SCALING UP HEALTH SYSTEMS BASED ON PRIMARY HEALTH CARE (PHC)

Analysis of the Integration of National Programs in the Health System of BRAZIL

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1. Introduction

The survey is conducted through a Pan American Health Organization (PAHO/WHO) initiative to help analyze the integration of national programs within the health system. The survey is conducted in selected countries in the Region of the Americas.

To collect data, an instrument developed by the regional TB program was used, adapted for this purpose, consisting of two questionnaires for key stakeholders in the selected programs that establish both the status of the situation and perceptions on the degree of horizontality/verticality of the programs.

In each country, interviews in person are conducted with the key actors in four programs, selected in accordance with the focal point of health policies and health systems of the PAHO/WHO Country Office, following the criteria of including two well-financed national programs (with either domestic or international resources), and two national programs that are not as well financed in comparison with the other two programs. Attempts are made to select survey participants with similar levels of responsibility or hierarchy in order to have comparable perspectives.

In the case of Brazil, interviews were conducted with the national coordinators of the family health programs (PSF); the emergency mobile health care program (SAMU); the program to professionalize nursing workers (PROFAE); and the women's health care program (SM). Of the four, the first two programs are among those with more stable and abundant resources. The selection of the programs sought to identify those with typical operating patterns within the system.

2. Methodology

2.1 Survey for Heads of National Programs[1]

The principal activity of the study was the administration of a Survey for Heads of National Programs containing a structured questionnaire with 40 multiple-choice questions, a majority of them dichotomous (choice of YES or NO), with the possibility of adding observations if necessary. The survey also investigated respondents' perceptions of 30 sample actions or features of the National Programs and their influence in strengthening or weakening the health system.

2.2 Structured questionnaire[2]

In order to give greater objectivity to the qualitative information collected through this survey and in line with the study's objective, a point system was designed. Each possible response to a question on the questionnaire received one score for verticality and another for horizontality, depending on the response given.

The value assigned to each variable was defined in accordance with the importance of each question as a part of the whole, with the most important and relevant questions being worth more points and those less important and relevant being worth fewer.

The maximum score for each component is 10 points; therefore, the maximum score for the questionnaire is 60 points. This score is divided between two options: *horizontality* and *verticality*.

[1] This text is based directly on the Terms of Reference (ToR) of the study.
[2] This text was taken directly from the ToR of the study.

Therefore, when points for the responses are summed up, each questionnaire has a value X for horizontality (approach based on horizontal integration of the national program in the health system) and a value Y for verticality (approach based on vertical integration of the national program in the health system). The sum of both cannot be greater than 60. This score can also be disaggregated to show a value for each of the six components.

2.3 Classification

In order to classify and define the way in which the national program is integrated within the health system, an ordinal scale will be applied, as follows:

- When the score obtained for verticality or horizontality is equal to or greater than 80% of the total maximum score (48 points out of 60), it will be defined as a national program of purely vertical or horizontal integration:

    a. Horizontal: 80% to 100% of the total score for horizontality (48–60 points)
    b. Vertical: 80% to 100% of the total score for verticality (48–60 points)
    c. Mixed: 20% to 79% of the total score for each of the approaches (12–47 points)

- When neither of the two approaches attains 80% of the maximum score, it will be defined as a national program of mixed integration, with predominance of the approach (vertical or horizontal) that received the higher score. There are three levels of predominance: weak, moderate and strong:

    a. Weak predominance: when the higher score is between 51% and 59% of the maximum (31-35 points)
    b. Moderate predominance: when the higher score is between 60% and 69% of the maximum (36-41 points)
    c. Strong predominance: when the higher score is between 70% and 79% of the maximum (42-47 points)

2.4 Perception Survey[3]

Analysis of respondents' perceptions will be done directly, by calculating the percentage who believes that specific features of the national program:

- Totally strengthen the HS
- Partially strengthen the HS
- Neither strengthen nor weaken the HS
- Partially weaken the HS
- Totally weaken the HS

3. Selection Criteria

In the case of Brazil, interviews were carried out with the national coordinators of the following programs: Family Health Program (PSF); Emergency Mobile Health Care Service (SAMU-192); Professionalization of Nursing Workers Program (PROFAE); and Women's Health Program (SM). Of the four, the first two are those with the highest

[3] Este texto fue tomado de los TdR del estudio

and most regular volume of resources. One criterion for selection was that the program should be representative of typical forms of operation in the system.

4. Brief Description of the Selected Programs

4.1 Context: Brazil's Public Health System

Brazil's national public health system is made up of the federal, state, and municipal levels. Its operations are decentralized, with management autonomy at all levels. The financing of activities is also shared among the three levels. The federal government does not directly provide health services, with the exception of some hospital facilities, some national reference hospitals, and health care services for indigenous populations. In this context, national programs are generally highly regulated and focus on promoting the incorporation of activities into the health system. In all cases, the state or municipality is responsible for the operation of such activities. The decision-making process, the same as in federally proposed national programs, includes previous negotiations in the system's decision-making forums –- the tripartite inter-managerial commission (CIT in Portuguese), which brings together managers from the three levels in the system and the National Health Council, a participative council that brings together managers, health professionals, and civic leaders.

