

## Control of dengue: Consensus views of Endemic Disease Control Agents and Community Health Agents on their integrated action

João Paulo de Morais Pessoa <sup>1</sup>  
Ellen Synthia Fernandes de Oliveira <sup>1</sup>  
Ricardo Antônio Gonçalves Teixeira <sup>1</sup>  
Cristiane Lopes Simão Lemos <sup>1</sup>  
Nelson Filice de Barros <sup>2</sup>

**Abstract** *Dengue is one of Brazil's most important public health challenges. Activities for its prevention and control have been based on the strategy of integrated management proposed in health policies, in which the central actors are the Endemic Disease Control Agent (ACE) and the Community Health Agent (ACS). This study analyzes consensus opinions produced by ACSs and ACEs on the actions for incorporating ACEs into the teams of the Family Health Strategy (ESF). It is a qualitative study from a large municipality in Brazil in which dengue is endemic, using a focus group of professionals that is subsequently analyzed using Collective Subject Discourse Analysis, supported by WebQDA. The results indicate consensus positions in relation to the following subjects: I) difficulty in the process of integration of ACSs and ACEs for control of dengue; II) inclusion of ACEs in the primary healthcare of the ESF; and III) absence of monitoring and assessment of the integrated actions. In conclusion, there are needs: to make participants more aware, seeking changes in behavior; to offer an environment of support to those involved with training courses about dengue; and to monitor the process of integration, and evaluate it periodically, creating indicators of quality and quantity.*

**Key words** *Health education, Dengue, Prevention and control*

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<sup>1</sup> Programa de Pós-Graduação em Saúde Coletiva, Universidade Federal de Goiás. Av. Universitária 1593, Cidade Universitária. 74605-010 Goiânia GO Brasil. ellen.synthia@gmail.com  
<sup>2</sup> Departamento de Saúde Coletiva, Faculdade de Ciências Médicas, Universidade Estadual de Campinas. Campinas SP Brasil.

## Introduction

Epidemics of dengue have their effect on the economy of countries, through mortality and disease, causing absenteeism from work and school, an adverse effect on the tourist industry, and possibly a collapse of the health services due to the high demand from patients<sup>1,2</sup>.

In 2002 the Brazilian Health Ministry launched the National Dengue Control Program (PNCD), which incorporated the principles of integrated management, based on certain essential aspects among which we highlight integration of the actions to control dengue in basic healthcare, in an attempt to improve coverage, quality and regularity of the fieldwork combating the vector of the disease<sup>3</sup>. Integration is the conceptual basis of the National Guidelines for Prevention and Control of Dengue Epidemics, in which a highlight is the intention for joint action by Endemic Disease Control Agents (ACEs) and Community Health Agents (ACs)<sup>2-5</sup>.

By Ministerial Order 1007/GM of 2010, Brazil's Health Ministry set the criteria regulating incorporation of the ACEs into Primary Healthcare<sup>6</sup>. According to this document the objective of the incorporation of the ACE is to strengthen, in the municipalities, the actions of health vigilance operating together with the Family Health teams. Although the Order indicates changes in the function of the ACEs and the ACs, aiming to empower the activities of both, according to the National Council of Health Secretaries (Conass)<sup>7</sup>, implementation of this law could bring risks with it, due to details of the functions of the professionals involved not being given.

Conass thus argues<sup>7</sup> that implementation without care being taken in planning, articulation and design in relation to practices may, instead of increasing, diminish the effect of the agents' work and reduce their activity simply to control of endemic diseases. The aim of this paper is to analyze the consensus opinions produced by ACs and ACEs, on the challenges of obeying the plans for integrated actions in the form that they have been specified by the national program to combat dengue.

## Methodology

This is an analytic qualitative study that adopted observation, analysis of documents and a focal group as techniques of data collection; and the Collective Subject Discourse Method and con-

tent theme analysis as a technique for analysis of data.

