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Assessment of delivery and childbirth care in the maternity units of *Rede Cegonha*: the methodological paths

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Abstract *This article describes the methodology used to evaluate delivery and childbirth care practices in maternity hospitals that belong to the Rede Cegonha, according to scientific evidence and rights guarantee. It shows the maternity selection criteria, the evaluated guidelines, their devices and check items, the method used to collect information and the treatment of data to obtain the results. It discusses the chosen guidelines and the strategy of returning results to managers and services and discusses their potential to foster management qualification processes and obstetric and neonatal care. This is a study of delivery and childbirth care practices of 606 maternity hospitals selected for the second evaluation cycle of the Rede Cegonha. The methodological paths stood out for the construction of tripartite co-responsibility for the process and the evaluation results, with an emphasis on its usefulness for the decision-makers and the hospital institutions involved.*

Key words *Health assessment, Maternity hospital, Health management, Childbirth care model*

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Introduction

Brazil launched the "Stork Network" or *Rede Cegonha* (RC) Strategy in 2011[1], with actions aimed at ensuring qualified care based on the rights of women and children in the pregnancy-puerperal cycle until the child is two years old, in addition to the programs and proposals already established at the national level[2-4]. The RC, in line with the demands of women's movements regarding obstetric violence, assumed the need to change the model of care for delivery and childbirth and to reduce maternal and neonatal morbidity and mortality, bringing into the list of proposals broad institutional support for managers and strategic services.

Therefore, the state governments were invited to join this initiative, create a guiding group and prepare Regional Action Plans. As a proposal for the qualification of care, the RC has the following guidelines: (i) embracement and risk classification, expanding access and improving the quality of prenatal care; (ii) linking the pregnant woman to the reference unit and safe transportation; (iii) good practices in delivery and childbirth care according to the recommendations of the World Health Organization (WHO); (iv) health care for children from zero to twenty-four months of age, with quality and resolution; and (v) access to reproductive planning actions[1].

The change in the obstetric and neonatal care model is encouraged when discussing the network regional design, establishing a commitment with managers to change the care practices during delivery and childbirth, especially in hospital services that have joined this initiative, aiming at a care model centered on women and family and based on the available scientific evidence[5-7].

Financial resources were allocated to high-risk maternity hospitals that joined the RC as incentives for attaining the achieved goals. Resources were also invested in the implementation of vaginal birth centers, homes for pregnant women, babies and puerperal patients and changes in the environment of obstetric centers in line with RDC N. 36/2008 of the Brazilian Health Regulatory Agency (Anvisa)[1,8].

The RC is organized into four components: (i) Prenatal care; (ii) Delivery and Childbirth; (iii) Puerperal Period and Comprehensive Child Health Care and (iv) Logistics system (health transportation and regulation).

The periodic evaluation of these components in the states, health regions and health services is recommended in the RC[1] and constitutes a methodology that is inseparable from their implementation process, allowing the expansion of the capacity of reflections and actions by SUS managers and of obstetrics and neonatology services[9,10]. Therefore, two evaluation cycles were carried out; the first in 2013-2015 and the second in 2016-2017.

In the absence of a national information system with the systematic registration of data regarding delivery and childbirth care practices, data collection was carried out on site.

In the first evaluation cycle, from 2014 to 2015, three guidelines and their respective devices were evaluated regarding the degree of implementation: (i) embracement and risk classification in obstetrics; (ii) free-choice and full-time companion; and (iii) skin-to-skin contact between mother and newborn (NB). To measure these guidelines, tripartite teams (with representatives from the Ministry of Health, State Health Secretariat and Council of Municipal Health Departments - COSEMS) were established in each state[11].

In the second evaluation cycle, from 2016 to 2017, there was an expansion of the guidelines and maternity hospitals to be evaluated, covering five guidelines: (i) embracement in obstetrics; (ii) good practices in delivery and childbirth; (iii) monitoring of care and surveillance of maternal and neonatal mortality; (iv) participatory and shared management; and (v) environment.

