

Neonatal ICU beds

Project for delivery of 05 Neonatal ICU beds

By : José Carlos Santiago Veiga Júnior



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Introduction

Neonatal mortality is the main component of child mortality since the 1990s in the country and has been maintained at high levels, with a rate of 11.2 deaths per 1,000 live births in 2010. Brazil's infant mortality rate in 2011 was of 15.3 per 1,000 live births, meeting Millennium Development Goal 4, a commitment by UN member governments to improve child health and reduce child mortality by 2/3 between 1990 and 2015. However, it is considered that these mortality levels fall short of the country's potential, and reflect unfavorable living conditions and health care, as well as historical regional and socioeconomic inequalities. The main component of child mortality today is early neonatal (0-6 days of life) and most child deaths occur within the first 24 hours (25%), indicating a close relation between childbirth and birth care. The main causes of death according to the literature are prematurity, congenital malformation, intrapartum asphyxia, perinatal infections and maternal factors, with a considerable proportion of preventable deaths from health services.

Although births in Brazil occur predominantly in hospitals (98.4%) and are assisted by doctors (88.7%), the results are unsatisfactory compared to other locations in the world that have achieved lower neonatal and infant mortality rates. This situation has been called the "Brazilian perinatal paradox", in which there is intense medicalization of childbirth and maintenance of high rates of maternal and perinatal morbidity, possibly related to the low quality of care and the use of obsolete and iatrogenic practices, which may have repercussions on perinatal outcomes. In this context, Brazil's high cesarean section rate is one of the most prominent examples, reaching 53.7% of births in 2011.

Most births in Brazil are performed in a hospital setting, but in many regions, especially in rural areas, many women have access only to home birth, performed in precarious conditions. It should be noted that in these regions, attention to childbirth and delivery, when it occurs at the hospital level, is marked by intense medicalization, unnecessary and potentially iatrogenic interventions, and the abusive practice of cesarean section. There is also the isolation of pregnant women from their families, lack of privacy and disrespect for their autonomy. All of this contributes to increased maternal and perinatal risks.

This scenario motivated the Federal Government to launch, together with civil society and state and municipal health agencies, the National Pact for the Reduction of Maternal and Neonatal Mortality. One of the main targets is the reduction of mortality through the qualification and humanization of childbirth, birth and legal abortion care.

The Health System of the State of Bahia has few services to assist pregnant women, especially at high risk, in actions integrated with a public policy focused on a new concept of health care that values human life and citizenship.

The proposal of the Neonatology service for the Luiz Argolo Maternity Hospital will obey the principles and guidelines of the SUS, observing the public policies directed to the Regionalization and Hierarchization of health, serving patients with referenced or spontaneous demand.

What do they say about the neonatal ICU bed deficit

According to SPB (Brazilian Society of Pediatrics) "There are 3.3 thousand beds of neonatal ICU in the country¹", where still according to the headline, in Bahia there is a deficit of 485 beds. For this matter we can see how needy this state is. In our city, the reality is no different: the region of Bahia's Recôncavo², which is made up of 20 cities, does not have neonatal ICU beds in any of them. All these cities depend on the capital Salvador and the city of Feira de Santana, which is already in Bahia's backcountry. The trip takes between 1:30 and 3:00 hours, which is a long time for a newborn who can't breathe properly, often because of his condition (being born from a childbirth and being premature). The first procedures are performed in the hospital, but most do not resist the trip and end up dying on the way. If these news are already sad for us who read it, imagine to a mother who dreams for 9 months to have their children, they enter maternity hospital with them alive in their womb and leave having to go through the pain of losing a child.

Rotary of Santo Antonio de Jesus' proposal

Touched by these situations, we at Rotary de Santo Antonio de Jesus, with the support of District 4391 (former District 4550) and our great project organizers, Maria Aparecida and Edilucio, Project Director of District 4391, have been supporting Santa Casa to reduce the pain of as many mothers and families as possible in our region, reducing the travel time of at least 1h30 to almost 0 (zero), as the high-risk births in these regions are already directed to our city. These 5 beds of neonatal ICU will represent about 70% reduction in mortality among neonates born with life according to studies of the own maternity hospital.

According to Santa Casa since 2015 the Hospital has been trying with the authorities to implant neonatal ICU beds, given the need to be responsible for complex births, and due to all the problems that are currently broadcast in newspapers, radios and TVs. When asked to the Government they always get the same answers: that it is not possible to invest and there would be no resource available or the resource would already be on the edge. We at Rotary are not going to stand still, and with the support of businesses, the press, Rotary clubs, and

the community, we're sure to overcome this challenge and save the lives of many newborns and bring happiness to the homes of many families.