The study was carried out in the Northwest Health District of the city of Goiânia, in the Brazilian state of Goiás, from March to August 2012. The healthcare structure of the district is 19 Primary Family Healthcare Units (*Unidades de Atenção Básica de Saúde da Família* – UABSFs), three Integrated Healthcare Centers (*Centros de Atenção Integrada à Saúde* – or CAISs), one maternity unit, and, on the staff, 114 Community Health Agents (ACs) and 102 Endemic Disease Control Agents (ACEs) performing various activities in the field. Each UABSF has on average three Family Health Teams.

The Northeast Region of Goiânia was chosen for this investigation due to its social history, in relation to social inequalities, violence, problems of illegal settlement, and high prevalence of health problems. It has also been chosen by the Municipal Health Department as a region for special attention by the Family Health System, since it has total coverage (100% coverage) by that system.

First, a general observation of the location for collection of data was made by establishing contact between the investigator and the professionals of the Health District. This was also done during the moments of the visits to the UABSFs. It provided reliable direction in preparation of the questions for this enquiry, and was useful for understanding the dynamics of the group selected. This moment was the first contact with the phenomenon under study and its possible variations in one single scenario, principally between the UABSFs.

The data was collected in two phases: First, a theme analysis was carried out<sup>8,9</sup> of ten municipal documents that dealt with the implementation of the process of integration in the municipality. The second phase took place in parallel, with development of a focus group, which took as its point of departure the following orienting question: *After the implementation of Ministerial Order 1007/2010, was there integration between the ACEs and the ACs in the activities of prevention and control of dengue in the Family Health System, in the Northeast District?* There was also investigation both in documents and in discussion with the agents, as to whether the functions of the ACE and ACs are specified well in detail, and in what way the information was communicated by the managers.

At least one ACs and one ACE were chosen as subjects of the study from the following UABSFs

of the Northeast Health District: Floresta district, Bairro da Vitória district, Boa Vista, Curitiba I, II and III, Estrela Dalva, Morada do Sol, Mutirão, Recanto do Bosque, Brisas da Mata and São Carlos. The invitation to participate in the focus group was made individually, and the choice of participants was made on indication by key information sources (endemic disease supervisors and local nurses), complying with a composition of six ACSs and six ACEs. As a criterion for inclusion in the focus group the characteristics that the participants had in common were considered together, such as time working in the job, attendance at meetings, commitment to the work and participation in the actions and activities of the group in the District. Participants not belonging to the same friendship or work circle (UABSF) were excluded, which according to Iervolino and Percilioni<sup>8</sup>, aims to avoid the problem of free expression of ideas in the group being restrained by a (real or imagined) fear of the effect that opinions expressed might have later.

The information chosen collected through the focus group was transcribed and codified using the *WebQDA* software<sup>9</sup>, and analyzed based on the Collective Subject Discourse (CSD) Method of Lefevre and Lefevre<sup>10</sup>. This is a method of social research that aims to organize and tabulate quantitative and qualitative data of a verbal nature obtained from statements and speeches<sup>10</sup>. It consists of selecting, from each individual response, key expressions ('KE's), which are excerpts that best describe the content; and on the basis of these key expressions, Central Ideas ('CI's) are created, which are a summary of the meaning manifested in the key expressions.

Also extracted from the key expressions are Anchor Concepts ('AC's), but these are summaries not of the meanings of the discourse, but rather of ideologies, values, beliefs. Finally, with the material of the CIs and the CAs, the Collective Subject Discourses ('CSD's) are constructed, written in the first person singular. They are a bringing together of the key expressions present in the speeches, which have CI and/or CA with similar or complementary meanings<sup>10</sup>.

This study was approved by the Research Ethics Committee (COEP) of the Federal University of Goiás (UFG), under Protocol 353/11 of December 12, 2011. As well as complying with the ethical procedures specified in Resolution 466/2012 on authorization to record the participants' speeches, and signature of the Informed Consent Form, an undertaking was also signed between the workers, referred to as a setting

agreement or group agreement, to ensure ethical secrecy and facilitate the process of interaction.

## Results

ACSs and ACEs of 12 city districts belonging to the Northeast Health District of the city of Goiânia took part in this study, and the meanings attributed to them emerged from analysis of the transcript of the focus group, comprising five lines of consensus (DCSs), constituted by 100 KEs: DCS<sub>A</sub> – 14 KEs; DCS<sub>B</sub> – 22 KEs; DCS<sub>C</sub> – 12 KEs; DCS<sub>D</sub> – 40 KEs; and DCS<sub>E</sub> – 12 KEs.

