

## Planning and building Health Care Networks in Brazil's Federal District

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**Abstract** *This article reports on the experience of implementing Health Care Planning (HCP) in the territories of Itapoã, Paranoá and São Sebastião in the East Region of Brazil's Federal District. HCP began at the end of 2016 with Itapoã and was expanded to the other territories in 2018. The results point to a better organised health care network, specifically as regards care for chronic conditions, hypertension and diabetes. The activities involved a series of thematic theory workshops and tutoring workshops carried out in Primary Health Care (PHC) and Specialised Ambulatory Care (SAC) facilities. In PHC, macro-processes (territorialisation, family registration, risk stratification, family risk classification, local diagnosis, care by block of hours, elimination of waiting times, and others) were organised to support meeting certain of the population's demands. In SAC, an Ambulatory Specialities Clinic was set up using the technology of continuous care provided by a multi-professional team to high- and very high-risk hypertensive and diabetic patients stratified in PHC, and care provision is shared. One of the strong points in the integration of PHC and SAC was matrix support provided by SAC professionals in "laboratory units". HCP has been an important management tool for organising health care in the East Region.*

**Key words** *Health care planning, Health care networks, Primary health care, Matrix support*

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## Introduction

Since 2007 the National Council of Health Department Directors (*Conselho Nacional de Secretários de Saúde*, CONASS) has been engaged in a proposal that goes far beyond health team capacity-building in that it fosters the development of Primary Health Care (PHC) and Specialised Ambulatory Care (SAC) by territory, by changing health personnel's attitudes and work processes, as well as management. This process contributes to organising services into Health Care Networks (HCNs).

The proposal, *Planificação da Atenção à Saúde: um instrumento de gestão e organização da PHC e da AEE nas Redes de Atenção à Saúde* [Health Care Planning: an instrument for managing and organising PHC and SAC into Health Care Networks], consisted in conducting a series of theory and tutoring workshops, training courses and short, practical capacity-building for state and municipal technical management staffs, with a view to organising macro-processes in PHC and SAC and involving 100% of related health workers. The goal was to support the technical management staffs of the state and municipal health departments in organising macro-processes in PHC and SAC<sup>1</sup>.

The CONASS adopted the conception of PHC formulated by Barbara Starfield, framing PHC as a series of health interventions at the individual and collective levels, involving promotion, prevention, diagnosis, treatment and rehabilitation<sup>2</sup>.

SAC is one of the key problems of health care systems in general and of Brazil's single health system (*Sistema Único de Saúde*, SUS) in particular. There, the situation is aggravated by the fact that SAC is one of the least studied areas of the SUS, often organised into silos and operated on a fragmented health care system logic<sup>3</sup>.

Mendes<sup>3</sup> explains that SAC organisation rests on a new model of care built up from scientific knowledge derived particularly from the theory of HCNs and models of care for chronic conditions and sustained by two main pillars: coordination of care between SAC and PHC and construction of SAC as a secondary point of ambulatory care in a HCN coordinated by the PHC function.

In Brazil, HCNs are a recent proposal, originating in the experiences of integrated health systems that grew up in the first half of the 1990s in the United States. From there they spread to the public systems of Western Europe and Can-

ada, later reaching some developing countries. In the United States, the precursor was Shortell<sup>4</sup> who proposed to surmount the existing health system fragmentation by means of integrated service systems. In Canada, experience with HCNs generally developed through integrated health systems.

In Brazil, since Ministerial Order No. 4279 of 2010<sup>5</sup>, implementation of HCNs has been proposed around priorities based on clinical or organisational criteria, such as mother and child care, psychosocial care, chronic diseases, urgent and emergency care and care for persons with disability, all in what are termed thematic networks<sup>6</sup>. However, the basic proposal is still strongly theoretical and is not as strongly in evidence in practice. Overall, difficulties have been found in constituting the HCNs, as well as in coordinating among PHC and SAC and planning as an important structuring tool.

The major differential in the CONASS proposal is that it combines theory and practice, making health care personnel the main authors of the process. Planning is being applied in 25 health regions of 11 states, to organising HCNs, re-discussing work processes, introducing the Model of Care for Chronic Conditions (MCCC), integrating the various points of care and, all in all, building up a regionalised network.