About Santo Antonio de Jesus

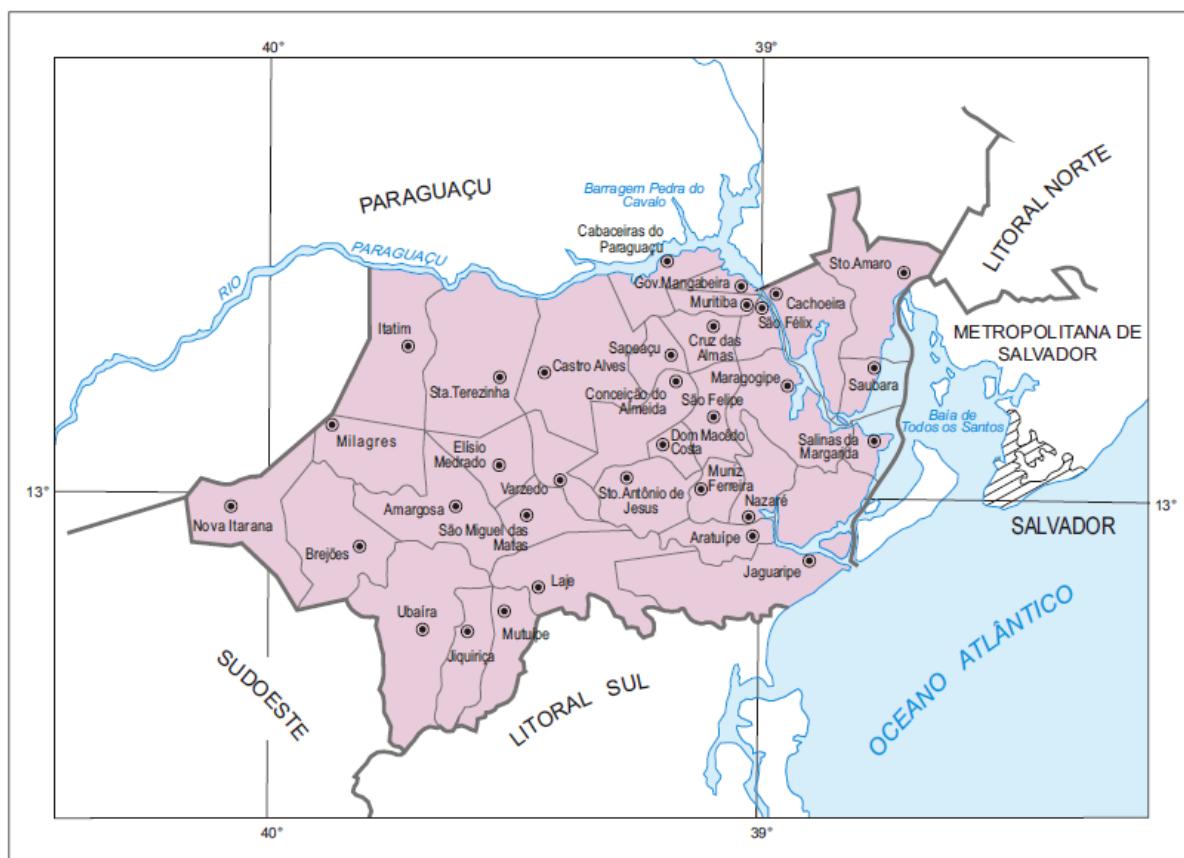
Santo Antonio de Jesus is a Brazilian municipality in the state of Bahia, located 187 km from Salvador, and is considered the capital of Recôncavo Baiano, recognized for its importance as a commercial, industrial and service center for the entire region. The population is of 100,605 (data from 2018).

Commerce and service became the main form of economy from the 1970s, when the rural population migrated to the city.

The open market is considered as the cheapest open market in Bahia, where there is quality, low prices and variety and where there is a large flow of consumers, moving the local economy.

The industry has become increasingly strong in the city, which is home to several companies that operate throughout Brazil.





About Hospital and Maternity Luis Argolo

Name: Santa Casa De Misericordia De Santo Antonio De Jesus

CNPJ : 15.934.094/0001-43

Address: Av Luiz Argolo, No 128 - Centro

City : Santo Antonio de Jesus

State: Bahia

Country: Brasil

Phone: +55 (75) 3631-2559

Luis Argolo Maternity Hospital, patrimony of the Santa Casa de Misericórdia of the municipality of Santo Antônio de Jesus, maintained throughout its existence the purposes of well serving the needy population, providing medical and hospital care to all citizens who need, indiscriminately serving children, adolescents, adults and the elderly.