*DCS<sub>A</sub>: For the integration to function it is necessary, before starting the process, to carry out a training and orientation of all those involved, who should also work in an integrated manner and be more active in this process.*

One of the agents' main complaints, if not the principal one, cited in 14 KEs, was on the need for training to be carried out in relation to the process of integration, not only for the ACEs and ACS, but also for their supervisors and managers. One of the participants said that *There was no training, the supervisor simply said that we would have to work integrated with the ACS*" (05); another person in the focus group said that *They should have started the integration from the top down [from the managers to the agents], and not down here, between the ACSs and the ACEs, in a loose way, just running on its own* (07). Another professional said: *For the integration to function, the managers should arrive with the ministerial order in their hands, the protocol number, and training, for each one to know about the work of the other, in an organized way* (06); another agent complained about the difficulties of integration saying: *We hardly know each other properly, how can we contribute to each other's work?* (05); finally, another agents stated the fundamental core of this consensus with the statement that *I don't feel part of the team.* (07)

The consensus on the need for training, and awareness and sensitivity on the part of all those involved was also by narratives of problems caused by their absence. One agent provided an example of this with the statement: *I take the information to the nurse at the UABSF, and she says to me that this (information about dengue) is not my problem* (04).

*DCS<sub>B</sub>: The informality, disorganization, lack of communication, non-existence of protocols and indefiniteness about the task of each person in the integration made it difficult for both types of agent to operate in prevention and control of dengue.*

The central ideas of this consensus were given in 22 KEs. Although partial, the arguments of each subject put together the view that the execution of the proposal was carried out in a “disorganized and informal” manner. According to one agent, this was because *The integration was done in a disorganized way, starting with the managers, who also do our work as well as their own* (11). Another expressed the same line of opinion saying that he perceived *Disorganization of the activities after the integration, [because] the meetings are scheduled during my lunch hour* (05).

The participants of the focus group reported that the meetings to present the proposal for cooperation were confused, making it difficult to understand the information described in the proposal made by the Health Secretary, generating duplication of actions to be carried out in the control of dengue. According to one ACE, *We were not producing, and the PSF [Family Health Program] was not passing work to us* (02). Another agent said: *In my unit, the nurse wanted me to take part in all the meetings for hiperdia [Hypertension and Diabetes Registration System], pregnant mothers, etc., thus harming my field activities – and then I was called to account by my supervisor, alleging that we were taking part in too many meetings, forbidding me to go to them, limiting them to only one per week* (07).

*DCS<sub>C</sub>: The participation of the ACSs in the activities of prevention and control of dengue improved the productivity of the ACEs, bringing them closer together and uniting them. With the exchange of this information, both are learning new information.*

This consensus was observed, on the basis of 12 KEs related to the subject. There are expressions of a true integration, clarity of functions and attributions, leading to collaboration between them, as in this excerpt from discourse of an ACS: *In relation to dengue, I have learned from the ACEs, because I had no training about dengue.* (01) Another ACS opinion helped build this consensus, stating: *Integration in our unit is working: the ACEs take part in the meetings, activities in schools, hiperdia meetings, team meetings, we have a control book for dengue records of dengue.* (03) Another ACE explicitly stated the potential of exchanges, saying: *The increase in frequency of household visits made by ACEs helps with our work.* (07)

*DCS<sub>D</sub>: There is no supervision that is responsible for the integration, the agents refuse to carry out activities that are not part of their legal duties, and they worked at different times of day.*

Of the five consensuses that emerged from the analysis of the focus group this is the one with

the largest number of KEs (40). It can be said that this was the most potent consensus among the participants of the focus group, and the expressions of their dissatisfactions are severe. For these agents, the non-existence of a specific supervision for the process of integration made it possible to state: *that the integration leaves something to be desired – there is no accompaniment (managers and supervisors), we do not have any recycling, the ACSs and the ACEs don't know how to do each other's work.* (05) – or: *The work of coordination should be integrated, talking the same language, subordinated to the same coordination, working in the same working hours.* (03) The disinformation of some supervisors and managers about the integration being implemented at the location of the study is something negative, according to the agents, for the consolidation of the process. This finding was stated by one of the professionals, who said: *The supervisor oriented us not to visit the 'Support Point', but go direct to the CAIS, to get orientation on what to do. When we got there, nobody knew exactly what to do.* (06)