In the Federal District (FD), the East Region was chosen to launch the process, which began in 2016 by reorganising and integrating PHC and SAC. The Federal District introduced "Convert PHC – Healthy Brasília" as a policy of state with a view to converting all PHC teams into Family Health Teams. At the same time, in an institutional partnership with the CONASS, it embraced HCP as a strategy for organising the health care model in the East Region.

This paper reports on the experience of planning in the Federal District, the construction of Health Care Networks and the application of HCP.

## Methodology

This descriptive study reports on the experience of introducing HCP, a powerful tool for organising HCNs, in the Federal District's East Health Region, which includes Paranoá, Itapoã, São Sebastião and Jardim Botânico. Planning began with Itapoã in 2016 and was expanded in 2018 to Paranoá and São Sebastião.

The region's service capability consists of one medium-sized general hospital, one PHC clinic,

one maternity clinic, one psychosocial care centre and one alcohol and drug abuse clinic, two victim support units, four Family Health Support Centres, 62 Family Health Teams and 25 Oral Health Teams, working at 24 PHC facilities, with 75.4% coverage. In addition, there are four prison health units with eight family health teams. The region has a population of 233,720, corresponding to 12.5% of the Federal District's population<sup>7</sup>.

HCP is being operationalised within a theoretical frame of reference developed and tested by the CONASS in Innovations Laboratories. In order to organise the macro-processes operationally, this new PHC model, grounded in the social construction of Primary Health Care, is applied progressively at different times<sup>8</sup>. It is based on the MCCC proposed by Mendes<sup>8</sup> for Brazil's single health system (SUS), and informed by the models of the Kaiser Risk Triangle for permanent chronic care and the Social Determinants of Health.

SAC macro-processes were addressed similarly with a view to learning about the target sub-populations of the catchment territory, as regards high- and very high-risk chronic conditions and management by multi-professional teams using chronic care technologies focused on diagnostic assessment and development of a care plan to stabilise users. Support provided to PHC teams in the catchment territory consists of continuing professional development to build capacity in risk stratification and chronic condition management, and of supervision of user care plans<sup>8</sup>.

The main goal of SAC is to stabilise users with high- or very high-risk chronic conditions clinically, with a view to reducing complications, hospital admissions and mortality.

The macro-processes are being organised, simultaneously in the PHC and SAC facilities and in an integrated fashion with both, in two stages:

- Stage 1: monthly series of theory and tutoring workshops, and progressive organisation of macro-processes, at moments of concentration and dispersion (during and between workshops), lasting at least 12 months;
- Stage 2: supervision at the region and facility level to improve macro-processes from the first stage, further series of theory and tutoring workshops, lasting twelve months or more, on processes to improve quality of chronic care.

Conceptual alignment was fostered through the theory workshops, firstly on "Health Care Networks in the SUS" (known as the "Mother Workshop"), for policymakers to grasp the HCP

concept. At that workshop, facilitators were chosen for the theory workshops<sup>9</sup>.

Before the workshops were held for health personnel in the region, six theory workshops were held for the facilitators, all of whom were graduate professionals, who were to conduct the workshops with the health personnel. Facilitators from the CONASS took part in support of all the theory workshops, whether for facilitators or health personnel.

The theory workshops lasted two days, with the "laboratory unit" (LU) personnel divided into two groups in order not to restrict the public's access to health care facilities by closing them for a day so that the staffs could take part in the process. The workshops were held once a month or at up to 45-day intervals.

In PHC, the first two "laboratory units" (LUs) selected – given this name because it was there that the first tutorial activities took place – were the Itapoã 1 and Itapoã 2 health facilities, which met the criteria established to be considered a "laboratory". The tutoring discussions, conducted with the health personnel in the LUs, continued with the themes of the workshops. In 2018 two more LUs were brought into the process.

In parallel with the work in the LUs, discussions began on setting up SAC in MCCC, and a space was selected for installing the service at the East Region Hospital. A continuous care team (cardiologists, endocrinologists, nurses, social assistant, nutritionist, clinical pharmacist, psychologists, physiotherapist, nursing technician) was gradually formed and capacity-building was undertaken permanently to operationalise the new proposal.

The line of care chosen by the administration in the Federal District was care for diabetes and hypertension in view of the health indicators for morbidity and mortality from these diseases. In early 2017 the SAC team, in collaboration with the region's PHC services, drafted "Technical Note No. 1"<sup>10</sup> containing clinical guidelines to underpin the whole process of risk stratification and clinical management of diabetics and hypertensives.