Institutional and Decision-Making Framework of the Public Health System – Unified Health System (UHS)

	Participating Associate	Manager	Inter-Managerial Commissions
		Functions	
Functions	Management	Management Regulation Financing Care Delivery	Management Regulation
Levels	**Organizations Involved**		
National	National Health Council	Ministry of Health	Tripartite Inter-Manager Commission
State	State Health Council	State Health Secretariat	Bipartite Inter-Manager Commission
Municipal	Municipal Health Council	Municipal Health Secretariat	

4.2 Family Health Program (PSF)

The Family Health Program (PSF) is part of the national policy on basic care, which is the main strategy to promote changes in the health care model. Federal government tenets in basic care (BC) include: preparation of guidelines for basic care; planning of human resource training; mechanisms for programming, control, regulation, and evaluation, as well as the updating of national databases on health statistics.

Created in 1994 as a mechanism to expand coverage and induce the reorganization of the country's health care model, the PSF was put into effect through implementation of

multidisciplinary teams in basic health units responsible for accompanying a set number of families in a specific geographical area. The teams conduct activities to promote health, prevention, and rehabilitation for the most common diseases. The program also has the objective of ensuring optimum use of the higher levels of care, acting as the health system's "portal of entry."

The PSF is coordinated at the federal level by the department of basic care (DAB), associated with the Secretariat of health care (SAS). Program execution is shared by the states, the Federal District, and the municipalities. The DAB proposes guidelines; accompanying the implementation and developing mechanisms for control and assessment; and provide technical cooperation to the sub-national managing entities in implementing and organizing the family health strategy and basic care activities.

Each family health team includes a family doctor, a nurse, a nursing auxiliary, and six community health workers. Some teams also have a dentist, a dental assistant, and a dental hygienist. Each team provides care to nearly 3,000 to 4,500 people (or 1000 families) in a given area. The teams provide care in the basic health units and in home visits. In 2006, 26,729 teams were working in 5,106 municipalities in all regions of the country, offering services to approximately 46% of the population (85.7 million individuals). In 2006, the program received approximately US$1.65 billion.

The federal government helps to finance basic care through the transfer of resources made up of a per capita portion (basic care minimum – fixed PAB) and a variable portion determined by program adhesion (variable PAB). The family health program is part of the variable portion, and the amounts of resources are proportional to the number of teams and the proportion of the population served by the program. The federal financial resources are transferred monthly, regularly and automatically, from the national health fund to the health funds in the Federal District and in the municipalities.

4.3 Emergency Mobile Health Care Service (SAMU 192)

The emergency mobile health care service (Samu-192) is a program that aims at ensuring the availability of help to the population in case of emergency. The service is available 24 hours per day with a professional health team made up of physicians, nurses, nursing auxiliaries, and rescue workers, who attend to traumatic, clinical, pediatric, surgical, obstetric-gynecological and mental health emergencies. The program utilizes transportation by land, water ("water ambulances"), and air (helicopters and airplanes, for inter-state transportation).

SAMU-192 is part of the national policy on emergency care. Its operations are decentralized, in collaboration with states and municipalities. The federal level sets the guidelines on performance, the operational and protocol mechanisms, support for human resource training, and is responsible for all investments needed for start-up and 50% of the resources needed for maintenance.

As of August 2007, 118 SAMU teams are active in the national SAMU-192 network. A total of 980 municipalities are served, reaching 94.9 million individuals with coverage, in all regions in the country. SAMU-192 is active in all state capitals.

Brazil, 2007. SAMU-192 Coverage

Region	Number of Municipalities Served
North	35
Northeast	317
Southeast	146
South	348
Midwest	134

Source: Urgent and emergency care/SAS/Ministry of Health

The Ministry of Health estimates that a total of 292 teams would be needed to offer coverage to the entire population of the country. By the end of 2008, an estimated 59 additional teams will be launched, and by the end of 2009 it is possible that all municipalities in the country will have coverage. All operating teams have a regulation center that acts in selecting and orienting patients in the network services. The activities in these centers follow medical regulation standards and protocols defined by the program's central level. Visual patterns are also defined and used nationally in these services.

Currently there are 21,247 professionals, in all the states, working in the SAMU care network (3,703 physicians, 2,391 nurses, 5,702 nursing auxiliaries and technical personnel, 5,130 drivers of rescue vehicles, as well as other professionals). The Ministry of Health promotes professional training, particularly in the areas of clinical emergencies, trauma emergencies, psychiatric emergencies; and obstetric and pediatric emergencies. Courses are also offered for training in multiple-victim events (catastrophes and disasters).

The program works jointly with the military, especially the Marines and Air Force, for operations in areas of difficult access, especially to reach the inhabitants along the river in the Amazon region. It also coordinates with the Federal Transportation Police and the Fire Department throughout the country.

4.4 Program to Professionalize Nursing Workers (PROFAE)

The program to professionalize nursing workers (PROFAE) was founded in 1999 to confront a situation in which the presence of a large number of health professionals (approximately 225,000) working in typical nursing activities without the professional technical skills needed for performing these functions compromises the quality of the services. Many of these professionals have a low level of formal education, which keeps them from participating in regular training courses.

The organizational structure includes centralized management by the Ministry of Health and decentralized execution in states and municipalities, using the majority of public and private technical schools in the country, the higher education institutions with capacity to support the technical training educators, the state education secretariats (SE), and health secretariats (SES), among others. The proposed goals were to professionalize 225,000 health workers as nursing auxiliaries; promote the enrollment of 95,000 workers who had not completed basic schooling, and offer follow-up studies to 90,000 nursing auxiliaries to train them as nursing technicians. Another goal was to promote the availability of specialized courses in pedagogical training for professional education in the area of nursing (at the graduate level) to 12,000 educators in the PROFAE professional skills training courses.