Starting with 250 maternity units evaluated in the first cycle, there were 606 maternity units and 20 health care backup services for the admission of newborns to the neonatal ICU in the second cycle. The appraisal view was broadened to all hospital services located in the health region with a RC action plan agreed until 2015. This increase in the number of guidelines and maternity hospitals resulted in the need to establish partnerships with research institutions for their achievement. The National School of Public Health - Fiocruz (*Escola Nacional de Saúde Pública*-Fiocruz (ENSP) of the Oswaldo Cruz Foundation (Fiocruz) and the Federal University of Maranhão (*Universidade Federal do Maranhão*, UFMA) were selected for the development of the evaluation process. These institutions were chosen because of their previous experiences in the SUS evaluation processes: the program *Nascer no Brasil*and the Program for Improving Access and Quality in Primary Care (*Programa de Melhoria do Acesso e Qualidade na Atenção Básica-PMAQ*/A), respectively.

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Due to the importance of the interfederative partnership in the implementation of the RC and the agreed management responsibilities[1], the participation of the local managers and COSEMS representative was maintained throughout the process of the second evaluation cycle, including the presence of SUS management representatives during the on-site visits.

This study is about the project to evaluate care during delivery and childbirth in the maternity hospitals linked to RC: its conception, objectives and methodological design. Information on the evaluation process of the 20 health care backup services for newborns at risk that do not attend to childbirth and delivery were not covered in the article.

The maternity hospital assessment project: dilemmas, challenges and propositions

Maternity hospitals comprise a prominent *locus* in the qualification of care for women and their children, and in coping with maternal and neonatal mortality[12]. For that purpose, the RC invested in changes in the model of care for delivery and childbirth in hospitals, where 98% of births occur in Brazil[13], and where the biomedical model still prevails, with high rates of Caesarean sections[12], of which concept is "having control" over women's natural and physiological processes[7,14,15].

Built over decades, this model is based on the idea that a woman's body is defective and requires corrections[14], resulting in an excess of interventions and increased risks. In this paradigm, a set of practices has been incorporated into childbirth care, many of them without scientific proof of their effectiveness[16].

Recommendations on interventions in childbirth care have been published, over the past few decades, aiming to guide managers and professionals[6,7,17,18]. Most of these recommendations reaffirm the physiological potential of childbirth and reinforce the idea that care actions are essential to achieve good results[6,7,17].

However, there is a mismatch between the evidence and its incorporation into services, indicating the challenge of expanding, in the hospitals, the ability to change their work processes and the daily practices they are used to, resulting in more and better health[18]. Unrecommended practices still remain in obstetric care services, which are harmful to the health of women and babies, with a low incorporation of what is recommended as good care[18-20].

The project for the evaluation of maternities linked to RC encompassed the challenge of contributing to changes in this complex scenario, creating opportunities to involve the subjects of work (managers and workers), seeking their co-responsibility, bringing a dialogical methodology that escapes the perspective of simple measurement and framework of services from an external perspective[9].

In addition to assessing the degree of implementation of the RC guidelines and devices, this evaluation process focused on the possibility of activating collectives, aiming to analyze their practices and the ways they organize work[9]. A principle in the process of creating and implementing the evaluation of maternity hospitals was that the value of an evaluation is directly related to its usefulness regarding the improvement of the daily practice of policies and organizational learning, resulting in gains for the intended results. Therefore, the assessment was based on what Figueiró et al.[21] highlighted: the evaluation focused on its applicability, with the involvement of stakeholders, generating changes in thoughts and behaviors, in institutional practices and culture, as a result of learning during the evaluation process. Adopting the assumption of focus on the usefulness requires the necessary consistency between the purposes and evaluation procedures[21].

Taking into account the importance of synergy and harmony between policy makers and managers working in the real world and the social researchers, focused on theoretical reflections and the validation of their studies among their peers, an expanded coordinating group of evaluators with representatives from the general coordination of women's and children's health of the Department of Programmatic and Strategic Actions / MH, ENSP / Fiocruz and UFMA was created.