Another significant part of this consensus was in relation to the activities each professional should carry out, because many reports state a refusal to carry out certain activities which they felt were foreign to their duties, as shown in the following statements: *Go into peoples' back yards, note down the information, a lot of people disagreed with that, including me.* (03); *The ACSs of my unit, themselves, said that they are not going to do the work of the ACEs, because they say they were not hired for that function.* (06); *The ACSs thought that they would do the work for me, and that I would get those 'houses' that they had entered.* (07); *I have my work, and the ACSs have theirs.* (05)

Finally, the incapability of working hours was also highlighted as a factor that makes the process of integration difficult. According to an agent, this takes place because *The ACSs work half-day and I work the whole day* (04); another said she adapted to the time differences, stating: *I have even worked in my lunch hour to be able to take part in the activities of the Family Health Strategy* (11).

*DCS<sub>E</sub>: Integration means carrying out of the activities together, working to the same logic.*

A consensus was observed around the integration in 12 KEs, in which it was possible to see the following way in which the agents understood the integrated work: *When the joint activities work, both the ACSs and the ACEs gain from it – we pass on cohesive information on various aspects*



*of health to the householder, and for that reason we should always carry out the visits together, and create a link.* (05) However, as has been seen in previous DCSs, the agents have reported that it was not explained to them what integration is. This consensus shows that there was positive advantage taken from the integration actions, because it was seen that the professionals are cooperating in the work and potentializing the information to the benefit of the population.

## Discussion

The study examines the process of integration of actions of prevention and control of dengue involving ACEs and ACSs of a Health District of Goiania, a municipality in Brazil in which dengue was endemic. However, the consensus produced by these professionals on these actions in response to implementation of the Ministerial Order<sup>6</sup> of incorporation of the ACEs in the Family Health Strategy teams indicates that this integration still has issues. Among them is the need to deal in detail, every day, with the complexity of the work relationships, from the planning to the incorporation of the ACEs in the Family Health System, in a process of permanent education. They also refer to the blocks on the effectiveness of this process with difficulty of integration, and due to the non-existence of monitoring and evaluation of these actions.

According to Noronha & Penna<sup>11</sup>, Health Vigilance actions should be incorporated into the daily routine of the Family Health Teams, and also the vigilance teams should appropriate themselves to and work in partnership with the Primary Healthcare (Family Health) teams. Both should work in an integrated territory, established on the basis of predefined criteria, and thus, carry out analyses of the health/illness situation jointly, so as to orient the actions of the teams. For this, the indispensable tools are planning and programming, and also monitoring and systematic evaluation, which should take place in an articulated manner – to result in reorganization of the work process so as to decentralize health vigilance actions in primary healthcare. For this to happen, it is indispensable that the management teams should be permanently qualified.

It is also indispensable for the managers to decide the competencies and responsibility of these agents, deciding work flows. The ACSs and the ACEs have fundamental roles in the actions of vigilance and are co-responsible for the health

of the population of the area they cover. The integration of activities should empower the work, avoiding duplication of actions which, although distinct, are complementary. The ACE should be incorporated into the activities of the primary healthcare teams, participating in programming and planning, since the actual integration is in the process of work carried out every day<sup>12</sup>.

Chiaravalloti Neto et al.<sup>13</sup> evaluated the results of integration of the Family Health Program (PSF) and the Dengue Control Program in São José do Rio Preto, São Paulo, Brazil. The study was made in one area with PSF and another without PSF. The proportions of interviewees stating that they have the health service as a source of information was significantly higher in the area with PSF. In both areas there were important changes in terms of gains of knowledge and reduction in the number of recipients. The results showed that the integration between the two programs is viable, represents an optimization of resources by avoiding duplication of visits and makes possible a great involvement of the community in the control of dengue.