Activities to implement macro-process organisation were conducted simultaneously in, and were integrated between, PHC and SAC. Each LU and the SAC chose tutors (one at each health facility) to support the activities. These worked a protected four hours per week to give the tutoring. The tutoring process, conducted by providing direct support to the health personnel and teams as they performed their care and man-

agement functions, was directed to strengthening their competences in terms of knowledge, skills and attitude.

The tutoring process comprised three key components<sup>9</sup>:

- Review of the theoretical fundamentals, always brief and to the point, and introduced into discussion of the processes and, where necessary, with reference to the process of continuing professional development;

- Supervision of the activity *in loco*, in dialogue with the person directly responsible. The purpose of the supervision was to observe the individual's attitude, knowledge and application of norms and recommendations; to determine how the activity was being conducted in the light of current norms and recommendations; to ascertain that the process was recorded in the care log and information systems; and to identify anomalies and propose corrective action.

- Evaluation of the problems or anomalies identified, analysis of causal factors, prioritisation and formulation of an action plan, following the other steps of the PDSA cycle (Plan–Do–Study–Act or Adjust)<sup>11</sup>.

Tutors received continuous capacity-building as new processes were introduced into the LUs. The tutors provide operational and educational support to the Family Health teams and are prepared to “pitch in” with the team personnel, rather than playing the role of managers or inspectors.

In the tutoring, activities are agreed on for the intervening periods between workshops, when the health personnel are to proceed with organising processes according to the action plan drawn up during the tutoring.

In the periods between the theory and tutoring workshops, the action plans and other products are presented and discussed. At the time the (thematic) theory workshops were taking place, the tutoring conducted by the CONASS facilitators was under way in the LUs and SAC, in an endeavour to apply in practice the theoretical foundations given in the workshops, as part of the discussion of the processes and with referral, when necessary, to continuing professional development.

Relations between PHC and SAC were thoroughly clarified and organised, because access to SAC is not free, but rather each user must be referred by the PHC teams in line with previously agreed criteria and conditions. Relations of confidence and respect between specialist and generalist health personnel make for more effective

and higher quality integration between the two levels of care. Users identified in PHC as being high- or very-high risk are referred to SAC. Both levels engage in shared monitoring and integration under a user care plan.

Of the new forms of multi-professional clinical care, efforts were directed to introducing continuous care immediately. This is sequential individual care given by personnel of a multidisciplinary team under a user care plan, mediated by a process management matrix.

The first Action Plan, drawn up at the first tutorial, is updated monthly on the basis of the activities conducted in the LUs and SAC. Each month new work processes are introduced, and measures implemented the previous month are evaluated.

Another important aspect of the HCP process in the Federal District is the matrix support provided, in person or remotely, by the specialised care personnel to the PHC personnel, guiding them in the appropriate management of low- and medium-risk hypertensives and diabetics and discussing the more complex cases, so as to set up shared care of such users at the PHC level.

In the supervision given to the facilities towards refining their macro-processes, new series of theory and tutoring workshops are necessary to enhance the quality of care for chronic conditions. Here it is sometimes fundamental to complement the HCP by holding short courses to contemplate needs identified in the course the process.

In early 2018, HCP in the East Region was expanded. New cycles were started, theory and tutoring workshops are ongoing, while the actions in the other LUs and in SAC continue. It is stressed that, in the expansion, the theory workshops were conducted by personnel from the region, with support from the CONASS and the central level of the Federal District State Health Department (SES/DF).

## Results and discussion

Health-illness processes have changed over the years as the result of shifts in populations' epidemiological and demographic profiles, accelerating and disorganised urban growth and changing food habits and lifestyles, all of which has led to rising rates of chronic health conditions<sup>3</sup>.

Health systems are in crisis in most countries, Brazil among them, as a result of the mismatch between the health situation and the social re-

sponse of these highly fragmented systems, which fails to address the predominant health situation. To reduce this inconsistency, certain changes are required: in the health care system, from a fragmented health care system to one integrated into Health Care Networks; in the model of care, from the model of care for acute conditions and events, to a model of care for chronic conditions; and in the model of management, from supply management to population-based management<sup>3</sup>.

