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Citation: Grilo Diniz, C. S., de Castro Bussadori, J. C., Lemes, L. B., Dantas Moises, E. C., de Campos Prado, C. A. & McCourt, C. (2021). A change laboratory for maternity care in Brazil: Pilot implementation of Mother Baby Friendly Birthing Initiative. Medical Teacher, 43(1), pp. 19-26. doi: 10.1080/0142159x.2020.1791319

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Link to published version: https://doi.org/10.1080/0142159x.2020.1791319

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A Change Laboratory for maternity care in Brazil: a pilot implementation of the Mother-baby Friendly Hospital Initiative

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To cite this article: Carmen Simone Grilo Diniz , Jamile Claro de Castro Bussadori , Luana Beatriz Lemes , Elaine Christine Dantas Moisés , Caio Antonio de Campos Prado & Christine McCourt (2021) A change laboratory for maternity care in Brazil: Pilot implementation of Mother Baby Friendly Birthing Initiative, Medical Teacher, 43:1, 19-26, DOI: 10.1080/0142159X.2020.1791319

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To link to the published version of this article: https://doi.org/10.1080/0142159X.2020.1791319

Introduction

Brazil is a middle-income country with over 200 million inhabitants and high levels of economic, regional and racial disparities. Universal health care was established as a right under the Constitution since the late 1980s, as a result of social movements that were part to the re-democratization process, following the military dictatorship (1961-1984). (1)

The Brazilian Unified Health System ('Sistema Único de Saúde', SUS) provides free universal, comprehensive and equitable health care coverage, however, there is a private sector, also called "supplementary", that is used by around 25% of the population, ranging from more than 50% of the population in wealthier states to less than 20% in the poorer ones. (1)

Maternal health care in Brazil is known for its high rates of caesarean sections (CS), over 55% in the last decade for the general population (40% in the public sector and 86% in the private sector). Maternal mortality decreased if compared to the 1990s rates, but since 2000, this downward trend has been slowing down, despite the increase in maternal care coverage. (2) In both in public and private sectors, close to 90% of births are attended by medical doctors with surgical training. High rates of interventions in childbirth, and little if any antenatal education, are routine in both sectors. The last national survey on childbirth care (2011/2012) showed that in the public sector, women

who had a vaginal birth typically were attended with obsolete, painful, potentially harmful interventions such as physical immobilization, episiotomy, augmentation of labour contractions, and most had limited their right to companionship, guaranteed by law since 2005. (3)

The institutional culture in maternity services in Brazil, as well as health providers' training, not necessarily contemplates patients' rights to bodily integrity, to privacy, or to informed choice or refusal of interventions. (4)

The high acceptance of CS in Brazil, and elsewhere, is a complex issue with cultural, economic and institutional particularities. In Brazil, social movements and researchers understand that maintaining this aggressive management of vaginal birth is determinant for the acceptability of pre-labour elective caesarean, as the authoritative model of care in Brazil. The slogan by social movements "Enough of violent birth to sell c-sections" captures the recognition of this "pessimization" of birth experience and how this reality can make CS appear to be, comparatively, safer both physically and emotionally. In this context, those who are able to pay often resort to a CS to escape the uncertainty and risks of "attempting" a normal birth. (5)

Recognizing this problem, many initiatives, both by civil society and government, have worked to change in this culture, in local, regional and national levels, since the 1990s, aiming to introduce evidence-based and rights-based maternal and child care, with less or more success. (3,6) Since the early 1990s, social movements in partnership with services and local governments, helped to change practices, legislation and provider training, with some positive changes in public policies. (7)

A recent initiative in this direction was the Mother-Baby Friendly Birthing Facilities (MBFBFI), launched in 2014 in Brazil by the Health Ministry (as an appendix of the Baby-friendly Hospital Initiative), and internationally in 2015. It aimed to change 10 of the main problems of hospitals' "unfriendliness" in childbirth care, such as promoting:

(1) Freedom to move, eat and drink;

(2) Respect to privacy;

(3) Right to companionship;

(4) Use of evidence-based care and prevention of inappropriate interventions;

(5) Freedom from discrimination;

(6) Freedom from physical and emotional abuse;

(7) Access to pain relief, non-pharmacological or pharmacological when appropriate;

(8) Affordable or free care;

(9) Cultural sensitivity; and

(10) Appropriate care for the newborn: facilitating skin-to-skin mother-baby contact in the full 1st hour after birth, rooming-in, and we added, delayed cord clamping. (8)

Perspectives on the so-called humanized care models are increasingly difficult to implement, with the advancement of forces related to market and institutional deregulation, aiming to resume a more medical-centred model of care in childbirth, at the expense of an interdisciplinary, evidence-based humanized care that was developed, in recent decades. One example is the recent attempt to prohibit the presence of midwives or doulas in maternity hospitals, or the participation of doctors in interdisciplinary teams in out-of hospital birth. Other symptom of this conflict is the formal recommendation by the Ministry of Health in May 2019 to abolish the use of terms that are critical to the medicalized model, such as “obstetric violence”. (9)

In our case, we have opted for the more diplomatic terms “mother-friendly” to facilitate the dialogue with providers, having in mind that these concessions in language have pros and cons in promoting change. (6) This choice has a political history, based on how social movements interact with their political partners in our local reality. Since the early 1990s, the Network for the Humanization of Labour and Birth (Rehuna) in its founding documents, starts from the recognition of “the circumstances of violence and harassment in which care happens”. (10) However, the organization deliberately decided not to talk openly about violence, favouring terms like “humanizing childbirth”, “promoting the human rights of women”, to prevent a hostile reaction from professionals on the charge of violence. (6)

We want to affirm our epistemic freedom, our right to define our reality with the most appropriate terms and to define obstetric violence, as it is – a form of institutional gender violence. (7) At the same time, we can opt to use more diplomatic terms, such

as humanization, mother-friendliness or equivalents, to promote the dialogue with our partners.