Throughout the years, it has remained the only private philanthropic municipal hospital assisting neighboring municipalities, specializing in Medical Clinic, General Surgery, Obstetrics and Pediatrics; not breaking the general rule of the size and profile of municipal hospitals in the interior of the state. Within their physical condition, equipment and

clinical staff satisfactorily fulfilled the care of low complexity, whenever necessary, transferring to large centers patients who needed secondary or tertiary care.

Like every philanthropic unit, provider of services to the Unified Health System (SUS) it has financial difficulties, and has not, over time, been able to obtain resources to enable the extension of their services in complexity that meet the demands of the population.

The emergence of a new municipal hospital unit, under the management of a social organization, hired by the State Department of Health, forced the Santa Casa de Misericordia of Santo Antônio de Jesus to review the profile of its Hospital, adapting it to the needs of the population and specializing it, within a portfolio of assistance to pregnant women and newborns to SUS. Thus, filling a gap in the care of the General Hospital, that is intended to assist the various other areas of medicine, but solidifying itself as a new Luiz Argolo Maternity Hospital, now specialized in assisting the binomial mother and child. It creates a new opportunity to specialize and structure a reference in the care of newborns in the municipality and its microregion.

It is for this purpose that we present in this project the structuring of newborn care.

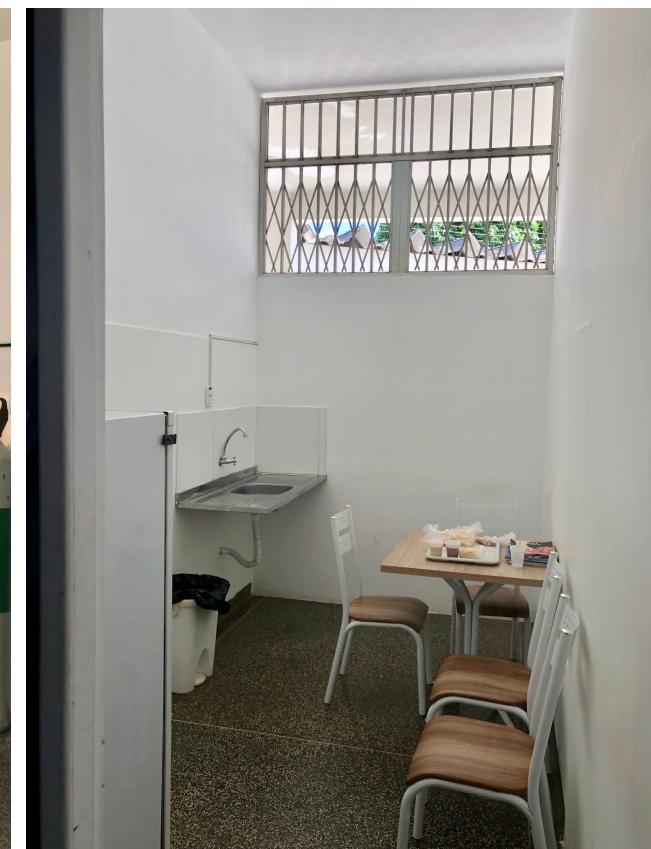
Santa Casa completed in August 2019, 101 years³ of existence and provision of service to the region, as reported in an event held by the in August 9th 2018 and which can be seen in the TvRBR3.

The Luiz Argolo Maternity Hospital, patrimony of the Santa Casa de Misericordia of the municipality of Santo Antônio de Jesus, maintained throughout its existence the fulfillment of the purposes of well serving the needy population, providing medical and hospital assistance to all citizens who needed it, indiscriminately serving children, adolescents, adults and the elderly.

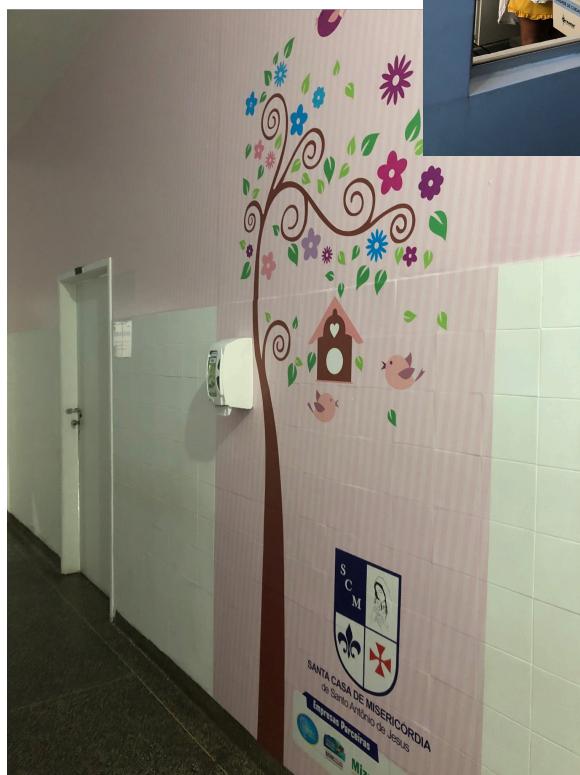
The Hospital is part of both the 'Rede Cegonha', a project that aims to ensure humanized care for women during pregnancy, childbirth, and the postpartum period, as well as the 'Child Friendly Hospital Initiative' strategy launched in 1991 by the World Health Organization and UNICEF to promote and ensure breastfeeding.