Health care networks, originally proposed in the Dawson Report, returned to prominence in the 1990s and were proposed by the Pan American Health Organisation as one solution to the fragmentation prevalent in its member countries' health systems<sup>12</sup>. With a view to favouring access, optimising costs and fostering quality health care, in 2010 Brazil's Ministry of Health issued administrative order No. 4.279<sup>5</sup>, setting out guidelines for organisation of health care networks within the single health system (*Sistema Único de Saúde*, SUS) and defining them as "organisational arrangements of health actions and services of different technological densities which, integrated by means of technological logistics and management support systems, seek to guarantee comprehensive care".

Silva<sup>13</sup> argues that networks offer structurally more suitable conditions for achieving comprehensive care and are indispensable to improving the quality and continuity of health care at the various delivery points.

In 2016 the CONASS implemented its planning project, at first for PHC only. It adopted Health Care Planning, an instrument for managing and organising PHC and SAC in HCNs, integrating health care actions and services by setting up a network, strengthening the health region and operating with a focus on work process quality improvement and risk management<sup>14</sup>.

Lavras<sup>15</sup> considered Brazilian and international authors to be almost unanimous that strengthening PHC constitutes the main strategy for the process of coordinating care and reordering systems with a view to setting up HCNs.

Macinko and Harris<sup>16</sup> considered Brazil's Family Health Teams to be a robust strategy for delivering PHC to specific populations and, in evaluating their impact on population health, cited results including: better access and quality, greater user satisfaction, improved child health, lower infant (particularly post-neonatal) mortality, reduced mortality from cardiovascular and cerebrovascular causes, lower hospital admission rates for conditions amenable to ambulatory care

and lower rates of complications of chronic conditions, such as diabetes.

In the Federal District, PHC has been widely debated and discussed in all respects, and was made the point of departure for changing the work processes of Family Health Teams in the Itapoã Administrative Region, where Convert/PHC and the health care planning process were launched at the same time.

In late 2016 and in 2017 six thematic planning workshops were held, in line with the tutoring to be given for introduction of the PHC macro- and micro-processes at two primary health care facilities in Itapoã, involving 11 family health teams, six oral health teams and the Family Health Support Nucleus (NASF).

Through Convert/PHC, the number of Family Health Teams and their catchment territories were rescaled, and three new teams were added. Due to space limitations at one of Itapoã's PHC facilities (UBS 2), the teams were allocated to a new PHC facility and began to take part in the planning.

When HCP was expanded in 2018, the administration opted to extend actions in the East Health Region to contemplate the PHC facilities in the São Sebastião and Paranoá administrative regions. This achieved 75% coverage of all the administrative regions of this health region, introduction of 48 family health teams and 19 oral health teams, involving 850 health personnel and 21 PHC facilities.

In addition to the six theory workshops suggested by the CONASS, the East Region innovated by incorporating a seventh workshop to address the guidelines for oral health in the Federal District.

Two years on from the project's introduction into the region, many advances have been seen in PHC relating to improvements in both quality of care and process indicators. The main processes set up in the region include: implementation of humanised reception, identification of family vulnerability (family risk classification), introduction of scheduling by user choice within "blocks of hours", discussion and specification of the "dashboard panel" indicators to be monitored, risk stratification of hypertensives and diabetics, care for high- and very high-risk diabetics and hypertensives shared with the SAC, and ambulatory care personnel providing matrix support for family health teams.

Major progress was also observed in user registration and electronic PHC user records (e-SUS AB), better organised user and personnel flows

in PHC facilities, more integration among personnel (particularly with dental services), team meetings being organised, introduction of collegiate management and integrated scheduling of care among specialities.

Some processes are still at the development stage, which is to say they were not completely established by the end of 2018, despite ongoing practical moves towards organisation, among them, introduction of electronic PHC user records (e-SUS AB, version 3.0), organisation of operative groups for chronic conditions, introduction of registration monitoring, introduction of the physical and financial planning spreadsheet and monitoring of care plans by PHC teams. It should be stressed that these processes, although set as priorities by the regional health administration, proceed at different rates and not homogeneously among family health teams and administrative regions.

In this period, short courses were held to complement HCP, among them: risk stratification of hypertensives and diabetics, framed by reference to Technical Note 1/2017; theoretical and practical training for doctors in ophthalmology for hypertensive or diabetic users; and workshops on supported self-care.

A Regional Steering Group was set up to oversee and take part in the evaluation and monitoring of the overall planning process. Representing primary and secondary care entities at the central and regional levels of the SES and CONASS, it met regularly at the close of each tutoring workshop.