The program has already helped train 207,844 nursing auxiliaries and technicians and 80,124 completed the follow-up training from nursing auxiliary to nursing technician. Graduate courses were also offered to 13,161 educational specialists in professional education. Subsequently, with the creation of the Secretariat of management for health work and education (SGTES) in 2003, the strategy focused on strengthening and modernizing the technical health schools, associated with the Ministry of Health or to the state and municipal secretariats of health and education. Monitoring of the job market and health education market is also conducted.

4.5 Women's Health (SM)

Federal government efforts in the area of women's health services began in 1984, when the women's comprehensive health service program (PAISM) was founded. In 2004, the Ministry of Health established the "national policy on comprehensive health care for women – principles and guidelines," designed to attune activities to SUS goals, in accordance with the decentralized nature of the health system. This policy encompasses actions to promote health, including reproductive health, reduce morbidity and mortality, and prevent and treat the main health problems affecting women (cervical cancer, breast cancer, high-risk pregnancy, etc.).

Since 2004 the "national charter on reducing maternal and neonatal mortality" has been in effect, which aims at reducing the mortality rate of women and newborns by at least 15% by 2007. The charter is a movement that outlines well-defined joint goals and strategies of intervention among the state and municipal health secretariats, the special secretariat for policies on women (SEPM), the special secretariat for policies to promote racial equality (SEPPIR), the special secretariat on human rights, as well as other governmental and nongovernmental organizations, with support from the National Congress, through the commission on families and social security in the Chamber of Representatives.

Such actions are undertaken with collaboration from other departments and technical areas, to implement special projects such as health of indigenous people (Funasa), STD/AIDS, working women's health (SGTES and technical area on workers' health). Other ministries also collaborate in program and project implementation, such as health of black women (the special secretariat for policies to promote racial equality – SEPPIR) and Violence against Women (the special secretariat for policies on women, and the national secretariat on public safety).

In 2005 sexual and reproductive rights became government priorities in the health sector with the endorsement of the document "Sexual and reproductive rights – a government priority," which compiles guidelines to ensure the rights of men, women, and adolescents in reference to sexual and reproductive health. To establish that policy in the system, the priorities included: greater availability of reversible contraceptive methods; dissemination of educational material; training of health professionals in assisted human reproduction in the public network, and wider access to voluntary sterilization surgery.

The policy also aims at training maternity professionals throughout the entire country in humanized obstetric and neonatal care based on scientific evidence, sensitizing professionals in humanized attention for low-birth-weight infants ("kangaroo care method"), the training of professionals in neonatal resuscitation and resuscitation auxiliaries, in collaboration with the Brazilian Pediatric Society (SBP), in addition to the

training of traditional midwives. It operates through the regular public health service network and its activities are fully financed with national resources.

5. Main Results/Challenges

The presentation of the main findings is structured according to the application of the Survey for Heads of National Programs (structured questionnaire and the perception survey). Below the results of the application of the Questionnaires for each program are described. The results of the questionnaires present the degree of horizontality or verticality of each program.

An initial cautionary note is necessary. Given the nature of the federative relations in Brazil, as well as the health system's decentralized configuration and the role of the Ministry of Health, there are no vertical programs, *stricto sensu*, in the Unified Health System. In the majority of cases, even actions called "programs" that are managed by the Ministry of Health are closer to management of policies or implementation of interventionist strategies. The operation of programs takes place at the level of state and municipalities service networks. A legal framework also exists that clearly maps out the guiding and organizational principles governing the system's action. Analysis of the information gathered by the questionnaire should take this particular feature of the health system into consideration.

5.1. Family Health Program (PSF)

The Family Health Program (PSF) obtained a score of 47 for horizontality and 12 for verticality, corresponding to percentages of 88% and 12% respectively. It is therefore characterized as a national program that is integrated in the health system with a *purely horizontal approach.*

Percentage by Component

Component	PSF	
	H	V
Steering Role	12	0
	100%	0%
Organization	4	0
	100%	0%
Financing	10	0
	100%	0%
Human Resources	12	2
	86%	14%
Service Provision	3	2
	60%	40%
Information	6	2
	75%	25%
TOTAL	**47**	**6**
	88%	**12%**

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

The PSF is part of the National Policy on Basic Care, which is the main strategy to promote changes in the health care model. The program has a strategic plan framed within the guidelines of the national health policy and depends organizationally on the Ministry and State and Municipal Secretariats.

Decision-making requires approval of collegiate entities (National Health Council) and must be discussed and agreed upon the different management spheres in the Inter-Manager Commissions. The program allows the state and municipal levels to elaborate contracts as part of the program's activities. It also carries out actions of intersectoral and inter-programmatic nature. The specific policies (women's health, older adult's health, etc.) are implemented through the PSF.

There are personnel devoted exclusively to the family health actions at all management levels. There are no personnel hired with international resources. The existing incentives in the program are directed to the strengthening of the system and expansion of the family health strategy. The incentives are not directed to professionals.

Decision-making at the state and municipal levels does not require approval of the program at the national level. In view of the fact that the program is operated through the network, the questions that referred to the existence of a laboratory specific to the program were not applicable and therefore not considered for scoring purposes.

Ninety nine percent of the program's resources are public, 49% of which come from the federal level and 50% from the state and municipal levels. One percent is reimbursable external resources, which are fairly stable and are managed by the Ministry of Health.

The mechanisms for the purchase of drugs and supplies follow the decentralized structure of the system (state and municipal). There are situations where procurement occurs through consortia.