In this paper we want to briefly share the experience of an intervention research to develop, and evaluate the sustainability, of a participatory implementation of the MBFBF 10 Criteria, in one public training maternity hospital in the State of São Paulo, Brazil, inspired in the Change Laboratory (CL). This is a hybrid experience, as the research started in late 2016, and we "met" to the Change Laboratory nine months later, when we adjusted the methodology to better incorporate the insights of the CL.

This project is part of a broader effort to democratize and mainstream human rights and patients' rights in health care, driven by the creation of the SUS, and its aim for social inclusion and health promotion, understood as a universal right and a state duty. (1) In recent years, the attacks to these principles are increasing and presently the legislation guaranteeing funds for public health care is being dismantled. (11) Producing research on the viability and social benefits of the rights in health care is especially strategic to preserve social advances in times of anti-iluminism. (12)

Methods and setting

The original protocol described this research as having a quasi-experimental, before-and-after design, with mixed methods, and we have added on the process, inspired in the Change Laboratory (CL) methodology.[1] The Change Laboratory is an intervention method developed by Engeström et al., (13) with the idea of supporting participants in rethinking and redesigning their work and how it is organized. It is based on the idea of an expansive learning process built from analysing and questioning an activity system, considering the historical roots of these systems, and their potentiality for change in the present and the future. Although the method is quite open in its process, it provided us with a road map to navigate through the series of challenges that we faced.

[1] We want to thank the Change Lab group in the School of Public Health, in the University of São Paulo specially prof. Rodolfo Vilella, and Amanda Macaia, who coached us in several moments, for igniting this partnership, and who organize a regular module on the Change Lab there, where CSGD had the chance to meet professors Jaakko Virkkunen, Laura Seppänen, Reijo Miettinen.

In this meeting about Activity Theory, I will save you from my very basic knowledge of its theoretical and methodological complexities, as in this regard I am here more as a learner. The attraction to the CL was facilitated by the several affinities of the methods we had already chosen in the original research protocol, that included some historical exploration, constituting a group to co-create the process, observation of hospital activities, interviews and the common belief that to promote the sustainability of change, the group had to have the ownership of the process. This was particularly close to the ideas of the Change Laboratory as a formative intervention, understood as an "expansive learning processes in which learners wilfully reconceptualise and practically transform the object of their activity to face its unsustainable historically formed contradictions" (Sannino et al., p. 624). (14)

In our case, our research group had an intervention-research idea and approached two public maternity services in the State of São Paulo, one in the capital (São Paulo), and the other in Ribeirão Preto. Both hospitals were uncomfortable with their, let's say, "*lack of mother-friendliness*", and they were willing to rethink and reinvent their practices. Both hospitals by that time had training programs for health providers (mostly medical residents). Given the growing visibility of how distorted childbirth care in Brazil is, (3) there is a feeling of urgency for change and a number of initiatives have tried to change this reality, with variable success.

After presenting the project, getting all the steps of ethical approval, and securing the funding, we used observation of hospital shifts, interviews, focus groups, and historical and documental analysis. This is a quite complex activity system, with countless contradictions, which benefits from an approach such as the third generation of Activity Theory, "which implies that we are not only looking at a simple activity system, but the interplay between multiple activity systems which somehow are focused on partially the same object." (Lemos et al., p. 718). (15)

The hospital in São Paulo, reported here, is a Catholic institution founded in the 1930s, to assist single pregnant women; by that time, many of them were homeless after getting pregnant, often expelled from their families, or from the families they worked

for as servants, for their “dishonour”. For many decades it was called “The Single Mother’s House”, having up to now a slogan: “Never refuse anyone”. (16)

Presently, it is a public service, with a relatively good reputation in terms of the quality of care and rates of normal births, and is open to the general population. The care is provided mostly by nurse-midwives (which is quite atypical in Brazil), with medical doctors assisting more complicated cases.

We proposed the constitution of a working group with people from different sectors, including providers, managers and a patients’ representative, that joined the researchers in sessions every 3-4 weeks, in 2017-18, to analyse research data and redesign routines. Observation of all the working stages (following the route of the woman and her companion in the hospital, from admission to discharge) was carried out in three rounds (late 2016, 2017 and 2018) by undergraduate and graduate students of Public Health and Midwifery, who had some training sessions about service ethnographic observation. Regular meetings of the researchers also gave the chance to refine the instruments and share their insights, and to explore the nuances of the data.

Additionally, we used an adapted form of the “Maternal Safety Thermometer”[2], including most of the10 criteria, that was used periodically to measure interventions and outcomes.