Rotary Club of Santo Antonio de Jesus
District 4391
8th of August 2019



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District 4391
8th of August 2019



Contextualization of the municipality and hospital

The Santo Antônio de Jesus Microregion has 425,276 inhabitants distributed in 23 municipalities (Amargosa - headquarters of the 29th DIRES, Aratuípe, Castro Alves, Conceição do Almeida, Dom Macedo Costa, Elísio Medrado, Itatim, Jaguaribe, Jiquiriçá, Laje, Milagres, Muniz Ferreira, Mutuípe, Nazaré, Nova Itarana, Presidente Tancredo Neves, Salinas da Margarida, Santa Teresinha, Santo Antônio de Jesus, São Felipe, São Miguel das Matas, Ubaíra and Varzedo). The city of Santo Antônio was founded in 1880 and is a center of regional development, with strong retail trade, healthcare provider and recent investments in industry and university education.

The Santa Casa de Misericórdia of Santo Antônio de Jesus was established as a fellowship focused on social assistance and the health of the needy, sick and helpless, with 88 beds, currently known as General Hospital, Luiz Argôllo Maternity Hospital, of medium size, having immediate care in obstetrics, but not counting with neonatal intensive care unit, being unable to meet the needs of most risky pregnant women and newborns that can generate such demand, and is not, under current conditions, qualified to be a reference obstetric and neonatal care in an organized and hierarchical way in their microregion.

About Rotary Club of Santo Antonio de Jesus

The Rotary Club of Santo Antonio de Jesus was founded on May 25, 1969, thus completing this year on May 25, 50 years of service, with many projects carried out over the years, such as the wheelchair bank. We donate about 50 wheelchairs on average every year. Our club also has the Interact and Rotaract youth group.

To celebrate our 50th anniversary, we decided to leave a special mark for the region, purchasing 5 beds of Neonatal ICU for Santa Casa and thus reducing the mortality rate. Let's fight to save lives!

Here are some of our club projects:

Rotary Club of Santo Antonio de Jesus

District 4391

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Blanket Distribution



Bank of Wheelchair



Rotary Club of Santo Antonio de Jesus

District 4391

8th of August 2019

FLORES HOLAMBRA

8 years of this project and almost 300 wheelchair delivered to the community



Delivery of walking stick - ASDEV

Also with the money of Flores Holambra and with the partner ASDEV



Youth Exchange



Rotaract



Interact



Indexes

Óbitos por Ocorrência por Faixa Etária Menor 1 ano segundo Mes do óbito

Faixa Etária: Menor 1 ano

Estabelecimento de saúde: 2799286 HOSPITAL MATERNIDADE LUIZ ARGOLO

Período: 2018

Mes do óbito	0 a 6 dias	7 a 27 dias	28 a 364 dias	Total
TOTAL	40	1	1	42
Janeiro	5	-	-	5
Fevereiro	5	-	-	5
Março	4	-	-	4
Maio	6	-	-	6
Junho	4	-	-	4
Julho	1	-	-	1
Agosto	3	-	-	3
Setembro	1	-	-	1
Outubro	5	1	-	6
Novembro	4	-	1	5
Dezembro	2	-	-	2

Fonte: SESCAR / CLIVICIA / DIVIFED / Sistema de Informação sobre Mortalidade - SIM

Death Rate occurred with less than 1 year old children, considering the month/day of the death

Age: under 1 year

Health establishment: Hospital Maternity Luiz Argolo

Period: 2018

DEMONSTRATIVE CHART - BORNED ALIVE 2018

KIND OF CHILDBIRTH PER AGE OF THE MOTHER

AGE OF THE MOTHER	VAGINAL DELIVERY	CESAREAN DELIVERY	TOTAL
10 TO 14 YEARS	12	11	23
15 TO 19 YEARS	167	239	406
20 TO 24 YEARS	268	466	734
25 TO 29 YEARS	224	533	757
30 TO 34 YEARS	158	553	711
35 TO 39 YEARS	83	327	410
40 TO 44 YEARS	28	72	100
45 TO 49 YEARS	0	6	6