The program delivers basic health services hence the questions regarding the existence of actions at the second and third levels of care do not apply. Nevertheless, the program is articulated with the different levels of care in order to ensure access at all levels. All the policies implemented in the system incorporate promotion and prevention actions following the principle of integrality of care.

There are no personnel hired directly by the national program for the delivery of services. Capacity building activities focus on guidelines and policies, work processes, and protocols that are communicated to the network personnel. There was a need for specific training to adjust to the profile of the family doctor as opposed to specialists.

There is not a basic service package. For the purpose of per capita calculation a package of actions that are necessarily offered is used. The program has its own information registry system and uses the unified notification and surveillance system of the Ministry. Reports on the program's epidemiological and operational information are prepared periodically.

5.2 Emergency Mobile Health Care Service (SAMU 192)

The SAMU obtained a score of 42 for horizontality and 13 for verticality, corresponding to percentages of 76% and 24%, respectively. It is therefore characterized as a

national program that is integrated in the health system with a mixed approach, but with strong predominance of the horizontal approach.

Percentage by Component

Component	PSF	
	H	V
Steering Role	9	3
	75%	25%
Organization	2	2
	50%	50%
Financing	7	3
	70%	30%
Human Resources	8	2
	80%	20%
Service Provision	8	1
	88%	12%
Information	8	2
	80%	20%
TOTAL	**42**	**13**
	76%	**24%**

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

The SAMU is a program that aims to ensure the availability of care to the population in urgency or emergency cases. The program has a strategic plan framed within the guidelines of the National Policy on Emergency Care, part of the National Health Policy, and depends organizationally on the Ministry of Health and State and Municipal Health Secretariats.

The program does not allow the state and municipal levels to elaborate contracts as part of the programs activities. It carries out actions of intersectoral and inter-programmatic nature. Decision-making at the state and municipal levels requires approval of the program at the national level. In view of the fact that the program is operated through the network, the questions that referred to the existence of a laboratory specific to the program were not applicable and therefore not considered for scoring purposes.

The program does not receive external resources. The source of financing is stable. The mechanisms for the purchase of drugs and supplies follow the decentralized structure of the system (state and municipal). There are personnel hired at the federal level through international organizations although with national resources transferred to these organizations.

The existing incentives in the program are directed to the strengthening of the system and not toward professionals. The program implements actions at the first, second and third levels of care. All the policies implemented in the system incorporate promotion and prevention actions following the principle of integrality of care.

There are no workers hired directly by the national program for the delivery of services at all levels of care. Capacity building activities focus on guidelines and policies, work processes, and protocols and are carried out as part of the training activities for network personnel.

There is not a basic service package. The program has its own information registry system and uses the unified notification and surveillance system of the Ministry and the state and municipal health secretariats. Reports on the program's epidemiological and operational information are prepared periodically.

5.3 Program to Professionalize Nursing Workers (PROFAE)

The PROFAE obtained a score of 41 for horizontality and 14 for verticality, corresponding to percentages of 74% and 26%, respectively. It is therefore characterized as a national program that is integrated in the health system with a mixed approach, but with strong predominance of the horizontal approach.

Percentage by Component

Component	PSF	
	H	V
Steering Role	11	1
	91%	9%
Organization	2	2
	50%	50%
Financing	7	0
	100%	0%
Human Resources	10	6
	62%	38%
Service Provision	7	3
	70%	30%
Information	4	2
	66%	34%
TOTAL	**41**	**14**
	74%	**26%**

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

The PROFAE was implemented to address the presence of a large number of health professionals working in typical nursing activities without the professional technical skills needed for performing these functions.

The program has a strategic plan framed within the guidelines of the National Health Policy, and depends organizationally on the Ministry of Health, requiring the approval of instances of the Ministry for decision-making. The program allows the state and municipal levels to elaborate contracts as part of the programs activities. It carries out actions of intersectoral and inter-programmatic nature.

The program implements actions at the first, second and third levels of care. All of the policies implemented in the system incorporate promotion and prevention activities following the principle of integrality of care. There is no uncertainty regarding financial flows. External resources, which made up less than 1% of the program's budget, are managed by the Ministry of Health. The program does not carry out procurement activities.

There are personnel dedicated exclusively to the program's actions only at the federal level. The program operates in a decentralized manner in states and municipalities, making use of the majority of public and private technical schools and higher education institutions in the country. There are personnel hired at the federal level through

international organizations although with national resources transferred to these organizations.

The Ministry of Health manages the human resources of the program, which are hired only at the federal level. The existing incentives in the program are directed toward strengthening the system and not toward professionals. Capacity building activities focus on guidelines and policies, work processes, and protocols and are carried out as part of the training activities for network personnel.

The program has its own information registry system and elaborates periodical reports.

5.4 Women's Health (SM)

The Women's Health program obtained a score of 41 for horizontality and 11 for verticality, corresponding to percentages of 78% and 22%, respectively. It is therefore characterized as a national program that is integrated in the health system with a mixed approach, but with strong predominance of the horizontal approach.

Percentage by Component

Component	PSF	
	H	V
Steering Role	12	0
	100%	0%
Organization	2	2
	50%	50%
Financing	10	0
	100%	0%
Human Resources	4	4
	50%	50%
Service Provision	7	1
	87%	13%
Information	6	4
	60%	40%
TOTAL	**41**	**11**
	78%	**22%**

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

The program has a strategic plan framed within the guidelines of the National Health Policy, and depends organizationally on the Ministry of Health. Decision-making requires approval of collegiate entities (National Health Council) and must be discussed and agreed upon the different management spheres in the Inter-Manager Commissions. The program allows the state and municipal levels to elaborate contracts as part of the program's activities. It also carries out actions of intersectoral and inter-programmatic nature.