Within the scope of the objectives of this evaluation, issues that were important for SUS were included: (i) assessing the degree of implementation of good practices in delivery and childbirth care; (ii) recognizing the potential of the local maternity teams and managers; (iii) identifying the limitations in the implementation of good practices; and (iv) promoting local dialogue and increase the capacity for reflection and action by SUS managers and the maternity teams.

The evaluation model adopted was based on the assumption that the appreciation of different subjects and the collectives, as well as the indivisibility between the managing and care methods, result in greater autonomy and the capacity to

transform the work reality[9]. Thus, issues related to the management model of the institution were considered, aiming to stimulate reflection on the existence or not of devices that make management more or less participatory, with the inclusion of workers and users. Considering the complexity of the topic, several dimensions of delivery and childbirth assistance were evaluated, namely: service access and quality, model of care and management of care, embracement, resolvability, good practices and unnecessary interventions in childbirth and delivery, taking as reference the National Humanization Policy[5-7,20,22,23], the RC[1], the Standards of Good Practices for Delivery and Childbirth[24,25], Guidelines for the Care of Pregnant Women: Caesarian section[26] and Guidelines for the Care of Pregnant Women: vaginal delivery[17], RDC N. 36/2008 of Anvisa[8] and RDC N. 50/2002 of Anvisa[27]. We aimed to develop instruments capable of capturing changes in services to improve their work processes.

These dimensions were translated, in the assessment tools, into guidelines, devices and verification items. Guidelines translated the investment axes necessary for the qualification of care and management for delivery and childbirth. Devices comprised the application of guidelines in work process arrangements aimed at promoting changes in the care and management models, which can be material (e.g., an architectural reform, an instruction manual) and/or immaterial (e.g., concepts, values, attitudes). The verification items gave objectivity to the devices, aiming to allow the identification of concrete actions to consolidate each device[23]. The set of questions studied were related to the RC guidelines (Chart 1).

Methodological design

Study type

The Participatory Rapid Estimation method[34-36] was recommended by the Pan-American Health Organization - PAHO - to guide the process of diagnosing a health situation. This technique consists of a simple and quick approach to obtain information that reflects local conditions, based on the perspective of the different social actors involved with the problems. The method, based on participatory planning, combines theoretical and practical knowledge, aiming to facilitating the development of local planning by the manager, together with the community that receives and evaluates the service.

Study site and period

Public and mixed hospitals (private hospitals insured by SUS) were included, which, in 2015, met the following criteria: having performed 500 or more deliveries in the health region with the RC Action Plan, regardless of the release of resources (n = 582); having performed fewer than 500 births, in a health region with the RC action plan and with the release of resources. Of the total assessed health facilities, 351 (58%) were public and the remainder were mixed, distributed in 408 municipalities (Figure 1), with 176 of them (29%) located in capitals and 430 (71%), in the interior.

All federation units were included, with 86 maternity units being located in the North Region, 174 in the Northeast, 224 in the Southeast, 81 in the South and 41 in the Midwest. This set of hospitals was responsible for almost 50% of deliveries in the country and 61.2% of SUS deliveries in 2017 (SINASC). Table 1 shows the distribution of maternity hospitals by legal characteristic and volume of births for the year 2017. Data collection was carried out between December 2016 and October 2017.

Data collection participants, techniques and instrument

In order to characterize all aspects of the guidelines, several methodological strategies were employed, allowing the analysis from different viewpoints. Three different data collection techniques were used: 1 - structured interview; 2 - documental analysis; and 3 - on-site observation.

The interviews were carried out with three key informants: managers; health professionals and puerperal women. The aim was to assess their perception of the delivery and childbirth management and care model.

For maternity hospital managers, coordinators / heads of department (doctor and nurse) of Obstetrics and Neonatology, the interview was collective. For the other key informants, the interviews were carried out individually. A total of 606 collective interviews were carried out involving 2,504 managers.