Integration among levels of care provision is known to benefit from the introduction of health systems integrated into networks. Hartz & Contandriopoulos<sup>17</sup> found that such interaction fosters coordination of clinical practices with a view to “assuring continuity and comprehensiveness in the services required from different personnel and organisations, and their coordination in time and place, according to the knowledge available”. They also point to important factors that favour such integration, such as: formation of multidisciplinary, interdisciplinary teams; effective participation in the care network guaranteed by a common coordination function; guidance from a powerful information system to assist decision making; sharing of responsibilities and capabilities; and financial resources.

These same principles inform HCP. Accordingly, as the East Region’s PHC personnel risk-stratified hypertensives and diabetics, so the SAC function organised to receive the high- and

very high-risk users, always seeking to achieve shared continuity of care.

From the outset, the organisation of SAC processes benefited the sub-population of high- and very high-risk hypertensives and diabetics in Itapoã, where the SAC facility began activities with capacity to treat 30% of such users residing in that administrative region. In 2018 these activities were extended to users from São Sebastião and Paranoá, where clinical capacity for addressing these same health conditions was unstable.

To begin with, the SAC facility offered partial continuous care, with a multidisciplinary and interdisciplinary team comprising the following professional categories: nurse; endocrinologist, cardiologist and ophthalmologist; dentist (already allocated to the East Region Hospital); nutritionist; psychologist; and nursing technician. In 2018 the team was expanded by adding social service, physiotherapy and clinical pharmacy personnel.

Introduction of this set up called for certain measures: adaptation to purpose of the physical space and specification of a portfolio of services and personnel essential to delivering continuous care to diabetics and hypertensives, including the nurse responsible as the point of support; adjustment of flows, both internal and of appointment scheduling by PHC; preparation of user-flow pathways specific to each professional category in the ambulatory team; development of clinical protocols to be shared with PHC, for managing conditions such as crises of hypoglycaemia, hyperglycaemia, hypertension and others; and installation of a Secondary Care Directorate in the organisational structure of the State Health Department (considered to be an indirect enhancement induced by implementation of HCP).

At present, the SAC facility is open from Monday to Friday, offering treatment on the Model of Care for Chronic Conditions, but delivering comprehensive continuous care, by appointment, to 8 to 10 users per shift, three days a week.

Shared care, as proposed by HCP, has been used in managing many chronic conditions, because it yields better outcomes than primary or specialised care. Smith *et al.*<sup>18</sup> suggested a tendency for shared care to improve outcomes of depression and probably to have mixed or limited effects on other outcomes, such as improved blood pressure management (as indicated by the small number of studies of shared care for hypertension, chronic kidney disease and cerebrovascular accident).

In Brazil, a shared care programme was set up at the Chronic Care Innovations Laboratory (*Laboratório de Inovações de Atenção às Condições Crônicas*, LIACC) in Santo Antônio do Monte (Samonte), in Minas Gerais. One of its key strategies was to integrate care for chronic conditions in order to minimise the burden of such conditions, particularly in pregnant women, children under two years of age, hypertensives and diabetics. Introduced in collaboration with the PAHO, CONASS, Minas Gerais State Health Department and Samonte Municipal Health Department, it was conceived as “a strategy for improving management of chronic conditions and strengthening health system capability”<sup>19</sup>.

The study reports that the innovations laboratory used the same health care model and methodology as used by HCP: MCCC, PDSA cycle, implementation of PHC micro-processes and PHC and SAC macro-processes; risk stratification of chronic conditions; the new health technologies (continuous care, shared group care, operative groups and so on); multi-professional and interdisciplinary work teams; and preparation of care plans to be shared with the PHC function.

The main outcomes from the laboratory were: greater satisfaction among health care teams and users; improved indicators for mother and child mortality and control of glycaemia in diabetics; and a nearly 50% increase in assessed institutional capacity to provide care for chronic conditions<sup>19</sup>, as evaluated by the Assessment of Chronic Illness Care (ACIC) instrument, designed to evaluate chronic care through the perceptions of health personnel<sup>20</sup>.

At the East Region ambulatory facility, both team personnel and users are clearly satisfied, as can be perceived from what was said at the tutoring workshops, in individual reports on group shared care and in consolidated user satisfaction survey reports.

The new functions inherent to SAC facilities operating on the MCCC model are care, supervision, clinical research and continuing professional development. Particularly prominent among these in the East Health Region was continuing professional development in the form of implementation of matrix support from SAC specialists for PHC personnel, with the participation of the multi-professional team.

