Appendix 1. Drivers of Optimal Mode of Delivery Identified at the Start of Project Appropriate Birth

Aim	Primary drivers	Secondary drivers	Change concepts
Promote healthier moms and babies achieving 40% of vaginal physiologic birth by November 2016	1. Coalition of major stakeholders aligned around primacy of safe mother, safe baby	1. Alignment of financial incentives, hospitals and health plans 2. Drive change and remove barriers to create a learning and culture improvement 3. Engaged, activated community expecting best, safest care	1. Leaders, champions, front line with the skills to do continuous improvement 2. Educate senior leaders, providers, community, and patients about the benefits of vaginal physiologic birth 3. New contract between payers and providers creating incentives for quality and safety 4. New contract between health plan or hospital creating incentives for quality, safety, and vaginal physiologic birth 5. Activate the community
	2. Empower pregnant women and their families to choose the care that is right for them (ensure readiness for vaginal physiologic birth)	1. Adequate information, based on evidence to support the best choice 2. Codesign and shared decision 3. Retake ownership of labor	1. Educate and instruct families and pregnant women to new care model 2. Public campaigns 3. The intangible aspects of being a mother—delighting the pregnant women and families 4. Listening to mother and families
	3. New care model to accomodate the longer time frame of vaginal physiologic birth	1. Perinatal redesigning 2. Confident and competent caregivers who can support vaginal physiologic birth 3. Supportive environment for clinicians promotes *joy in work* 4. Shared care for each mother-child unit 5. Reliable implementation of best clinical practice	1. Protocols and standardization for perinatal care 2. Physical space redesign (adequate ambiance for vaginal physiologic birth) 3. Invest resources to conquer healthy work environment 4. Well trained team to assist the deliveries 5. Team assist all pregnancy phases 6. Protocols and standardization for delivery and postpartum
	4. Data systems that support learning	1. Transparency 2. Select measures to reflect quality and safety	1. Establish some quality and safety measures, report them to the providers 2. Establish some quality and safety measures, report them to the general public 3. Create the capability to reliably collect information to generate measures and results

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Appendix 2. Survey of Effectiveness of Tested Changes (n=32 Hospitals)

Primary Driver	Change		% of hospitals that implemented	Strength*
Form a coalition of health sector leaders centered on quality and safety in delivery and birth related care	Provide training on the Model for Improvement		100%	8.4
	Dedicate 20% of the hospital's board meetings to PPA every month		91%	7.6
	Provide clinical training on how to assist vaginal birth (nurses and obstetricians)		90%	7.8
	Hospital establishes aim to increase vaginal birth and reduce adverse events		82%	8.5
	Board of Directors creates a budget to invest in the quality and safety of maternal care [1]		74%	7.7
	Hospital develops new contracts with payers aligned with quality and safety		59%	7.6
Empower pregnant women and families to choose most appropriate care	Provide multidisciplinary antenatal classes [2]		97%	8.25
	Guided tour of maternity		97%	8.1
	Have public campaign advocating for vaginal birth		83%	8.1
	Create antenatal records with reliable information and provide incentives for its use [3]		81%	7
	Create conditions and incentive for pregnant women to fill in a pregnancy/labor plan		53%	6.5
	Provide pregnant women guided tour of maternity including NICU		43%	6.3
	Create a pregnant women council		6%	6
	Hospital is obligated by law to accommodate companion chosen by the pregnant woman during entire hospital stay		100%	8.3
Reorganize the perinatal care model to favor the physiological evolution of labor	Define acceptable practices according to protocols and standardization of pre-labor, labor, postnatal care and best practice to take care of healthy babies		100%	8.6
	Provide infrastructure to accommodate vaginal birth (stool, rocking chair with a support for the head, and other LDR equipment; and build or remodel labor delivery room)		96.8%	8.8
	Make nurse-midwives part of the team: 2 nurses per shift/90 birth/month. Provide another nurse-midwife for the triage		87.5%	8.8
	Improve communication among health care providers using huddles, SBAR, watchers		83%	6.8
	Adopt a policy of elimination of non-medically indicated (elective) deliveries before 39 weeks gestational age [4]		76%	8.1
	Hold scientific meetings with clinicians to discuss protocols, complications, adverse events		74%	8
	Adopt a policy to guarantee that protocols are followed by clinicians		73%	8.3
	Establish obstetrician caregiver model	Obstetrician on shift	53%	9.1
		External staff with the support of nurses on shift	20%	6.5
		Other (mixed models)	20%	-
		External staff organized as a team (4 or more)	3%	7.3
Structuring information systems that allow for continuous learning	Report Collaborative measures every month		90%	8.3
	Co-design care model with families and pregnant women		80%	8.3
	Hospital collects obstetrician's results (% VB, adverse events, patient's complaints)		76%	7.2
	Use the electronic platform created by SBIBAEto inform clinical and demographic data		73%	
	Use Robson classification		63%	7.6
	Collect obstetricians' results (% VB, adverse events, patients' complaints) and inform regularly		62%	7.2
	Create a report comparing physicians' results (% VB, adverse events, patients' complaints) with peers		50%	7.8

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