Source: SESAB/SUVISA/DIS/Sistema de Informação sobre Nascidos Vivos

DEMONSTRATIVE CHART - BORNED ALIVE 2018

Type of congenital anomaly according to the mother's age

AGE OF THE MOTHER	CONGENITAL ANOMALY IN THE FEET	OSTEOMUSCULAR CONGENITAL ANOMALIES	OTHER CONGENITAL ANOMALIES	NO ANOMALY/NOT INFORMED	TOTAL
10 TO 14 YEARS				23	23
15 TO 19 ANOS				407	407
20 TO 24 YEARS		1		734	735
25 TO 29 YEARS		1	1	756	758
30 TO 34 YEARS				712	712
35 TO 39 YEARS				410	410
40 TO 44 YEARS	1			99	100
45 TO 49 YEARS				6	6

Source: SESAB/SUVISA/DIS/Sistema de Informação sobre Nascidos Vivos

Methodology

To enable the project of technical adequacy of the new services to be made available at the Luiz Argolo Maternity Hospital, analyzes were carried out at the facilities to survey the changes in the physical structure and the equipment needed to operate the services had been listed. The entire project was based on the Ministry of Health's current rules, aiming at quality care and offering total safety to patients.

The project aims to gather information necessary for the elaboration of descriptive schedule of each stage of the project to create the new services, establishing total transparency.

Project analysis is subject to change, as the deadlines for designing project documentation depend on third parties. Cost estimates were based on previous project analyzes and values established by the Ministry of Health digital platforms.

Project

The project consists of the technical adaptation for the implementation of one (1) new service at the Luiz Argolo Maternity Hospital. For this, an initial schedule was made with the main stages of the project. The desired new services are:

- 05 beds of Neonatal Intensive Care Unit - NICU

Neonatal Intensive Care

Intensive care is today a necessary resource for newborn survival. According to data from the Live Birth Information System - SINASC -, in 1999 there were 6.2% of premature births and 7.7% weighing less than 2500g. Premature children need technological support of varying intensity to attend the unit.

Proportional infant mortality in the State of Bahia in 2004 was of 70% in newborns <28 days (neonatal) and 30% > 28 days and <1 year (postneonatal), according to SESAB / DIS / SIM.

Therefore, it is imperative to have intensive care units for the newborn that through invasive and non-invasive life support of technological resources (monitor, respirator and ventilator), guarantee the viability of the fetus in the recovery of its health condition, aiming

at the return of the newborn to the family, with the best possible neuropsychomotor and cognitive development.

Neonatal Assistance

Neonatal care should be provided in the municipal network, and the regular monitoring of the neonate (0 to 28 days) is extremely important, avoiding future neurological sequelae in order to promote the growth of a healthy adult.

This assistance should consist of:

- a) Assist the newborn at term with the first scheduled appointment (3 days after discharge), ensuring outpatient follow-up.
- b) To ensure that the newborns with jaundice return, with due consultation at the outpatient clinic, thus avoiding future neurological sequelae.
- c) Assist new borns with low weight or at-risk newborns who were discharged from the Neonatal Intensive Care Units, Semi-Intensive Care Unit and the “Kangaroo Mother” Program.
- d) To ensure in this outpatient clinic the consultation of the pregnant woman with the gynecologist, at the 5th and 7th month of pregnancy, for the proper guidance and educational actions.
- e) Encourage breastfeeding for pregnant women and mothers, with lectures and guidance, in accordance with the Breastfeeding Incentive Program.
- f) Ensure the care of newborns of mothers with special diseases such as; HIV and other STDs, Tuberculosis, Heart Diseases, Diabetes.

Schedule

The schedule may change due to budget adjustments in hiring labor to carry out the project.

Step	Project Schedule	JAN		FEV		MAR		APR		MAY		JUN	
		1st For tni ght	2nd For tni ght	1st For tni ght	2nd For tni ght	1st For tni ght	2nd For tni ght	1st For tni ght	2nd For tni ght	1st For tni ght	2nd For tni ght	1st For tni ght	2nd For tni ght
1	Technology Park Analysis (Industry Specific List)												
2	Structural Reform Design Analysis (Data Analysis for CAD Design) - NICU												
3	Creation of architectural project with construction company - NICU												
4	Creation of medical gas demand adequacy project - NICU												
5	Air conditioning plant project creation - NICU												
6	Creation of electrical project - NICU												
7	Revision of Technology Park - NICU												
8	Construction planning - NICU												
9	Works completion schedule - NICU												
10.1	Walls demolition - NICU												
10.2	Instalation of air conditioner system - NICU												
10.3	Suitability of medical gas points - NICU												
10.4	Suitability specific and general purpose points - NICU												
10.5	General finish - NICU												
10.6	General Inspection for Inauguration - NICU												
10.7	Technology park implementation and team training - NICU												
10.8	Inauguration of the NICU												

STEP 1 [1st Fortnight of JANUARY]- Technology park analysis (NICU specific list).