The health professionals (doctors, nurses and nurse technicians) that were individually interviewed per maternity hospital were intentionally selected and varied according to the volume of births in 2015. In maternities with up to 1,000 births/year, five workers were interviewed: a doc-

Chart 1. Characterization of the five Guidelines that guide this evaluation process.

Guideline	Description
1 - Embracement in Obstetrics	Emphasizes that the embracement in maternity hospitals has particularities specific to the needs and demands related to the pregnancy-puerperal cycle. Common pregnancy complaints can often mask clinical situations that demand rapid action, which requires qualified listening and gain of skill for a judicious clinical judgment. It aims to ensure access to and resolution in health care for women, as well as for newborns throughout the service, involving the reception, assistance spaces, measures to provide a definitive answer and/or responsible referral to other places[28]. In this sense, the Embracement associated with the Risk Classification tool aims to reorganize the admissionand all the assistance in maternity hospitals. The Embracement and Risk Classification (E&RC) leads to the health professional'sdecision-making basedonqualified listening, associated with clinical judgment founded on a scientifically based protocol, enhancing teamwork through systematic institutional communication[29].
2 - Good Delivery and Childbirth Care Practices	Theywere based on what Obstetrics produced in terms of the review of scientific studies analyzing a set of practices employed in delivery and childbirth care. Following the methodology that seeks to collect the best available scientific evidence, the WHO published their recommendations, called Good Delivery and Childbirth CarePractices[5,7,21,22]. These recommendations were updated in the document published by the National Commission for the Incorporation of Technology (CONITEC / MS), the ¨National Guidelines for Normal Childbirth Care"[17]. They are based on the principle of the right to information and women'sempowerment and autonomy during all aspects of this care. They highlight the need to incorporate social and emotional dimensions to prenatal care and childbirth and recommend the abolition of the routine use of several obstetric practices considered inadequate, non-beneficial and harmful in childbirth care, stressing the importance of including good delivery and childbirth care practices and ensure, at the time of delivery, the woman'sintegrity and privacy. Good practices include the provision of a diet during labor, deambulation, continuous support, access to non-pharmacological pain relief methods, verticalized positions during childbirth, skin-to-skin contact and timely umbilical cord clamping. Also described in the document are the practices that should be abolished or reduced, including the routine use of venoclysis and oxytocin to accelerate labor, routine amniotomy, bed restraint and the imposition of the lithotomy position duringdelivery, episiotomy and Kristeller maneuver[5,7,17,21,22]. For the WHO7, changes in access to and provision of services will only be achieved when women are strengthened in their empowerment and their human rights, including having their right to quality services in childbirth respected.

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tor and a nurse working in Obstetrics and the same number of professionals in Neonatology / Pediatrics, plus a nurse technician. In maternities with 1,000 births or more, ten professionals were interviewed: two doctors, two nurses and a nurse technician working in Obstetrics, and the same number in Neonatology / Pediatrics. The group corresponded to 5,132 health professionals. Managers and professionals with less than three months of experience in the maternity ward were excluded from the study.

Finally, all postpartum women who gave birth at the establishment from 00:00 on the first day of the team's stay on the field up to 23:59 on the last day were selected. Postpartum women with severe mental disorders, those who did not understand Portuguese, those with hearing loss, those hospitalized due to miscarriage or who were admitted to the Intensive Care Unit during the postpartum period were excluded.

The minimum sample size of puerperal women in each macroregion was calculated based on the vaginal delivery rate of 50%, to detect differences of 5%, with a significance level of 5% and power of study of 80%, totaling a minimum of 1,800 puerperal women for each macroregion. In order for the sample size to be proportional to the number of births in the macroregion, a fixed number of days of postpartum women's inclusion was established in each macroregion, ac-

Chart 1. Characterization of the five Guidelines that guide this evaluation process.