This process produced hundreds of pages of reports, with thematic analysis of both qualitative and quantitative data, based on the 10 criteria of the MBFBF. Presently, we are aware that we produced much more empirical data than we are able to process, in every phase of the research. We already have several presentations in conferences, some of the papers submitted and a few already published, focusing the process of change in specific criteria.

Initial findings and “mirrors”: a first disruption

[2] The MST was developed by the NHS in England to measure maternity care in five main areas: perineal and abdominal trauma, post-partum hemorrhage, maternal infection, Apgar score of less than 7 in the 5th minute of life, admission in a neonatal unit (for full-term babies), and women's perception of safety. We adapted the MST to include most of the 10 criteria, with indicators negotiated with the service.

Before “meeting” the Change Lab, we presented the findings from the first round of observations. We reported, selectively, in a very cautious way, some of the main contradictions we encountered, and an evident problem was that providers in training had inappropriate supervision, leading to frequent relational and clinical trouble. In the words of the clinical director:

> I feel this way, as if the maternity service was a basket of fruits, in which the school arrives and takes advantage of it, without giving anything in return. Patients are fruits, they [the residents] come here and reap the fruits as they want. (Director, interview).

The problems included overtreatment for training purposes, and alleged safety issues related to lack of experience. Although in our view we were very cautious in our report, apparently this was quite disruptive, leading to the end of the partnership that the hospital had with the Medical School for training medical residents.

Shortly later, the director who terminated the Residence program (who was our main contact in the institution, and the one who approved the intervention) was fired. We were very concerned about what would happen to the intervention, and we felt somewhat responsible for this rupture. Fortunately we had the chance to talk to the director to better understand what had happened. According to him:

> I asked the preceptor of the residents – someone I´ve known for years – what was his work, what he used to do in a typical day. He said something like “I go to the ward, and I get the birthing woman who looks worse and take her to the residents”. I just could not believe what I was hearing. That was so unacceptable. (Director, post-firing interview).

After that, we had a series of meetings with the hospital’s top leadership to realign the process, and although other disruptions in human resources kept occurring, the intervention process continued.

Learning from history

Meeting the CL was strategic to encourage us to deepen the historical analysis. Although the recommendation “by the book” was not to exceed two sessions on the issue, we spent four sessions and it was unexpectedly illuminating, as several theses and a book were written about the hospital, with useful insights on the present challenges.

Against our preconception and first impression that the hospital was a kind of "Magdalene Asylum"[3] (18) that existed in Brazil and other countries, the nuns that founded the House fighted against the pressure for women to give their children to adoption, providing housing and income-generation opportunities for the poor mothers to live with their children. Indeed, the nun who founded the hospital was expelled from her religious order for insisting in working with these women. (18)

We found a document from the nun that coordinated the hospital in the 1970s/80s, who also terminated the contract with the same Medical Residence program. In her words, in the 1990s:

> As soon as the medical school left, the culture of natural childbirth began to emerge. The medical society regarded the physiology of childbirth as a pathology. We ran out of the school, so we had nurse-midwives, and doctors just for surgeries when necessary. […] Immediately, the rates of caesarean sections fell from 39.9% to 18%." (8)

According to her account, this change led to a great improvement in the outcomes and rates of interventions, just like happened again in present time.

In a previous decade, the chief medical obstetrician made the nun, who was the manager at the time, promise him that she would never admit medical residents there, for the same reason.

> He was the founder and director of the medical school. But he asked me never to give it [hospital] to the school. He asked me "I'm leaving and you do not let the school in". (8)

All this debate was useful for the redesign of the activity system without the trainees. In our view, the presence of trainees is not a problem, but the lack of clear protocols and supervision is, and the head of the hospital decided to solve these contradictions before resuming training programs.

[3] Magdalene Laundries, also known as Magdalene's Asylums, were institutions to house "fallen women". The term implied female sexual promiscuity; young women who became pregnant outside of marriage, or other kinds of "maladjusted girls". Many of these "laundries" were effectively operated as penitentiary work-houses. Unmarried women were coerced to give their illegitimate children up for adoption, and the institution would receive money for the child. (17)

We also invited a former chief nurse-midwife, who was very respected by the several generations of providers, to help with the historical analysis. She joined the group and became an important leadership in the process. In the 1990s and early 2000s, she had led many positive changes in the hospital.

> When she came it was like a party. She knows everybody who has been working here for years. [When she was in charge of the hospital] She changed everything [...] and people love her. So we took her for a maternity visit, and she was visibly so disappointed. All those improvements that she had promoted were gone. She had decorated a space in the middle of the birthing area, so lovely, with paintings and bamboo, for the personnel and patients, for people to relax in the shift. We were all asking ourselves what happened, as all of that has disappeared. (Nurse-midwive, working group).

We learned that by that period (1990-2000), the hospital was a kind of national leadership for having nurse-midwives in charge of most births, differently from the Brazilian typical model, but part of that was lost. It made us reflect upon how progressive change can be fragile and reversible, even in apparently stable services.

Major insights

We employed the concept of expansive learning, and thematic analysis about each of the 10 criteria, as "mirrors" for the working group to ignite innovative solutions, and to create instruments and indicators to stabilize and sustain change. Providers, managers and patient representatives joined the researchers in sessions, to analyse research data and redesign routines indicating improvements in each criterion.

