sectors.

This dialogue, subsidized in the analysis of the municipal and regional context, would be a means of delineating the interfaces and particularities of the work processes between services at the local level with regard to the actions of VS, as well as the relation of these with the average resolution indices and high regional complexity. The adequacy of the diagnosis in a database that is appropriate for analysis and easy to access would also be important elements to consider.

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Conflict of Interest

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