There are personnel dedicated exclusively to the program's actions at the federal level only. The program operates in a decentralized manner using the network of services of states and municipalities. Decision making at the state and municipal levels does not require approval from the program at the national level. In view of the fact that the program is operated through the network, the questions that referred to the existence of a laboratory specific to the program were not applicable and therefore not considered for scoring purposes.

There is no uncertainty regarding the financial flows for the program and there are no external resources. The program uses the Ministry's procurement mechanisms for the purchase of contraceptives. The program implements actions at the first, second and third levels of care. All of the policies implemented in the system incorporate promotion and prevention activities following the principle of integrality of care.

There are personnel hired at the federal level through international organizations although with national resources transferred to these organizations. The Ministry of Health manages the human resources of the program, which are hired only at the federal level. The existing incentives in the program are directed toward strengthening the system and not toward professionals.

Capacity building activities focus on guidelines and policies, work processes, and protocols and are carried out as part of the training activities for network personnel. The program does not include a basic package of services. The program does not have its own information registry system because existing information systems already report on the program's results.

5.5 Summary of the Survey Results

Results of the survey with the national program coordinators are presented below.

- All respondents reported that their programs have a strategic plan, within the framework of the Health Policy, following the National Health Plan's guidelines. Plan design took into consideration the health determinants, except in the professional training program, but this topic is part of the contents of the training offered.
- The programs depend organically and administratively on the Ministry of Health and the decision-making process is generally based on approval from higher levels (with the exception of SAMU, according to the SAMU coordinator). Some decisions may be submitted for approval by the National Health Council and the Tripartite Inter-Managerial Commission.
- There is a high degree of deconcentration in program management, and the subnational levels enjoy the autonomy to put necessary contracts into effect for implementation (except for SAMU in case of ambulances and equipment).
- All program actions are coordinated with other areas of the Ministry of Health and/or government agencies from other sectors that overlap with the health sector. The inter-sectoral actions involve a diverse list of agencies, in accordance with program objectives, from the special Secretariats for promotion of racial equality and the Ministry of social development to the Armed Forces, the transportation police, and the fire department.
- All program actions are formally framed by regulatory standards, within the framework of a set of ministerial orders.
- SAMU and PSF have full-time personnel working in program activities at all levels of the system. PROFAE operates through the existing structures for training human resources, linked to the health and education systems. The SM operates through state and municipality service networks.
- In SAMU and PROFAE, decision-making at the subnational level is submitted for approval at the national level. The PSF and SM ensure autonomy of decisions to the subnational managers, with respect to national program guidelines.
- Interviewees indicated that survey items #12, #13, and #14 did not apply to their programs.

- The programs are financed mainly through national resources. In SAMU and SM, all federal resources are from the National Treasury. In the PSF less than 1% of the total of resources comes from reimbursable international loans; 50% of PROFAE's resources in the implementation phase came from reimbursable international loans. International resources are administered by the coordination of the national program within the financial management of the Ministry of Health. The coordinators of the PSF, SM, and SAMU expect that the resources for their programs will increase in the coming years. PROFAE expects to hold its resources steady at the current levels.
- The resources contributed to all these national programs are complemented by contributions of at least 50% from the subnational levels. In SAMU, only the resources earmarked for investment in procuring ambulances and equipment come exclusively from federal resources. Human resources, even when allocated strictly to national program actions come from the subnational level.
- In the PSF, the procurement of drugs and supplies is totally decentralized. In SAMU, the procurement of ambulances and their equipment is carried out at the central level and the other supplies are acquired at the decentralized level. PROFAE implements its actions through the existing education structures and does not carry out procurement. Thus, survey items #20 and #21, on storage and distribution do not apply to these programs. The SM acquires some drugs and supplies at the central level (for example, those used in reproductive health) and uses Ministry of Health channels for purchase, storage, and distribution.
- SAMU, SM, and PSF receive management support through agreements with international organizations, which they use to carry out contracting of personnel at the central level to complement their teams. Generally, these agreements are carried out with transfer of national resources to the international organizations for this end. In these cases, contracting occurs with remuneration compatible with the Ministry of Health's wage scale and human resource management is carried out by national program coordination. The SM coordinator was not aware of those scales.
- In view of the fact that the execution of program actions is the responsibility of the states and municipalities, the program professionals at these levels are part of the respective personnel rosters. Contributions from the national program are mainly incentives or complementary.
- With the exception of the PSF, which focuses on basic care, the actions of the other programs involve all levels of care. The regular health service teams are responsible for the actions, since there are no personnel contracted by the programs for health service delivery.
- In the country's health system, which has the constitutional mandate to offer universal and comprehensive care, the concept of "basic package" does not apply. Thus, the programs do not offer it. In the case of SAMU, there is a series of guaranteed actions in all services integrated in its network, and in this regard the coordination considers that there is a "basic package" that stipulates minimums for urgent and emergency care. The same occurs with the SM program.
- All national programs include promotion and prevention activities.
- All have registration and information systems, except the SM, which uses existing systems. The health surveillance actions are part of a national system coordinated by the Ministry of Health (report, registry, analysis). The national program systems are generally designed to monitor program processes and outcomes. The information produced is disseminated to the managers, professionals, and the general public, through electronic systems (Internet), publication of bulletins, and regular reports. The SM does not have its own

system or bulletins, but disseminates information in bulletins from other areas of care. That information is used by the national management and is available to subnational managers so that they are also well-informed. The national coordinators are uncertain of the degree of utilization at the subnational levels, which is estimated to vary.