Guideline	Description
3 - Care monitoring and maternal and neonatal mortality surveillance	It points to the fact that monitoring, through the use of indicators, allows the evaluation of the performance of health services and the planningof improvement actions, therefore beinga fundamental action for service qualification[30,31]. At the same time, maternal and neonatal mortality surveillance provides knowledge, detection or prevention of the determinants of these deaths, with the purpose of recommending and adopting measures to prevent new deaths. Care monitoring and surveillance of maternal and neonatal death allow health professionals and managers to identify weaknesses in the work process, promote discussion, reassessment and reorganization of care, care flows and assistance processes[30,31].
4 - Participative and shared management	It discusses the idea that traditionally, health services organize their work processes based on the knowledge of professions and categories, and not on common objectives. This type of organization has not guaranteed that the practices of the several workers are complementary, or that there is solidarity in care, nor that the actions are effective in termsof offering dignified, respectful treatment, with quality, embracement and bond. This has led to a lack of motivation among workers and little incentive to involve users in the health production processes. Therefore, the participative management is a valuable tool to build changes regardinghealth management and care methods. This management model is one of collective construction (those who plan are those who perform it) and occurs in collective spaces that ensure that power is in fact shared, through analyses, decisions and evaluations built together[32]. Mechanisms that guarantee the active participation of users and family members in the daily lives of health units are essential in this model, both for maintaining the social bonds of hospitalized users and for their inclusion and that of their families in the treatment.
5 – Environment	It points out that the environments intended for the care of women and newborns during delivery and childbirth can favor or hinder their physiology. From the entrance door to the joint accommodation, these environments must be welcoming and organized aiming to include the woman's companion duringthe entire process. Good delivery and childbirth care practices recommend that a private and comfortable environment should be ensured during labor, with an area for ambulation and access to non-pharmacological pain reliefmethods, especially the warm water shower and/or bathtub. RDC 36/2008 of Anvisa8 regulates the delivery and childbirth care environments considering that they are family, social, cultural and predominantly physiological events. It establishes changes from the traditional model of pre-delivery and delivery room to the PPP Room model (where the woman is in the same environment during labor, delivery and postpartum), ensuring freedom and conditions for choosing different positions during labor. If an at-risk baby needs to be hospitalized, the parents'free access to and permanence at the neonatal unit must be ensured, as they are essential people in the care process. Comfort, noise and light intensitycontrol must be ensured, aiming to reduce the stress inherent to this situation. In addition to the guidelines, issues related to sexual and reproductive health were included in the assessment to broaden the view and encourage change in maternity practices. Therefore, important issues were also analyzed regarding the effectiveness of the National Policy for Integral Care to Women's Health - PNAISM33 such as: reproductive planning actions and humanized care for women in situations of miscarriage and sexual violence.

cording to the size of the population: two days in the Southeast and Northeast regions, four days in the North region, five days in the South and seven days in the Midwest region. This strategy allowed the inclusion of 1,800 to 2,500 puerperal women per macroregion, with a total inclusion of 10,665 women distributed into 606 institutions.

The documental analysis aimed to obtain information about service management, work processes and organization of care, as well as to