The patients' representative in the group was a woman who had sued the hospital for obstetric violence, as she was arbitrarily deprived of her companion during birth and several other charges. Her participation – suggested by people of the hospital, was an act of courage to face the problems, and proved to be decisive in the process.

> At first I was a bit angry with her here and with what she said, how she said. It was sometimes hard to hear, but it made us think. I thank her very much. I miss when she is not here and wonder what she would say. (Nurse, working group).

Together with the observation of the activity system, the several mirrors presented to the group included a discussion of the service indicators (those that the hospital staff produced and a compilation of the national system's birth registration data, and we

found disparate numbers between the two data sources). We also had focus groups with patients (outside of the hospital), and providers: nurses, ancillary nurses, doctors (obstetricians, neonatologists, anaesthesiologists), other staff dealing with public relations, communications, management, patient safety, hospitality, and others. The focus groups also evaluated, in several sessions, the "state of the art" of each of the ten criteria of the MBFBF, and proposed indicators to monitor the change of each of them.

The top leadership of the service, however, proposed that the main problem was the medical-nurse hierarchy, which was a very illuminating point of view, to analyse the evaluation of each criteria, and we mapped the obstacles and opportunities for change. These dynamics is complex, and in our observations, we learned that doctor-nurse hierarchy is superimposed with gender, social class and racial hierarchies. We are still to do justice to this insight, in analysis and action, since in this regard we have just touched the surface.

One of our major insights in the process was that there was an important shift in the new interpretations of the *object of the activity*, both nationally and internationally, which is key to understand the broader context of this project.

In one hand, the gradual mainstreaming of the new interpretations of the biology of childbirth, specially three aspects: the epigenetic process of gene activation to start spontaneous labour, signalling foetal maturity; the neuro-endocrinological effect of birth hormones; and the need for microbiome transmission from mother to child of the perinatal period. This new knowledge favours the promotion of spontaneous birth, in a calmer environment, with attention to women's physical and emotional comfort, with less to no interventions to disturb the normal processes whenever possible, in order to optimize the foetal to neonatal transition, the bacterial transmission through vaginal birth, the skin to skin contact, and early breastfeeding. (19)