6. Perception Surveys

Table 10 summarizes, in general terms, the results of the perception survey separating the responses in two major categories: the ones that state that the issue in question strengthens the health system (in this category the responses "totally strengthens" and "partially strengthens" are grouped) and those that state that the issue in question debilitates the health system (the responses "partially debilitates" and "totally debilitates" are grouped).

Brazil: Total Percentage by Each Survey Question

	Question	Strengthens	Debilitates
1	The inter-programmatic nature of the program's coordination	75%	0
2	The development of surveillance and information systems specific to the program	75%	0
3	Human resources training specific to the program	75%	0
4	Direct administration of the financial resources by the program	75%	0
5	Surveillance studies specific to the program	75%	0
6	The use of quality standards in the laboratories	75%	0
7	The hierarchization and verticalization of actions and decisions in the program	75%	0
8	The existence of political commitment to the implementation and expansion of the objectives of the program	100%	0
9	The implementation of coordinated actions with other sectors (education, penitentiary, etc.)	100%	0
10	The implementation of prevention and promotion actions as part of the program's activities	100%	0
11	The inclusion of services by other public health providers (for example, social security)	50%	50%
12	The inclusion of services by private health providers	75%	0
13	The existence of cooperation projects that implement the same activities of the program	50%	50%
14	The implementation of the program's national/regional strategy	75%	0
15	The introduction of International norms and standards for the services provided by the program	75%	0
16	The mobilization of activists and community representatives in the program's actions	75%	0
17	The existence of cooperation projects from global initiatives centered on specific diseases (such as Global Fund)	75%	0
18	The transfer of knowledge to the community	100%	0

19	The implementation of campaigns for behavioral change specific to the program	100%	0
20	The development of research at the different levels of the health system	100%	0
21	The existence of different administrations for the management of the program's resources (different instances of administration due to different sources of funding)	25%	50%
22	The recruitment or appointment of those responsible for the program at all levels of management	75%	0
23	Supervision by the central level of the intermediate levels	75%	25%
24	Supervision by the central level of the regional and local levels	75%	25%
25	Approval by the central level of all the decisions at the intermediate and local levels	50%	50%
26	The financing by international cooperation resources of initiatives that are not priority for the sector	0	100%
27	The implementation of incentives so that health services personnel meet the goals of the program	75%	25%
28	The guarantee of job security for health services' and programs' personnel	100%	0

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

All of the survey's respondents believe that the following items strengthen the health system, in a spectrum that goes from "totally strengthen" to "partially strengthen":

- The achievement of political commitment to implement and expand program objectives;
- Implementation of joint activities with other sectors (education, penitentiary, etc.);
- Implementation of prevention and promotion actions as part of program activities;
- Transfer of knowledge to the community;
- The implementation of campaigns for behavioral change specific to the program;
- Research conducted at different levels of the health system;
- The guarantee of job security for the program's workers as well as for health services personnel

Seventy-five percent of the interviewees responded that the following items strengthen the health system, in a spectrum that goes from "totally strengthen" to "partially strengthen":

- The inter-programmatic nature of the program's coordination
- The development of surveillance and information systems specific to the program
- Human resources training specific to the program
- Direct administration of the financial resources by the program
- Surveillance studies specific to the program
- The use of quality standards in laboratories

- The hierarchization and verticalization of actions and decisions in the program
- The incorporation of services by private health providers
- The implementation of the program's national/regional strategy
- The introduction of international norms and standards for the services provided by the program
- The mobilization of activists and community representatives in the program's actions
- The existence of cooperation projects from global initiatives centered on specific diseases (such as Global Fund)
- The recruitment or appointment of those responsible for the program at all management levels
- Supervision by the central level of the intermediate levels
- Supervision by the central level of the regional and local levels
- The implementation of incentives so that health services personnel meet the goals of the program

Regarding the questions below, the opinions are split. Fifty percent of the respondents believe that the items below strengthen the health system while the other half maintains that they weaken the system:

- The inclusion of services by other public health providers (for example, social security)
- The existence of cooperation projects that implement the same activities of the program
- Approval by the central level of all the decisions at the intermediate and local levels

The question on "financing from international cooperation of initiatives that are not sector priorities" received a unanimous answer from the respondents who believe that it greatly weakens the system.

The PSF coordinator considers that implementation of a national program's own surveillance and information system and "the presence of different administrations in the management of funds disbursed for the program" greatly weaken the health system. The "hierarchization and verticalization of program decisions and actions" and "the approval from the central level of all decisions at the intermediate and local levels" were also considered to partially weaken the system.

From the SAMU coordinator's perspective, factors that greatly weaken the system include "the presence of cooperation projects performing the same activities as the program" and "the management of funds by different administrative entities." For the SM coordinator, factors that greatly weaken the system include "the presence of cooperation projects performing the same activities as the program," "the presence of different administrations in management of funds," "approval from the central level of all decisions made at the intermediate and local levels", and "establishment of incentives for service personnel so that they meet program goals." The SM coordinator also considers that supervision from the central level of the intermediate, regional, and local levels may partially weaken the system.

Five items were considered neutral by some of the coordinators. The PROFAE coordinator considers that "inter-programmatic coordination" of national programs does not exert influence and neither strengthens nor weakens the health system. For the SM coordinator, the following factors are neutral: "including services of other health

providers from the state sector;" "implementation of the program's regional/national strategy;" "introduction of international norms and standards" and "the participation of different administrations in managing funds."