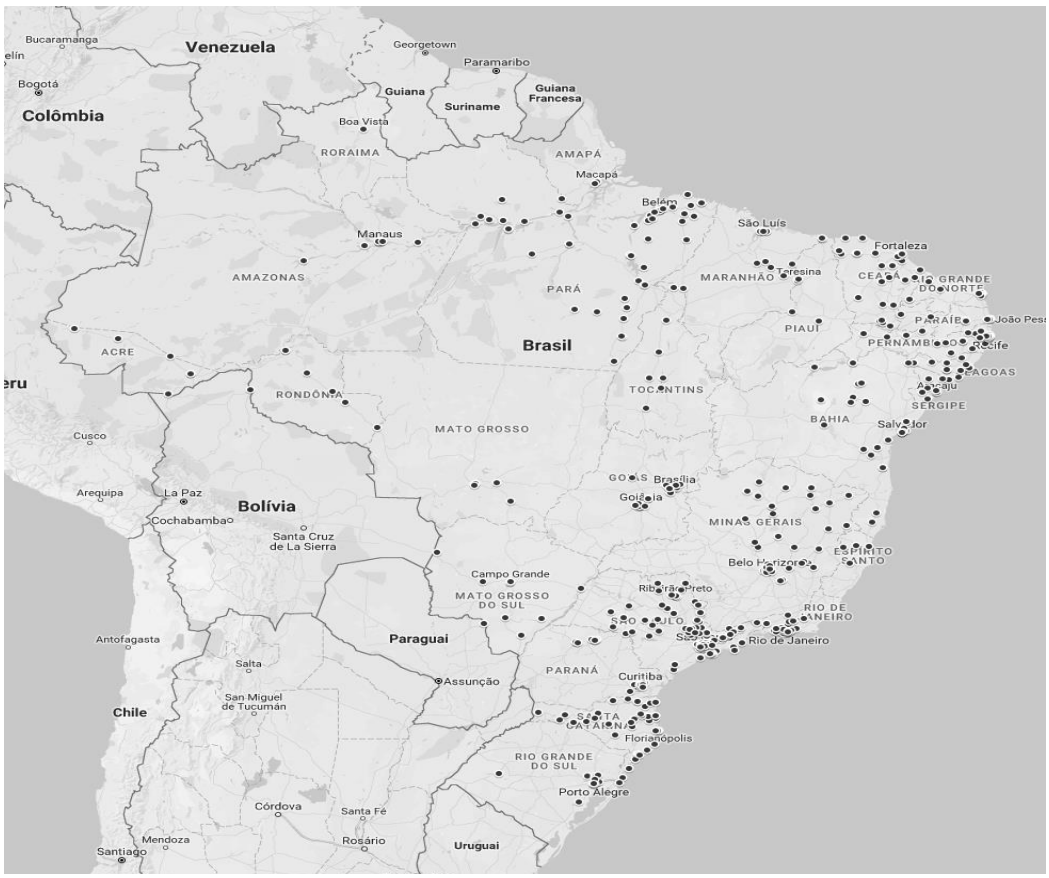

Figure 1. Municipalities with evaluated institutions.

Table 1. Distribution of maternity hospitals by legal characteristic and number of deliveries (number of live births), Brazil 2017.

Legal Sphere	Up to 299	%	300 to 499	%	500 to 999	%	1000 to 2999	%	3000 and over	%	Total n. of Maternity hospitals	%	Total n. of LB	%
Non-profit entities	0	0	2	0.9	47	20.4	128	55.7	53	23	230	38	510,821	35.1
Municipal	1	0.6	3	1.7	46	25.4	82	45.3	49	27.1	181	29.9	395,380	27.2
State	0	0	2	1.3	18	12	71	47.3	59	39.3	150	24.8	452,464	31.1
Business entities	0	0	0	0	6	24	11	44	8	32	25	4.1	55,658	3.8
Federal	0	0	1	5	3	15	12	60	4	20	20	3.3	41,146	2.8
Total	1	0.2	8	1.3	120	19.8	304	50.2	173	28.5	606	100	1,455,469	100

Source: Sinasc 2017, Cnes 2017.

verify the availability of process indicators and results of delivery and childbirth assistance. Protocols, norms and routines were requested, and their availability was assessed. The following data were also obtained from the puerperal women's medical records: type of delivery, spontaneous or induced labor, analgesia during labor, diet, use of a partogram, oxytocin, amniotomy, episiotomy, Kristeller maneuver performance, as well as from the newborn's record: Apgar score, birth weight, gestational age, use of oxygen, admission to the Neonatal ICU, maternal breastfeeding and conditions at discharge or death.

The on-site observation aimed at evaluating care processes and the status of the infrastructure, physical plant, equipment, materials, supplies and number of obstetric and neonatal beds in the hospital. This observation was carried out by going through the institution accompanied by an employee appointed by the management, and, whenever possible, a representative of the State Health Secretariat and the Municipal Health Secretariat.

In total, seven field instruments were used: manager's questionnaire; worker's questionnaire; puerperal woman's questionnaire; analysis of the medical records; observation script; analysis of documents and bed counting scripts.