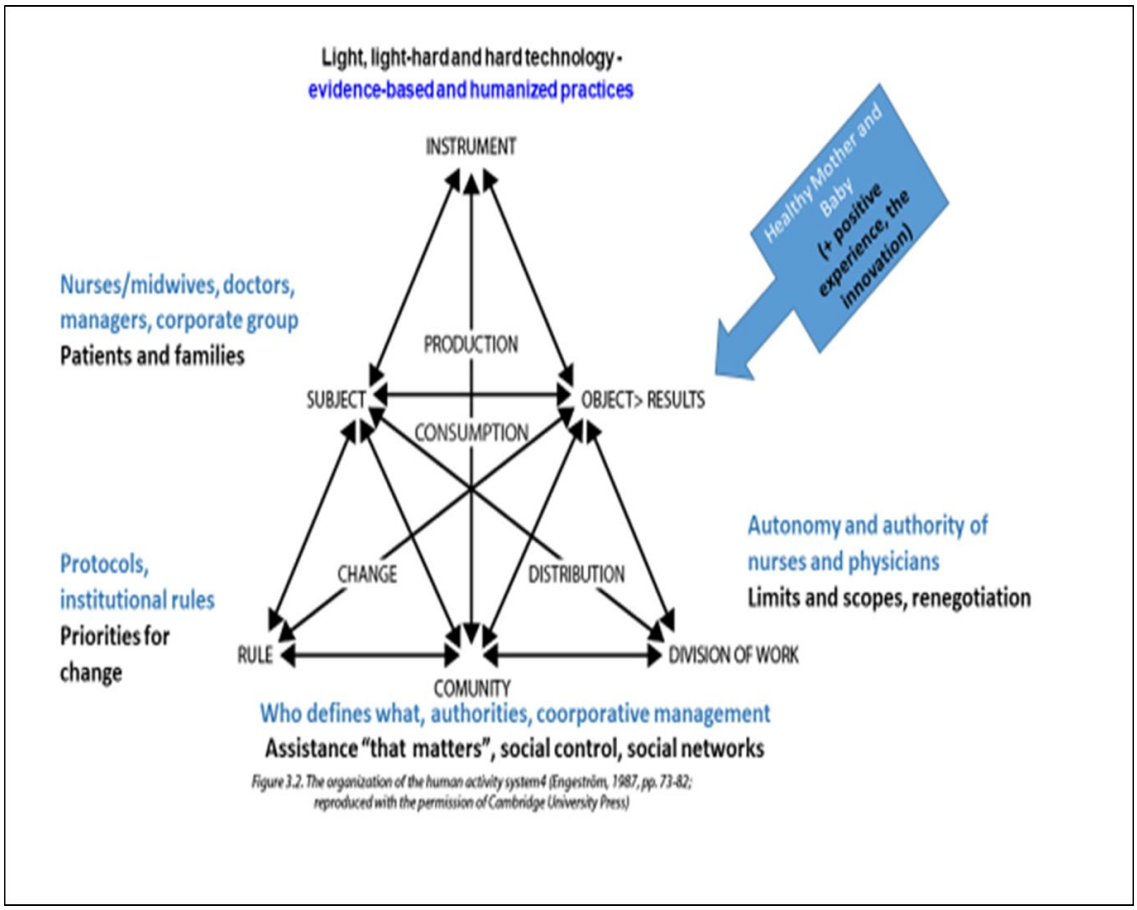


Figure 1: The activity system.In the other hand, a world-wide movement against abuse and disrespect in childbirth, and in its Latin American version, against obstetric violence, created the political environment for a set of changes in legislation and public policies towards a more humanized, evidence-based birth, helping to put the quality of the "maternal experience" in the top of the agenda. (7) Changing the *object* of the activity from "mother and baby alive and OK" to "enhancing maternal and baby's health and having a positive experience" changed the whole activity system (Figure 1).

Starting with the definition of the problem to be dealt with, in our initial understanding, the problem was the lack of "mother-friendliness", was defined by the incomplete fulfilment of each of the 10 criteria of the MBFBF. This was our initial agreement, based on the first mirrors presented.

In order to map the obstacles and opportunities for change, we will describe some of the 10 criteria and the contradictions related to the service´s barriers to fully implement the desired changes.

Physical immobilization: changes in freedom of movement and position of labour

We explored the contradictions, conflicts of interest, facilitators and obstacles to the implementation of freedom of movement and position during labour and delivery, from the different perspective of managers, health professionals and women, using the findings of the observations and group activities. We noted that the perception of managers and health professionals was quite different from what was observed in the service, as well as the opinions of the users.

The necessary adaptations of health services to facilitate women's freedom of movement during labour and delivery involve low costs, especially when considering the health and well-being benefits of women and baby. In Latin America, and in Brazil in particular, there is an understanding that the restriction to the bed during labour and to force women to give birth immobilized lying on the back (the litotomy or supine position) can be a form of institutional violence against women, since it hinders the physiological evolution of the childbirth and denies the birthing women their autonomy.

The difference in understanding of this issue is very marked. Health providers tend to believe that regular urban women are not able to take positions other them the supine one and attribute to them this preference:

> He [the health professional who lectures on the course] said: 'I'm not talking about indigenous women. They give birth squatting because it's their culture. But these women here give birth in the lithotomy position because it's instinctive'. (Participant in the hospital's doula training course, interview).

We observed that freedom of movement was more respected during labour than during delivery. Often, after having some freedom to move during labour, women were "positioned" in lithotomy by providers, who considered this position "instinctive" or "favorite for women". Some women said that they were willing to change positions and wanted to take initiative to assume a position different from the lithotomic one, but did not for fear of being reprimanded by the providers, or were openly restricted.

> The patient said she was not comfortable in that position and that her back was hurting, and asked if she could try another position. The nurse than said that in fact

> there were other positions, but she [nurse] would not be able to monitor the baby. (Observation of shift).

There was a recognition that most of the providers never had the chance to learn about assisting birthing women in alternative positions. A training program was proposed and role plays on this form of assistance were enacted in the Summer Program for Innovation in Maternity Care, organized by the research group in collaboration with the services (Figure 2).

Figure 2: Role play – Summer Program for Innovation in Maternity Care 2019.

Although several challenges remain, some advances were visible.

> [...] she came here with her birth plan in the shift of someone that is very resistant to these novelties. I was sure it would not work, [but it did and] the woman was so happy. And the provider was telling everybody that she assisted her first birth in squatting position. (Chief nurse, working group).

Companionship during birth

In Brazil, every woman has the right to a companion of her choice during labour, delivery and postpartum, based on the evidence of the benefits of physical and emotional support, and according to a federal law, since 2005. However, there are still challenges for the fulfilment of this right in most of the country's maternity hospitals.

In this case, although many problems persist there have been several initiatives to improve the ambience to better accommodate the companion. A key issue was

improving minimum privacy, through having single rooms to accommodate the couple, or having curtains in rooms with two patient´s beds.

A dedicated bathroom with shower was provided for the companions, who had before no place to bathe if they stayed in the service overnight or for days.

It seemed unanimous that the presence of the companion is beneficial to the woman. However, there are negative attitudes from professionals regarding their presence, and their relation to the inadequacies of physical space.

> I took the biggest fright! I went into the room to see the baby and a man was coming out from under the bed! (pediatrician, focus group)

A main problem is the lack of accommodation for the companion when they only have a plastic chair to spend the night. In this context, they try to turn around as they can and improvise some place less uncomfortable, infringing the rules creatively, much to the chagrin of the providers.

> It is not easy to deal with them [companions]. You remove them from the patient's bed, they lie down again... You say "you cannot, you have the chair". But you turn your back on them, and soon they're sitting on the bed again. (Nurse, focus group).

It was clear that some women and companions have relatively low expectation regarding care and hospitality, and some companions were especially grateful for being allowed to stay with the women, even with this infrastructure.

The problem of privacy – a patient right or a privilege for those who pay?

The service studied has the maximum score in a Health Ministry evaluation for maternity services, presenting many progresses and openness to change towards a more humanized care, such as a partial fulfilment of rights to companion and to rooming-in (joint accommodation of mother and baby), and the assistance by obstetric nurses. However, our dada show important points of mismatch between the official discourse and the assistance provided in daily life, and privacy is a main problem.