7. Conclusions

The summary of the results by each National Program is presented below.

Brazil: Results by each National Program

National Program	Horizontality	Verticality
PSF	**88%**	**12%**
SAMU	**76%**	**24%**
PROFAE	**74%**	**26%**
SM	**78%**	**22%**

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

National Program	Approach
PSF	**Horizontal**
SAMU	**Mixed** (predominance of the horizontal approach)
PROFAE	**Mixed** (predominance of the horizontal approach)
SM	**Mixed** (predominance of the horizontal approach)

Source: author's own compilation based on the results of the Survey for Heads of National Programs. PAHO 2007.

Of the four national programs evaluated, one was considered horizontal and the other three were considered mixed, with a strong predominance of the horizontal approach.

Components	**PSF**		**SAMU**		**PROFAE**		**SM**	
	H	**V**	**H**	**V**	**H**	**V**	**H**	**V**
Steering	100%	0	75%	25%	91%	9%	100%	0
Organization	100%	0	50%	50%	50%	50%	50%	50%
Financing	100%	0	70%	30%	100%	0	100%	0
Human Resources	86%	14%	80%	20%	62%	38%	50%	50%
Service	60%	40%	88%	12%	70%	30%	87%	13%

Provision								
Information	75%	25%	80%	20%	66%	34%	60%	40%
TOTAL	**88%**	**12%**	**76%**	**24%**	**74%**	**26%**	**78%**	**22%**

Of the six analyzed components, the horizontal approach was more evident in the steering and financing aspects.

All of the evaluated programs depend organically and administratively on the Ministry of Health, have a strategic plan framed in the National Health Policy and, except the SAMU, allow contracts or letters of intent to be signed by subnational management levels. The programs carry out intersectoral and interprogrammatic coordination actions, and require, for the approval of its norms, some degree of regulation from the national level.

Less than 1% of the health financing comes from international resources and these are always administered by the Ministry. Of the four analyzed programs, two do not have external financing. The financing is tripartite (the federal, state and municipal governments contribute resources).

Programs do not rely solely on the drugs, inputs, and equipment procurement, storage, and distribution mechanism of the Ministry, but this cannot be considered an indicator of verticality because the mechanisms used follow the decentralized system (state and municipal secretariats' mechanisms).

The organization/structure component obtained mixed results, with the exception of the PSF. In the 4 programs reviewed, there are personnel devoted exclusively to actions at the national level. SAMU and PSF have exclusive personnel at the state and municipal levels while PROFAE and SM do not. The nonexistence of personnel devoted exclusively to the actions of the SM at the other levels of management is because the program is operated through the decentralized network.

Decision-making at the different levels of management does not require the approval of the Ministry because there is autonomy of management in the three spheres of government although SAMU stated that there is need for approval by the Ministry.

The human resources component obtained mixed results for two of the programs (PROFAE and SM). The programs have personnel hired through international cooperation. It is important to point out that the contracting of these professionals is done with national resources transferred to international agencies, although management of the hired resources is the responsibility of the Ministry.

The interviewees pointed out that their respective programs implemented incentives for human resources of the health services but in all cases these consisted of training and capacity building actions, and financial incentives to the system. In no case the incentives were bonuses or other types of economic incentives for professionals.

The service delivery component obtained mixed results for 2 programs (PSF and PROFAE) and horizontal for the others. All 4 programs carry out activities at the first, second, and third levels of care, except the PSF that delivers services only at the first level as the "entry point" for the system, and PROFAE that focuses on education and not on service delivery.

There are no personnel hired directly by the programs at the levels of care. The actions do not include a basic service package following the principle of integrality of health care at all levels of attention, including promotion and prevention actions.

Regarding the information component, all of them declared having its own recording and information system, except for the SM. With the exception of PROFAE in which the question was not applicable, all of them use the unified notification and surveillance system of the Ministry. Only the SM does not produce periodic program reports. Some interviewees answered that the information is used at all levels of management and others responded that they did not know.

The coordinators' viewpoints tended to be consistent with the strategies described in the questionnaire on their respective programs. For example, the coordinator of SAMU, a more vertical program, tends to agree with the items that indicate closer supervision or control over the subnational levels. In contrast, the coordinators of the PSF and the SM programs – which are operationally decentralized – indicate that requiring approval from the central level of decisions made at the intermediate or local level can weaken the system.

Some considerations, however, should be clearly explained. First, although the survey suggests that inter-programmatic coordination exists, it is necessary to investigate whether what exists is sufficient to optimize the program results; that is, if the coordination occurs in all the programs or areas of activities of the system with relevant overlap. We believe that in some of the programs, the existing coordination is insufficient.

Another aspect to examine is that in many cases coordination may occur, but may not be capable of altering the logic of action and the priorities of the other programs/areas of action, nor of conforming to the needs of the national program. In other words, it may be a formal coordination that does not produce the mutual adjustments needed to optimize the activities of the health system.