Analisis of the rules in force for each service;

- 1.Specification of equipment for the service.

STEP 2 [2nd Fortnight of JANUARY]- Analysis of the structural reform project (data analysis for CAD projects) - NICU.

1. Hiring enterprise to analyze the general structure of the Project;
2. Analysis of projects with enterprise to enable the construction.

STEP 3 [1st Fortnight of FEBRUARY] - Creation of architectural project with construction company - NICU.

- 1.Creation of the entire architectural project to implement the new service.
- 2.Analysis and review of architectural design with general direction of the hospital.

STEP 4 [2nd Fortnight of FEBRUARY] - Creation of project to adjust medical gas demand - NICU.

1. Hiring of a company specialized in medicinal gases to enable the project;

STEP 5 [2nd Fortnight of FEBRUARY]- Creation of air conditioning plant project - NICU.

- 1.Hiring a company specialized in climate control projects;
- 2.Thermal load calculation analysis of the environment to be acclimatized;
- 3.Budget analysis for air conditioning project.

STEP 6 [2nd Fortnight of FEBRUARY]- Creation of electrical project – NICU.

1. Creation of electrical Project by the construction company;
- 2.Project analysis for technology park demand

STEP 7 [2nd Fortnight of FEBRUARY]- Revision of Technology Park – NICU.

1. Analysis of technology park for implementation of the new service according to redesigned project;
2. Overhaul of equipment list for new service.

STEP 8 [1st Fortnight of MARCH]- Construction Planning – NICU.

1. Creation of works schedule for the sector;
2. Analysis and overhaul of overall project schedule.

STEP 9 [1st Fortnight of MARCH]- Works Completion Schedule – NICU.

1. Creation of general schedule of works according to hired labor;
2. Analysis of available labor force;
3. New revision of materials needed to carry out the work.

STEP 10.1 [2nd Fortnight of MARCH] – Demolition of walls – NICU.

1. Beginning of works with demolition of walls (architectural adequacy);
2. Modification and adaptations of the hydraulic network.

STEP 10.2 [1st Fortnight of APRIL] - Installation Air Conditioning System - NICU.

1. Condensing Plant Installation;
2. FanCoil Installation;
3. Pipeline installation;
4. Installation of air filtration systems;
5. Thermal insulation of ducts;
6. Tightness, flow and inflation tests.

STEP 10.3 [1st Fortnight of APRIL] - Medical gas point suitability - NICU.

1. Suitability of existing points;
2. Installation of new medical gas points;
3. Tightness tests;

STEP 10.4 [1st Fortnight of APRIL] - Suitability specific and general purpose points - NICU.

1. Installation of general purpose sockets;
2. Installation of specific use sockets;
3. Adequacy of the NICU Electrical Distribution Board;

STEP 10.5 [1st Fortnight of MAY and 2nd Fortnight of May] – General Finish – NICU.

1. Beginning of general architectural finishing;
2. Verification of design adaptations.

STEP 10.6 [2nd Fortnight of MAY] – General Inspection for Inauguration – NICU.

1. General inspection to verify all technical questions;
2. Structural functional tests (mains and medical gases).

STEP 10.7 [2nd Fortnight of MAY] – Implementation of technology park and team training - NICU.

1. Instalation of technological park;
2. Performing technology park functional tests;
3. Conducting operational training.

STEP 10.8 [1st Fortnight of JUNE] – INAUGURATION OF NICU.

Equipment and Materials Investments:

Investments in equipment and materials aim at the implementation of the Neonatal ICU unit, within the standards recommended by Ministerial Ordinances and Safety and Quality Standards. The amount of inputs was established considering the quantity of 05 beds.

NICU EQUIPMENTS	QUANTITY	ESTIMATED VALUE R\$
Portable surgical aspirator	1	US\$1412,00
Microprocessor Pulmonary Ventilator (Neo)	5	US\$53530,00
Transport Ventilator	1	US\$10710,00
Simple crib	1	US\$305,00
Portable Electronic Scale	1	US\$232,00
Monitoring Center Compatible with Multiparameter Monitors	1	US\$6327,00
Emergency car with cardioverter	1	US\$7056,00
Electrocardiograph	1	US\$1217,00
RN stadiometer	1	US\$110,00
Stethoscope with accessories for newborns	5	US\$98,00
Portable Auxiliary Focus	1	US\$365,00
Phototherapy with oxygen therapy kit	5	US\$7300,00
Neonatal transport incubator	1	US\$730,00
Neonatal Double Wall Incubator	5	US\$18249,00
Heated cradle resuscitation kit	1	US\$3407,00
Multiparameter Monitor	5	US\$35280,00
Negatoscope	1	US\$134,00
Ophthalmoscope with neonatal kit	2	US\$584,00