We understand that the problem of lack of privacy was much less visible before the emergence of the companion, especially the male ones. Many women report that they

resort to the private sector because they were afraid of not having their partners during labour. A frequent reaction against male companions in public sector was based on "women´s lack of privacy", which made possible questions such as: why do they have no privacy? Is it not a problem by itself, regardless of companions?

When we started the project, when the woman was admitted in the service, the patients remained with their clothes until the decision to be admitted was taken. After admission, they were given a hospital gown, a towel and soap right there in the screening room and they were asked to take a shower to get to the Birth Center. Even when she arrived with a wet hair because they just had a shower, women had to have a shower to be admitted. If they resisted, the admission was conditioned.

It was only explained that all the clothes they wore, as well as accessories, would have to be placed in that bag and given to the companion, since nothing could be left in the hospital. That was unnecessary and described by some women as unpleasant, "*like taking your identity*" as one woman said in a focus group. The gown was not very helpful for women´s privacy either:

> Shortly after bathing, they were not taken directly to Birth Centre, and had to stay in that room with a gown that barely allowed them to sit with their legs open (due to the size of their belly), a room in which other people (men and other relatives) came in at all times to accompany the pregnant women. "(Field notes)

Considering the original situation, changes in ambience improved much the privacy for patients, with screens, curtains and the possibility of a closed room. These items are important, and together with the new narratives about this change, it was frequently mentioned by participants that empathy, respect, and a welcoming attitude are even more important, and not dependent from expensive renovations.

Despite evident advances in relation to the structure, there is still much to be done in the sense that professionals, through protocols and personal attitudes, to effectively incorporate respect for privacy as a value, especially in relational aspects, such as ending the deregulated access of professionals to the delivery room. This point improved considerably with the end of the medical residence program, when students and

residents were a crowd of ten or more people in the delivery room, without any concern of having the birthing women the consent for their presence.

Are we going to talk about the vampires?

When we arrived in the service, in our first round with the director we had a shock. It was right after we got in touch with the World Health Organization (WHO) campaign for promoting late cord clamping, recognizing that when the baby is born, one third of her or his blood is in the cord and placenta, and ideally we should wait until the cord stops pulsating to cut it, otherwise the baby will be deprived of part of the blood. Delayed cord clamping is presently considered the main public health strategy to prevent infant anaemia. (20)

In this first visit, the director proudly presented their very elegant unit to collect cord blood from the new-borns, in a partnership with a private hospital. The unit was in a shouting contrast with the rest of the Birth Centre, with brand new and sophisticated finishing and machines. We asked again to confirm, yes, the mother of the new-borns were told (there was a sophisticated leaflet about it, to promote what was supposed to be an informed consent) that there was no health risk for mother or baby in donating the blood. The aim of the donation for stem cell harvesting, since the blood would otherwise, as stated in the pamphlet, "go to the trash". In practice, it sounded like taking the poor mother´s babies' blood to harvest stem cells for the private sector. The students were shocked, saying:

> "Are we going to talk about these vampires? What should we do?"

If we openly said what we believed, it would really risk the project continuation. We were intrigued that it sounded so obvious for us in our "conceptual bubble", but not for this community. We just brought to the service the new information about the WHO anaemia prevention campaign, without bringing the issue directly. The unit was eventually discontinued, and we still have to fully understand how and why.

Gender, change and innovation in maternal care: the role of social movements

Many of the most important changes in maternal care in recent decades have been ignited by organized women's movements, which in the northern hemisphere occurred in the 1970s and 1980s. In Brazil, these movements are more recent, but they are quite visible, and have contributed to changes in legislation and public policies (right to companionship and doulas, regulation of elective caesarean sections before 39 completed weeks, visibility of abuse in care and the registration of interventions such as episiotomy). In the last decade, new themes emerge with feminist, gender and sexual and reproductive rights approaches in maternal health, with the creation of a complex research agenda with growing international interest. (21)

We understand that the gender biases that modulate maternal health are expressed in a “correctional” approach to women´s bodies, an intrinsic notion that women´s physiology is incorrect (too slow, inappropriate, dangerous for the baby etc.). That has to be corrected by some sort of technology aimed to speed up labour (with drugs such as oxytocin, or with interventions such as episiotomy or fundal pressure), or bypassing labour and birth altogether, with a pre-labour caesarean section. (5) These gender biases are based on the idea of the superiority of technology over female normal bodily functions, leading to an overestimating the benefits of technology, and to the underestimating or denying the discomforts and adverse effects of interventions, and in corrective and discriminatory models of care. (5,16)

Other forms of inequity, such as racial disparities and poverty, being a single mother and without a companion, also seem to contribute to an additional vulnerability to this “correctional” perspective, as we have shown in the "mirrors" presented to the Working Groups. This is observed not only in vaginal births, as in CS. As in this case of a woman having this surgery, when tried to touch her baby, who was in the “maternal top” (a piece of cloth over the breasts where the baby is accommodated, used to facilitate skin-to-skin contact and early breastfeeding, used in all births):

> After these reprimands for trying to touch the baby (‘*you are going to contaminate the surgical field!*’), the woman returns to her uncomfortable position, arms outstretched and open. (...) Moments later, the woman again instinctively puts her hands back on the baby to welcome him. Angrily, the team reprimands again and without thinking in alternatives, like letting her

> hold her baby under the surgical field, one of the nurses takes two pieces of cloth and ties both arms of the woman in the support.