Another study, in the municipality of Morros Avida, shows limitations to integration between ACSs and ACEs in the organization of the work process. This refers to delineation of the territorial basis of the activities and the logic of work in the territory, which are differentiated from those in the base unit. In the municipality, the ACS works in a micro-area, linked to a Family Health team, and its units of operation are specified in terms of numbers of people or families (a maximum of 750 people/ACS). The ACE works with different logics of activity: there is not a standardized set of orders; a segmented view prevails, by default. As well as the different base unit, ACSs cover their micro areas as a function of streets, and the ACEs work based on street blocks. In Morros Avida, the teams are in a period of adaptation, in an attempt to standardize the way of covering the territory<sup>14</sup>.

The incompatibility of working hours is also highlighted in the DCSs as a factor tending to make integration more difficult – reflecting different contexts in executing activities such as participating in meetings, household visits, productivity targets. They feel an absence of spaces for dialog in which to exchange experiences on the question of how to proceed, to reduce their uncertainties, and doubts, and decide and determine the details of the work process in dengue control action.

The lack of this integration can produce negative consequences for the links between the te-

ams and the users, or even personally harm the professional that is involved. It can interfere in their productivity, as per this statement: *...it led to an increase in the number of cases of dengue in the region. The 'addition' of these 'new' functions that came after the incorporation of the ACE into the ESF, all the 12 agents allege, led to much more time being spent in meetings of the Family Health Strategy, and other functions in connection with the community, which suggests that an expansion of the team is necessary – principally because dengue still imposes great challenges on health professionals due to its scale and due to the growing occurrence of serious cases. In Brazil, it has become a major challenge to public health, with nine million probable cases and more than 700,000 hospitalizations over the period 2012–2015<sup>15</sup>. In the absence of technologies that permit an effective control of the disease, integrated activities carried out by the ESF, the vigilance system and health education are of extreme importance in its prevention.*

In this aspect, the few DCSs of the professionals researched on the integrated actions for the control of dengue with the implementation of the Ministerial Order<sup>6</sup> show that, although there are failures in planning, principally in relation to the training of these professionals for joint work, there is a potential for integration – where the participants affirm that this possibility of approximation between them and the ESF team in meetings of the ESF leads them to learn and exchange knowledge, thus empowering the actions of prevention and control of dengue due to the work in common.

Even not having been given the benefit of accreditation under Ministerial Order 1007/2010, Goiânia, a municipality of Brazil that has endemic disease, maintains the incorporation of the ACE into the Family Health Strategy (ESF) teams and the integration of the work of the ACE with that of the ACS<sup>16</sup>.

This process of implementation of the Ministerial Order<sup>6</sup> in Goiânia was developed in a plan of action in three stages<sup>16</sup>. The first took place in August 2010, under the responsibility of the manager of the Family Health Strategy Coordination (COESF) and the Dengue Control Management Unit (GCD). It was there decided to present the proposal for incorporation of the ACE into the ESF, through meetings with the representatives of the Health District, directors, supervisors and Family Health teams. The representatives of the District had the responsibility for making the ACEs and ACSs aware and sensitive to the issues

and preparing the instruments for monitoring the process. The final stage involved preparation and discussion of the protocols, decision on the flows of activity and the papers of each party involved, including doctors and nurses, as well as implementation, monitoring and evaluation, through information instruments, under the coordination of the technical group formed at the beginning of the incorporation process.

This final stage generated confusion in the functions and conflicts in the attributions of the participating professionals on their integration into the actions for prevention and control of dengue. The work of the two categories of professionals, in the process of incorporation of the ACE into the ESF, should be synergic. According to Mendes<sup>4</sup>, integration means cooperation and coordination of the professionals of the care services with a focus on creation of a true health system. This author warns, however, that, in practice, this has not yet become consolidated in Brazil and states that there are few initiatives for monitoring and systematic evaluation of its effects in a major part of the country. According to Hartz and Contandriopoulos<sup>5</sup>, to make integrated management a concrete fact, investments are necessary in aspects of cognitive and affective involvement of the professionals involved. These investments are also crucial in the processes of implementing programs, like the one analyzed in this study.