The collected data were recorded in an electronic form, on the web platform REDCap (Research Electronic Data Capture). After collection, a critical analysis and cleaning of the databases was carried out to ensure completeness, coverage and consistency.

Fieldwork

The fieldwork, carried out through visits at each maternity hospital, had a team consisting of a supervisor and evaluators for each state. Health professionals with work experience in maternity hospitals, time availability and communication and computer skills were selected.

Aiming to ensure the standardization of the teams and the good development of the field work, theoretical and practical training were carried out with a minimum workload of 40 hours for supervisors and evaluators, with the regional coordination of evaluation and technicians from the Ministry of Health being in charge of the process. Representatives from partner institutions – SES, SMS and COSEMS – also participated in the training, and whenever possible, they accompanied the application of the documental analysis and on-site observation instrument. The directors were contacted by e-mail, containing an explanation about the evaluation and, after consent was obtained, the visit was scheduled.

Data analysis

There are countless possibilities for approaches and analytical designs that can be constructed from the study databases. Aiming to assess the degree of implementation of good practices in delivery and childbirth care in public maternity hospitals in Brazil, a judgment matrix was constructed in compliance with what is established in the documents and legislation that guide the RC[37]. The evaluation model that was chosen considered the specificity of different contexts, the multifaceted characteristic of delivery and childbirth care and incorporated participatory tools, which, based on the perception from different angles - users, health professionals and managers - about the delivery and childbirth care provided by the maternity hospital, produced a result that was closer to the reality.

The judgment matrix consisted of the five RC guidelines, which were divided into seventeen devices and, in turn, emerged as sixty verification items. These were selected to reflect what is essential in the qualification of care for all women and babies, what needs to be changed or improved, reflecting the care model indicated by public policies. The meeting of the established criteria consisted in combining and crossing over of the key informants' viewpoints and the information obtained through the documental analysis and on-site observation. The matrix validation relied on the participation of Ministry of Health technicians from the General Coordination of Women's and Children's Health and Maternal Breastfeeding, and from the Department of Science and Technology, professors from the Department of Public Health of the Federal University of Maranhão and researchers from the National School of Public Health and Fiocruz National Institute of Women, Children and Adolescents.

In addition to being an instrument for assessing the implemented public policy, the set of variables that comprise the different databases allows knowing the sociodemographic and health profile of women and newborns, the structure, process and results of the evaluated maternity hospitals, as well as correlating the health disorders and problems of this population group with the social status, use, access and quality of care provided, permitting the description and quantification of health inequities. It also allows assess-

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ing the degree of satisfaction of the woman who is a SUS user, regarding the care received during hospitalization for childbirth.

The data were processed using the statistical software (Stata version 14 and R; SPSS version 21).

Feedback of results

In accordance with the objectives of the evaluation of maternity units from *Rede Cegonha*, the feedback given to the states and services was planned to include, in a broader way, in the state workshops, the Ministry of Health, the partner institutions, managers, workers, and the institutions that carried out the evaluation (ENSP / UFMA).

Evaluation reports were prepared for each Brazilian state, divided into three parts: (i) characteristics of the participating maternity hospitals, managers, workers, and puerperal women, (ii) results by guideline, device and verification item by state and maternity hospitals, (iii) state results of non-scored items. The non-scored items refer to those included in the interviews with managers and workers with an inducing effect.

The creation of specific reports per maternity hospital had as guiding criterion to favor the collective and shared considerations on the current situation of the services, since the produced information, in addition to representing a situation from the previous year, had the pretext of being used as a tool to dialogue with the involvedsubjects[9]. Therefore, the picture observed at the time of the evaluation could be discussed in the light of the current situation, calling on the services to assess their own health actions[9]. The report of each maternity hospital was constructed to allow this comparative analysis between the observed situation and the current situation regarding each verification item[38].

From this perspective, the feedback was shown to be a device aimed at strengthening the managerial space for producing accountability for the assessment findings and for developing strategies to overcome the identified weaknesses.