Given the demand brought about by the active participation of the users' representative and social movements in the Operative Group, we discussed how gender and other forms of inequity interfere in the design of assistance and in the scope and limits of change.

This reflection helped to understand the permanence of apparently irrational practices (because they are contradictory to scientific knowledge), such as compulsory admission bath, restrictions of movements and positions, and the permanence of directed pushing during delivery. (22)

The recognition and transformation of these political and cultural aspects of practices is key to achieving innovative, more effective, safe and rights-based health care.

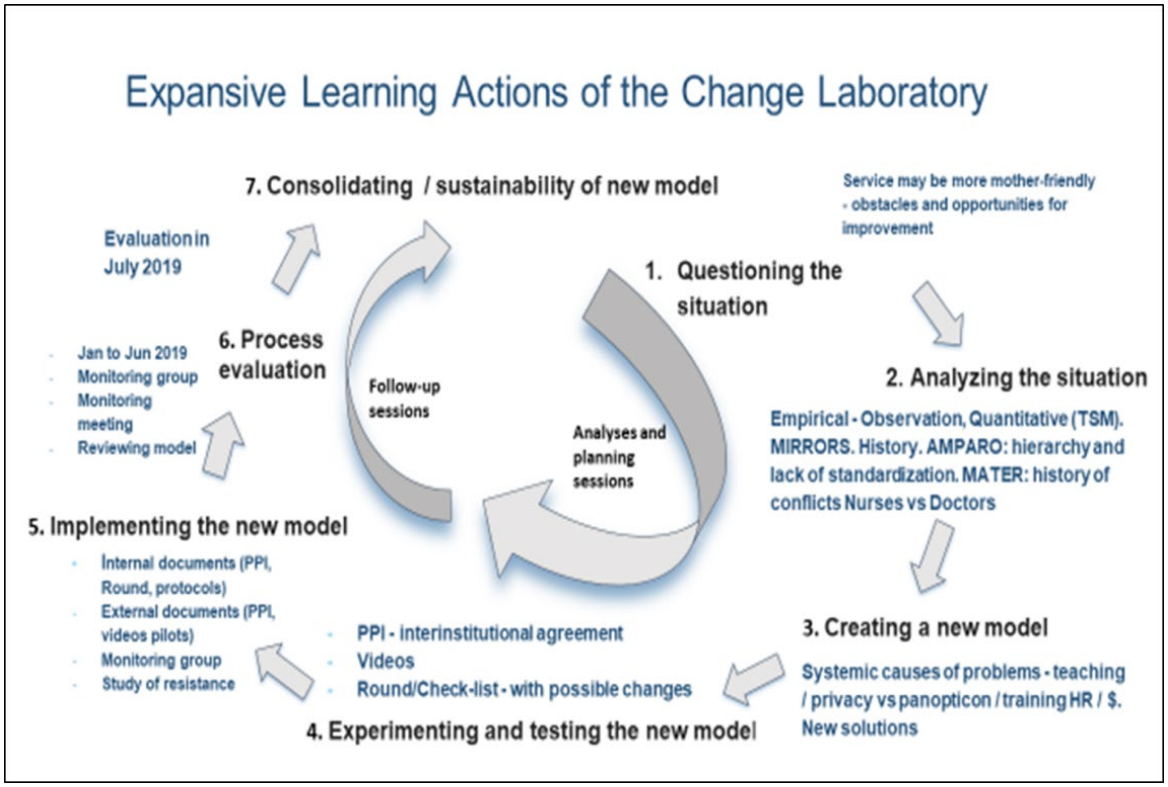
Expansive learning and the development of indicators

The analysis process, as already described, included several sources of empirical data, observation of the activity system, and a historical analysis of their determinants and contradictions, to improve our understanding of the systemic causes of the problems.

In our view, some of them were: contradictions between the needs of the trainees and the patients, leading to unnecessary interventions to provide training opportunities; the organization of care was dependent of patients having little privacy to facilitate providers' work (the "panopticum" perspective); poor standardization of care, with providers, specially doctors, paying little attention to institutional protocols (""doctors' unlimited autonomy); lack of systematic training in evidence-based, humanized care; patients lack of information (from antenatal care, and also from the institution) about what to expect from that institution or about their rights; discrimination of vulnerable populations, lack of infrastructure and limited resources to provide better care, such as individual rooms or accommodations for the companions.

Providers and managers perceive the excess of interventions, and impersonal provider-patient interactions, as a form of regulating their relation to problematic working conditions, inappropriate ambience, staff shortage, and deficient training in evidence-

based, humanized care. On discussing the rationale for using non-evidence-based interventions, such as the excess of labour inductions, it was also clear that several interventions to augment labour and reduce its duration were justified to reduce providers' burden in a context of staff shortage.



These points of view were relatively complementary, and from this recognition, we started the modelling of innovative ways to address the activity system, and changes on each of the 10 criteria were negotiated with participants, and instruments were created collaboratively to "stabilize" the new model, and respective indicators. A renovation of the physical space was one of the first initiative, after recognizing the unnecessary exposure of patients' privacy during admission, and the creation of an ambience for having labour and birth in the same room, whenever possible.