For this, there needs to be an initial and final evaluation of the group, taking into consideration indicators such as opinions, difficulties, potentialities and other aspects, and that it is impossible to consolidate integration of activities of prevention and control of dengue in the Northeast Health District if all the health professionals of the location are not involved.

According to the Health Minister, management of human resources is one of the difficulties for implementation of policies in the SUS. It is worth remembering that it is the responsibility of the municipal sphere to maintain the teams for carrying out the activities of care for patients, epidemiological vigilance and combat of the vector of the disease<sup>17</sup>. Silva et al.<sup>18</sup> say that the principal obstacles to improvement of quality of healthcare and the effectiveness of the system include: lack of a professional with the appropriate profile, and problems of management in organization of healthcare.

The complaints of the participants in this study, in general, refer to the lack of explanation about the proposal for integration, and the lack

of moments of coming together, experiencing together and being made aware and more sensitive to the situation. According to O'Donnell<sup>19</sup>, being made aware of and more sensitive to the situation is an ideal opportunity for assessing the change that takes place in agents in relation to the process in question. This moment develops the power of autonomy and the option to take important decision.

To comply with the point of view of adding sensitivity, it is fundamental to establish the process of the Permanent Health Education (EPS) in the work location and plan it in accordance with the National EPS Policy<sup>16, 20</sup>. A study of ACSs of the ESF in a municipality of the interior of Rio de Janeiro state also highlighted the question of the EPS for the control of dengue<sup>21</sup>. In the perception of the ACSs there is an emphasis on training only to pass on information, and there is a lack of spaces for exchange of ideas and dialog "to exchange experiences as to the way to go forward, reduce their uncertainties, and doubts, and qualify the process of work in relation to vigilance for dengue"<sup>21</sup>.

In this same study, the investigators highlight that the ACSs recognize that proximity and links with the families for whom they are responsible, the possibility of identifying health problems and risk situations, and the continuous carrying out of educational and intersectorial actions, did help the ESF teams to confront dengue<sup>21</sup>. However, they considered that the role of the specific activity of control of the vector of dengue in the routine of ESF is still seen as a practice dissociated from the general interventions of health promotion and prevention. Indeed, to carry out the integration of the work in pedagogical terms means that all the professionals must work in accordance with their own level of development, in cooperation with the other professionals<sup>4, 22</sup>.

Although the challenge and the effort to establish integrated actions in the control of dengue in the perception of the ACEs and the ACSs is evident in this local study, the present scenario points to a need for change in the strategies of control of dengue in Brazil as a whole.

One study shows that the measures recommended by the PNCD were not enough to contain the dissemination of the type 4 virus, detected in the city of Boa Vista, in the state of Roraima, in 2010. A situation was analyzed in which all the actions were carried out in accordance with the protocol of the Health Ministry, which follows the recommendations of the pan American Health Organization and the World Health

Organization. Even so, the impact on the infestation of *Aedes aegypti* mosquitos was small<sup>23</sup>.

This is a very strong example showing that there is a need to reflect on what the best practices of control are. These same authors further refer to the example of Singapore, where popular mobilization succeeded in reducing cases of dengue during an epidemic in 2004 and 2005. In spite of the great geographical and cultural differences between Singapore and Brazil, the effectiveness of the action points to an important element in these scientists' opinion: Engagement of a population<sup>24</sup>.

This integration of the ACEs and the ACSs demonstrated in our study would be one more possibility among others for these actions of popular education. As well as establishing intersectorial actions, in which there is a role for the state of supplying public services, such as basic water services and garbage collection, which are fundamental in the control of dengue. Among factors that stand out is the limitation of financial resources available for health in Brazil, principally in relation to their employment in various serious cases simultaneously<sup>25</sup>.

In this context it is for the municipalities to seek a better understanding of their reality in relation to illnesses, to make the most efficient use of the resources available, also reflecting in better formulation of the strategies and health actions that give more priority to qualification of professionals and the involvement of the whole of the population, and principally the political sphere.

The study carried out had a significant limitation in terms of the time allocated to bureaucratic processes arising from carrying out research surveys in the public sector of Goiânia. The quest for signatures, authorizations, evaluations and opinions occupied a large part of the investigators' time, which could have been spent on collection of data and the analytical process of the study.