The positive feedback from the Ministry of Health state managers on the adequacy and compatibility of the results of the maternity hospitals, at the time of the preparatory meeting aiming at providing the feedback to the services, reaffirmed the consistency of the scope of the evaluation process and the obtained results. Nothing was new, but it provided more light, consistency and scientific evidence to reaffirm the foci of investments required to change care and management practices in maternity hospitals.

Ethical aspects

The study was approved by the Ethics Committee for Research with Human Beings at the Federal University of Maranhão and Sérgio Arouca National School of Public Health, on December 14, 2016. All puerperal women interviewed gave their consent to be interviewed and granted the use of their information by signing the Free and Informed Consent Form (ICF), of which they received a copy.

Final considerations

Assessing the management and care practices for delivery and childbirth showed to be a challenge, considering the complexity of the topic, the insufficient practice of monitoring and evaluation in maternity hospitals, in addition to the lack of national information systems to record obstetric and neonatal care actions.

During the creation and validation of the instruments, it was observed that measuring work processes and management arrangements using quantitatively structured instruments was a difficult task. This is a challenge that deserves a new look at the next evaluation cycle.

Some methodological limits were observed. Relying on the subjective analysis of managers and workers results in nuances of more or less critical positions regarding the assessed issues. Hospitals still undergoing an incipient process of incorporating good practices, evidenced by the puerperal women's negative responses, showed a tendency towards the overestimation of the response to the item by managers and/or workers. The inverse situation was also observed in hospitals that were more advanced regarding the implementation of good practices, which, in general, were more stringent in their criticisms and self-rated more negatively. This was overcome, in part, with the attribution of greater value to the puerperal women's response in the evaluation item, which was critically and reflexively considered in the feedback provided to the services.

When it was not possible to obtain information from the puerperal woman, the item was given a lower global value, as it was understood that the perspectives of all those involved were not recorded there.

Differences in size, number of deliveries and the type of assistance provided by maternity hospitals (low and high-risk), were reported in the feedback given to some states, as factors that hinder the implementation of certain work processes. The explanation of the methodology used to obtain the results made the discussions clearer about what is essential to qualify the delivery and childbirth care for any and all pregnant women, either low or high-risk. The debate provided an opportunity to identify the services' difficulties to change the traditional way care is provided and to incorporate new, scientifically recommended practices. Considering that hospitals represent one of the contemporary institutions that are most impervious to changes, the discussions favored the reflection on the need for new attitudes and opinions.

Although difficult to measure, the crossing-over of results between the several assessed items led to a closer interpretation of complex issues in the organization of work processes in the services.

Among the objectives of the evaluation of delivery and childbirth care in the maternity units of *Rede Cegonha*, the challenging task of making movements stands out, promoting local articulation and expanding the capacity for reflection and action by SUS managers and maternity teams. In this sense, it can be said that, as a transforming action in obstetric and neonatal care services, the maternity assessment project opened new perspectives and produced knowledge. The importance of bringing the assessment to the joint reflection field has been translated into methodologies and instruments with the potential to increase, together with the workers and managers of the maternity hospitals, the capacity to analyze the routine of the services.

What emerged as a result was a powerful collective movement in most states, translated as the active participation of managers and workers at different times, from the preparation for entering the field, initial meetings with local SUS managers, up to the moment of the on-site assessment and feedback workshops. This last point showed to be particularly powerful in terms of the participants'(managers' and workers') involvement in the analysis of the results, as well as their co-accountability regarding the construction of strategies to deal with situations that need to be changed, until the intended results are attained.

This seems to be the greatest legacy of the evaluation process of the maternity units of *Rede Cegonha*: an experiment that allowed the teams to expand their action potential through the exercise of bringing the evaluation scope into the daily health care work.

Collaborations

MEA Vilela, MC Leal, EBAF Thomaz, MASM Gomes, SDA Bittencourt, SGN Gama, LBRAA Silva and ZC Lamy participated equally in the study design, data analysis and writing of the manuscript.

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