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Otoscope	02	US\$146,00
Radiometer	01	US\$378,00
Removable companion armchair	5	US\$913,00
Medicine storage refrigerator	1	US\$511,00
Manual resuscitator	8	US\$329,00
Pressure regulating valve for compressed air	5	US\$195,00
Pressure regulating valve for compressed air	5	US\$195,00
Thermohygrometer	1	US\$93,00
Children's laryngoscope	1	US\$329,00
IV support	5	US\$372,00
Oxygen Helmet Size L	1	US\$49,00
Oxygen Helmet Size M	3	US\$139,00
Oxygen Helmet Size S	2	US\$73,00
Mayo table with wheels	5	US\$317,00
Computer and printer	1	US\$392,00
TOTAL	85	US\$151477,00

Dollar R\$ 4,11 in October, 13 of 2019

Equipment List - NICU (05 Bed Project)

Equipment List - NICU (05 Bed Project)		
Equipament	Qtt	Equipment / Material Description
Closed system thoracic drainage	1	
Portable surgical aspirator	1	1 (one) per NICU
Portable Electronic Scale	1	portable electronic scale: 1 (one) for every 10 (ten) beds;
Closed system liquid drainage tray	1	
Lumbar Puncture Tray	1	EPI, Tray, CSF Collection Flasks, Topical PvpI, Spike Needles, Gauze, Fenestrated Field
Volume compatible infusion pump for RN	17	equipment for continuous and controlled fluid infusion ("infusion pump"): 3 (three) equipment per bed, with an operational reserve of 1 (one) for every 3 (three) beds;
Monitoring Center Compatible with Multiparameter Monitors	1	Monitoring center compatible with multiparameter monitors; contain concurrent monitoring modules.
Emergency car with cardioverter	1	Complete emergency trolley with oxygen cylinder holder, with cardioverter with neonatal resuscitation support and portable multiparameter monitor
Peritoneal dialysis	1	
Electrocardiograph	1	12-lead electrocardiograph with neonatal electrode.
RN stadiometer	1	stadiometer or tape measure: 1 per unit; (New wording given by PRT GM / MS No. 3389 of 12.30.2013)
Stethoscope with patient accessories RN	5	standardized bedside set containing stethoscope: 1 (one) set for each bed, with operational reserve of 1 (one) for every 2 (two) beds;
Measuring tape	5	Flexible tape measure. 1 (one) set for each bed, with operational reserve of 1 (one) for every 2 (two) beds;
Portable auxiliary focus	1	1 (one) per NICU
Phototherapy with oxygen therapy kit	5	phototherapy, acrylic helmet / hood and oxygen therapy tent: 1 (one) for every 3 (three) beds / fraction, with operational reserve of 1 (one) for every 5 (five) beds;
Glucometer	2	Capillary blood glucose measurement equipment, specific for hospital use: 1 (one) for every 5 (five) beds or fraction;

Neonatal transport incubator	1	full-monitoring, continuous-transport incubator, battery-controlled fluid infusion equipment holder, oxygen cylinder holder, transportable oxygen cylinder and kit ("bag") to accompany the transport of critically ill patients containing drugs and emergency response materials: 1 (one) for every 10 (ten) beds or fraction;
Neonatal Double Wall Incubator	5	double wall incubator: 1 (one) per NICU patient, with heated intensive care cradles for at least 10% (ten percent) of the beds;
Heated cradle resuscitation kit	1	<p>VI - Resuscitation material and equipment: 1 (one) for every 15 (fifteen) beds, as established in Annex I of Ordinance 930.</p> <p>Resuscitation Material and Equipment: 1 (one) for every 15 (fifteen) beds, as established in Annex I of this Ordinance; Ordinance 930, May 10, 2012</p> <p>Cradle heated by radiant heat system, with access on 3 sides, with the option of table bed and not acrylic basket / tub;</p> <p>Humidifier and compressed air oxygen flowmeter;</p> <p>Medical compressed air flow meter with humidifier;</p> <p>Blender for oxygen / air mixture;</p> <p>Portable vacuum aspiration system with pressure gauge;</p> <p>Pulse oximeter with neonatal sensor and dark elastic bandage;</p> <p>Wall clock with second hand;</p> <p>Digital thermometer for ambient temperature measurement;</p> <p>Neonatal manual resuscitator (self-inflating balloon with maximum volume of 750 ml, O2 reservoir and 30-40 cm H2O limit relief valve and / or pressure gauge);</p> <p>Neonatal mechanical T-hand ventilator with its own circuits;</p> <p>Cushioned round masks for preterm size 00 and 0 and for term tam. 1;</p> <p>Children's Straight Laryngoscope No. 00, 0 and 1;</p> <p>Exhaled carbon dioxide colorimetric detector (Porapile Capnograph);</p> <p>14 cm Kelly Straight Tweezers and # 21 Blade Scalpel Handle;</p> <p>11 cm needle holder and 4.0 mononylon needled thread;</p> <p>Neonatal stethoscope;</p> <p>Digital clinical thermometer;</p> <p>Blunt-ended scissors and cord clamp.</p> <p>Probes: Tracheal Nos. 6, 8 and 10;</p> <p>Short gastric tubes 6 and 8;</p> <p>Dispositivo para aspiração de meconio;</p> <p>20 ml syringe;</p> <p>Complete neonatal tracheal intubation kit;</p>