Future surveys and evaluations on the process of work not only of the ACEs and ACSs, but all of those directly involved in the combat of the *Aedes* mosquito in the municipality of Goiânia and its region, will be able to contribute to improvement of this service, avoiding gaps and increasing the effectiveness of the whole of the process, including the integration of professionals.

## Final considerations

Although it takes time to establish relations of integration between the agents, when questions

were asked about the model currently existing in practice vis-à-vis the ideal model instituted officially, it was found that there had been different contexts in the relationship between conception and realization since implementation of the incorporation of the ACEs into the ESF in the Northeast district.

This type of questioning needs to be made before one asks about the effectiveness and efficiency of the model of integration as legally specified, that is to say, whether the proposal best answers the objectives relating to the quality and degree of integration desired. It can also be asked what the cost might be if there were other types of intervention, such as a dynamic of agents in permanent renegotiation of their roles, favoring new solutions for old problems in a context of changes and mutual commitments, as is the case of dengue.

Although the participants in this survey believe in integration as a force for improvement of prevention and control of dengue, eight of them, in their discourses, said they did not recognize any positive effect in the control of dengue resulting from the implementation of this process.

From this study it is perceived that, when there is a systematic articulation of epidemiological and entomological vigilance in primary healthcare, with the activities functioning in an integrated way, the work is empowered, and duplication of actions is avoided, as was seen in other DCS<sub>s</sub>, especially on the subject of the work carried out by the ACSs and the ACEs<sup>3</sup>.

Even with the difficulties reported, it was noted that DCS<sub>C</sub> evidenced the potential of integration – the statements said that this possibility of increased closeness between them (ACE and ACS) and the ESF team, in meetings of the ESF, leads them to learn and to exchange knowledge, empowering the actions of prevention and control of dengue, thanks to working together. Although they may have previously affirmed that this integration would not result in successes, significant points for improvement of the health services were highlighted.

DCS<sub>A</sub> highlights the need for training and more intense moments of coming together, and familiarity, between these agents and also between their supervisors. It was found that the

integration is experienced more intensely by the ACEs, if only because they are the ones who are incorporated into another context, that is to say, included in primary healthcare, especially in the ESF. The way in which they were made aware, and sensitive, and informed on the process of integration was not efficacious, and there is a need for a process of permanent health education that can favor the realization of integrated actions.

These aspects may be favorable to integration, if there are successes and coherence with what is planned by the health departments. What one perceives is that in this specific group, the welcoming and support given to the ACEs by the ESF, as well as the monitoring of their supervisors, favored the opinion and the attitudes of those agents. Thus, it can be pointed out that after the incorporation of the ACEs into the ESF, there were several significant improvements to what is expected from the process of incorporation, indications of a true integration, principally between the ACEs and the ACSs.

It is important to point out that identification of the factors that prevent or empower the process of incorporation could be the first step in facilitating the mechanism of cooperation and coordination between health professionals and services<sup>5</sup>. In relation to the obstacles perceived by the agents for integration in actions and activity for prevention and control of dengue, the following can be highlighted: lack of training of the agents; lack of information for residents on the duties of the agents; incompatibility of working hours of those agents; and the excessive workload of both.

Another problem reported is the regular absence of some ACEs at the meetings, arising from working hours and daily activities that make it impossible for them to attend. Also, the non-participation of their supervisors, who ought to be accompanying and supporting the carrying out of dengue prevention and control activities in the process of integration.

In this survey the implementation of the third stage established in the Ministerial Order has not been observed – preparation of the tools of evaluation, as a way of reflecting on the objectives established, and their scope, with optimization of the human resources, and empowerment of the action of professionals in the control of dengue.



## Collaborations

JPM Pessoa, ESF Oliveira and RAG Teixeira: conception and delineation of the study, analysis and interpretation of the results and writing and critical revision of the intellectual content. CLS Lopes: writing and critical revision of the content. NF Barros: writing and critical revision of the intellectual content, and approval of the final version of the manuscript. All the authors approved the final version of the manuscript and declared themselves responsible for all the aspects of the work, guaranteeing its precision and completeness.

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