This process of continuing professional development extended the personnel’s scope for action and further informed actions by both levels of care, as well as consolidating shared care by of-

fering opportunities for mutual adjustment and technical support between PHC and SAC teams.

Matrix support, given periodically (weekly), is directed to problematising, planning, scheduling and executing activities in collaboration between SAC and PHC. It features a horizontal, dialogical relationship among the health professionals, based on a user-centred approach, and an intersubjective and interdisciplinary focus. These activities are assured protected times scheduled on the agendas of the professionals involved, both the family health team organisers, who specify the cases or situations requiring matrix support, and the SAC professionals providing matrix support to the family health teams.

Matrix support is provided in person or remotely in various different modalities: shared individual care, shared collective activities, joint discussion of clinical cases and thematic matrix support. Shared individual care is provided jointly by at least one SAC professional and one professional from a family health team. Shared collective activities, conducted by a group at a volunteer user’s home, involve SAC personnel (nutritionist and psychologist) and family health team personnel under joint coordination. Joint discussion of clinical cases and topics, which is strongly related to continuing professional development, is agreed among the health personnel involved, and related planning involves choosing the cases and topics and scheduling the actions to be taken (with the teams formulating proposals jointly as a group, care sessions and interventions, health surveillance actions, monitoring and others).

The strong points of matrix support in the Federal District are considered to be the availability of the ambulatory team specialists and the activities conducted to align concepts, which make for integration among professionals and expertises.

Although HCP has been implemented in the East Region for too short a time to generate outcome indicators, the management of the Paranoá Regional Hospital reports that, by analysing the emergency care sessions, they have seen a reduction in the number of users receiving care for complications of diabetes and hypertension.

Even given the results presented, HCP poses challenges daily, when the pace at which events should proceed from a technical standpoint is different from the administration’s political pace, at times making it impossible to assure the continuance of processes that have been started.

In the Federal District, where an outpatient department already existed at the East Region

Hospital, providing care in the traditional manner, the main challenges in setting up a specialised ambulatory facility with MCCC directed specifically to care for hypertension and diabetes were to adapt the physical space, modify the established services and work processes, and make health professionals' time available exclusively for applying the model and changing the ambulatory facility's timetabling. This demanded conceptual alignment among the health workers.

As Health Regions do not have the autonomy to engage personnel and increase their working hours, or to procure the necessary furniture, materials and equipment, the process of structuring HCNs was slow. In addition, certain specialities essential to the chosen priority line of care, such as vascular surgery and nephrology, were unavailable in the region, and it was necessary to engage an additional nutritionist and to adjust the health personnel's working hours, which are still insufficient to expand the planning to the East Region's other Administrative Regions (Paranoá and São Sebastião).

The diagnostic and laboratory support system is being strengthened slowly and gradually, because this entails reorganising a new structure in the Superintendence, which was begun in 2016. Also, the Federal District's Regulatory Complex is in the process of readjustment, which has posed difficulties in access to certain specialised examinations and specialities not offered in the ambulatory facility.

## Final remarks

The final result expected from the planning is introduction of HCNs in the health regions, with PHC as the function organising and coordinating care in integration with SAC and, subsequently, with hospital care.

Primary health care in the East Region has made advances in improving quality of care, although effective investment in related support systems, especially diagnostic and therapeutic support, has yet to be made and there are also difficulties in integrating the HCN with existing logistics systems.

In SAC, an Ambulatory Specialities Centre was introduced with continuous care delivered by a multi-professional team to high-risk hypertensive and diabetic users stratified in PHC, and receiving shared care.

Integration between PHC and SAC occurs mainly through matrix support provided by SAC personnel at the health facilities.

HCP in the region has, in fact, proved to be a useful management tool for organising health services, although for quality of health care to gain visibility in the Federal District, it is important to secure sustainable planning and capillarity of the process in all the health regions.

Health care planning has constituted one avenue, which it is hoped will continue to be successful in producing positive impact on implementation of HCNs, so as to add value to benefit especially the most vulnerable of the population.



## Collaborations

MJO Evangelista, AMDAN Guimarães and MZS Lins participated in conception and design of the paper, and drafting and review of the manuscript; EMR Dourado, RBMPM Silva and SA Schwartz participated in data collection and analysis; and MAB Mattos made a critical analysis of the paper. FLB Vale worked on the outline of the article, on the research and organization of the data, on the writing and the approval of the version for submission to the publication.

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