New protocols were put in place, and some practices considered discriminatory were abolished. One was the "admission shower" that was mandatory, and we thought it was part of the history of receiving poor, dirty single mothers, but the issue was much more recent and complex. Presently, women are to be received with a kit including tower and soap for her to have a shower whenever she felt like.

To improve the serious problem of the patient lack of information about what to expect, several media resources were created, based on the new ways to deal with the 10 criteria.

The institutional birth plan and other communication resources

One of these resources was an “institutional birth plan”, to align women’s expectations to what she could expect from the service, what she could demand, including issues such as space to walk around, non-pharmacological pain relief and how to access the resources (shower, balls, massage, doulas), meals options and timing, their right to companionship and to skin-to-skin contact. It is a beautiful and compact piece, made by a specialist in maternal health communication, Bia Fioretti-Foschi, who has done an extraordinary work given the limitations.

This birth plan is being piloted in three different settings: in the visit to the service, which is offered weekly to prospective users; in the “pregnant women´s course” offered by the institution, and by a primary health centre that refers pregnant women to the service.

A first experience was just assessed, and many challenges are evident. We noticed that all women like the birth plan, but are frequently intimidated to present it during admission, because of the fear of sounding too demanding. This was also noticed in our previous observation of the service, in a paradoxical way: it could help and empower, or could endanger and risk retaliation. There was even a local jargon for the informed patient.

> This was confirmed by the category of "informed patient", or PI, as reported by health professionals in the maternity corridors: these are women who know their rights, understand scientific evidence, and often work out a delivery plan staff at the time of admission. They write “PI”in the medical record. (field notes)

Figure 3 Segment of the Institutional Birth Plan

It became evident that women who arrive in the service with a written birth plan, knowing what they want for themselves and their baby, receive privileged treatment. If, on the one hand, this indicates an institutional concern to respect the women's birth plan (since there is a medical record in it), on the other hand it raises questions about equity. In this perspective, De Jonge et al. (23) indicate that more educated women are more likely to give birth in a non-supine position, whereas less educated and less informed women receive lower quality care. This was also found by Bohren et al. (24) in their systematic review on abuse and disrespect in childbirth care. In this way, the vulnerability of women who are less educated or with less access to information ends up being aggravated. In this context, it is vital to strengthen actions in primary care so that women receive clear and sufficient information about what awaits them in the maternity, including with encouragement to make their birth plan plan. In this direction, it is important to change the routine to offer all women the chance of having a birth

plan, and we are recommending asking all women if they have one, during they admission to the service.

Other resource we are experimenting now to inform women about what they are entitled to in the service is “The path for a humanized birth”, a poster with information about each stage of birthing women about: criteria for admission, who is who in the team, asking her if she has a birth plan, the difference between spontaneous and induced birth, and CS, meals during labour, non-pharmacological pain relief, choice of position during labour and birth, skin to skin contact, breastfeeding, and post-partum follow-up.

A video (animation) with information for the woman and her companion was produced, tested and evaluated, to be shown in the service TVs and social media. The animation was translated into Spanish (picture below) and French, and hopefully Chinese, to accommodate non-Portuguese speaking migrants.

A check-list with the expected changes was piloted, with the participation of the whole working group, and its use is still to be refined.

These instruments, in which we spent many meetings to negotiate every step to be taken in order to promote change, are presently tested with patients and providers, in the "pregnant women's course", in the service antenatal visits scheduled for potential users, and in antenatal classes in primary care services that refer pregnant women to the service.

These instruments start to be used as there is a recognition by the leaders in the service that non-standardization of the service provided is a key problem, which has many implications, including patient safety. The diversity of care depending on the professional and on call is very evident in the application of the thermometer.

> It is striking how frequently we can find a woman who has had a wonderful experience, having felt very respected, and in the next room, another woman who felt disrespected, suffered a series of unnecessary interventions and felt treated with rudeness. Or the same woman, who experienced more than one shift, having felt an abrupt difference in care - sometimes worse for better, sometimes the other way around. (field note, June 2019)

Conclusions/implications

These three instruments (the institutional birth plan, the animation/video, and the check-list) were developed based on the change that was considered possible by the service, and have several utilities: signalling a culture of change in the routine of the service, communicating to both users and providers of what to expect from now on, and was also useful for the admission of new providers, who could have a clear guide of the service routines, which can be very different from their training or other services where

they may work. It also serves as a guide to monitor the stability of change, as the check-list can be used by providers, and the birth plan, that can also be used by women themselves to monitor the service.

Together with these, our adaptation of the Maternal Safety Thermometer (which is gaining a new name, Mother-baby-friendly thermometer) provides reports for the leadership about how the changes in each of the criteria is functioning, making visible differences in teams and shifts of the services, and the trends over time.

This process promoted changes in the admission and training of health providers, preventing misalignments between their original training and the new care philosophy, and between patients´ expectations and the care provided. The sustainability of change will be monitored monthly in 2019, and new advances can be negotiated, with respective change in the instruments for monitoring.

A training program in the initiative is now being updated, with the participation and its third round was in February 2019, with several participants of the hospital, and patients' representatives, talking about their experience in the project.

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