8. Annexes

8.1 List of Interviewees

Family Health Program (PSF)
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Program to Professionalize Nursing Workers (PROFAE)
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Emergency Mobile Health Care Service (SAMU 192)
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8.2 Glossary of Operational Definitions

1. Health System: Organization, relations, and coordination of the set of elements or components of a social system designated (formally or informally) as responsible for carrying out health care activities.
2. National Programs: Public health entities within the Health System in charge of standardizing, planning, implementing, and monitoring actions in a specific area (for example, maternal health, TB control, HIV/AIDS).
3. Integration of the NP with the HS: Situation or position, degree of dependency, and coordination of the NP within the HS, as well as relations with its environment.
4. Strengthening the HS through the NP: Building capacity in the elements or components of the HS through specific actions of the national program.
5. Weakening the HS through the NP: Reducing capacity in the elements or components of the HS through specific actions of the national program.
6. Levels of management: Corresponding to the management structure of the Health System, these include:
    - The central or national level, which carries out the steering role and sets standards
    - The intermediate, departmental, provincial, or state level, which is in charge of supervision, surveillance, and evaluation of the network of services corresponding to the geographic area
    - The local level, which is the operating level of the health services
7. Levels of care: Corresponding to the structure of the service delivery system, these include:
    - First level: offers basic health services through health posts, health centers, outpatient consultation, home care, community-based care, etc.
    - Second level: offers outpatient and inpatient health services in the basic specialties of internal medicine, surgery, obstetrics, and pediatrics, through clinics and intermediate hospitals
    - Third level: offers outpatient and inpatient services in all the specialties as well as high-complexity diagnostic and therapeutic support services, through general hospitals
    - Fourth level: consists of specialized centers, national institutes, research institutes, etc.
8. Primary health care (PHC): Strategy for organization and management of the Health System aimed at guaranteeing universal access to a minimum level of health services through an equitable distribution of resources, community participation, and policy coordination with other sectors.
9. Intersectoral coordination: Joint efforts by the health sector and one or more other social sectors with respect to resources, methods, and operations, for the achievement of a common objective.
10. Interprogrammatic coordination: Joint efforts by one or more programs of the Health System with respect to resources, methods, and operations, for the achievement of a common objective.

8.3 Summary of Results

OPINION SURVEY

Please indicate your opinion on these examples of program activities and their effect on strengthening or weakening the health system

		Greatly weakens	Partially weakens	Neither weakens nor strengthens	Partially strengthens	Greatly strengthens
How do you think the following activities affect the health system?						
1	Inter-programmatic coordination of the program	**1**	**2**	**(3) PROFAE**	**4**	**(5) PSF + SAMU SM**
2	Implementation of a specific surveillance and data system for the program	**1 PSF**	**2**	**(3**	**4 PROFAE**	**5 SAMU**
3	The exclusive training of personnel in the health services for the program	**1**	**2**	**3**	**4 PSF PROFAE**	**5 SAMU**
4	The direct administration of all financial resources by the program	**1**	**2**	**3 SM**	**4 PSF PROFAE**	**5 SAMU**
5	Conducting surveillance research for the program	**1**	**2**	**3**	**4 PSF**	**5 SAMU SM**
6	Use of quality standards in laboratories	**1**	**2**	**3**	**4**	**5 SAMU SM**
7	The hierachization/ verticalization of program's decisions and actions	**1**	**2 PSF**	**3**	**4 PROFAE**	**5 SAMU SM**
8	Achieving political commitment through implementation and expansion of program objectives	**1**	**2**	**3**	**4**	**5 SAMU PSF PROFAE SM**
9	Implementing joint activities	**1**	**2**	**3**	**4**	**5 SAMU PSF**

	with other sectors (education, prisons, etc)					PROFAE SM
10	Implementing preventive and promotion activities as part of program activities	1	2	3	4	5 SAMU PSF PROFAE SM
11	Including services of other health providers from the state sector (for example: Social Security)	1	2	3 SM	4	5 SAMU PSF
12	Including health services from private providers	1	2	3	4	5 SAMU PSF SM
13	Cooperation projects undertaking the same activities as the Program	1 SAMU SM	2	3	4 PROFAE	5 PSF
14	Implementation of the program's regional/national strategy	1	2	3 SM	4 PROFAE	5 SAMU PSF
15	Introduction of international norms and standards for the care provided by the program	1	2	3 SM	4 PSF	5 SAMU
16	Mobilization of community activists and representatives in program activities	1	2	3	4	5 SAMU PSF SM
17	Cooperation projects by global initiatives focused on specific diseases (the Global Fund, for example)	1	2	3	4 PSF SM	5 SAMU
18	Transfer of knowledge to	1	2	3	4	5 SAMU PSF

	the community					PROFAE SM
19	Undertaking campaigns for specific behavioral change as part of the program	1	2	3	4 PSF PROFAE	5 SAMU SM
20	Conducting research at different levels of the health system	1	2	3	4	5 SAMU PSF PROFAE SM
21	Participation of different administrations for managing funds disbursed for the program (different administrative entities due to different sources of financing)	1 SAMU PSF	2	3 SM	4 PROFAE	5
22	Contracting or designation of those responsible for the program at all levels of management	1	2	3	4	5 SAMU PSF SM
23	Supervision from the central level of the intermediate levels	1	2 SM	3	4 PSF	5 SAMU PROFAE
24	Supervision from the central level of the regional and local levels	1	2 SM	3	4 PSF	5 SAMU PROFAE
25	Approval by the central level of all decisions made at the intermediate and local levels	1 SM	2 PSF	3	4 PROFAE	5 SAMU
26	Financing from international cooperation of initiatives that are not priorities in the sector	1 SAMU PSF PROFAE SM	2	3	4	5

27	Establishment of incentives for health service personnel to help meet program goals	**1 SM**	**2**	**3**	**4 PROFAE**	**5 SAMU PSF**
28	Guaranteed job security for program and health service personnel	**1**	**2**	**3**	**4 PROFAE**	**5 SAMU PSF SM**