		Uncuffed tracheal cannula, of uniform diameter 2.5 / 3.0 / 3.5 and 4.0 mm; Cannula fixation material: scissors, tape and cotton with SF 0.9%; Laryngoscope spare batteries and lamps; 1 / 10,000 adrenaline in 5.0 ml endotracheal syringe; 1 / 10,000 adrenaline in 1.0 ml syringe for intravenous use; Volume expander (0.9% SF or Ringer's lactate) in 2 20 ml syringes; Umbilical catheterization material; Sterile fenestrated field, cotton laces and gauze; PVC or polyurethane umbilical catheter 5F or 8F; Three-way tap (3-way solution control); Gloves and goggles for healthcare professionals; Sterile gauze and gauze; 30x50cm polyethylene bag and cap for thermal protection of the premature.
deep venous access kit	1	including peripheral insertion central venous catheterization (PICC)
Ambu kit for infant mechanical ventilation	2	equipment for noninvasive pulmonary ventilation: 1 (one) for every 5 (five) beds, when the microprocessor ventilator does not have the resources to perform the noninvasive ventilation mode.
Tracheal suction kit (Open and Closed)	1	tracheal suction materials in open and closed systems ;
vein and umbilical artery catheterization kit	1	
bladder delay catheterization kit	1	delayed bladder catheterization in closed system
Non-invasive ventilation face interface kit	10	facial interface materials for noninvasive pulmonary ventilation (mask or prongs); 1 (one) per bed, with the NICU having all sizes: 00, 0, 1, 2, 3, and 4;
blood transfusion kit;	1	
phlebotomy kit	1	
pericardial puncture kit	1	
tracheostomy kit	1	
Misting mask	05	nebulization set, in mask: 1 (one) for each bed;
Multiparameter Monitor	05	Bedside monitor for continuous monitoring of heart rate, cardioscopy, pulse oximetry, noninvasive pressure, invasive pressure, respiratory rate and temperature: 1 (one) for each bed;
Negatoscope	1	1 (one) per NICU.
Ophthalmoscope with neonatal kit	2	Minimum 2 (two) per inpatient unit

Infant kit otoscope	2	Minimum 2 (two) per inpatient unit
Removable accompanying armchair	5	Removable waterproof armchairs for accompanying: 1 (one) for every 4 (four) beds or fraction;
Medicine storage refrigerator	1	refrigerator with internal temperature from 2 to 8 ° C, exclusively for drug storage, with conference and temperature recording at maximum intervals of 24 hours: 1 (one) per NICU;
Manual Resuscitator	5	self-inflating manual balloon resuscitator with mask and reservoir. 1 (one) set for each bed, with operational reserve of 1 (one) for every 2 (two) beds;
Pressure Regulating Valves for Medicinal Compressed Air (Post / Bed Valve)	5	
Pressure Regulating Valves for Oxygen (Check / Bed Valve)	5	
Pressure Regulating Valves for Vacuum (Post / Bed Valve)	5	
Pulmonary Transport Ventilator	1	Transport-specific pulmonary ventilator with battery: 1 (one) for every 10 (ten) beds or fraction;
Microprocessor Pulmonary Ventilator (Neonatal)	05	1 (one) for every 2 (two) beds, with operational reserve of 1 (one) equipment for every 5 (five) beds, and each equipment must have at least 2 (two) complete circuits;

References

¹ <http://www.sbp.com.br/imprensa/detalhe/nid/faltam-33-mil-leitos-de-uti-neonatal-no-pais-denuncia-a-sbp- ao-cobrar-medidas-para-o-nascimento-seguro-de-brasileiros/>

² <https://www.todamateria.com.br/reconcavo-baiano/>

³ http://www.tvrbr.com.br/index/noticias/id-119996/santa_casa_de_misericordia_de_saj_faz_101_anos_de_servicos_a_vida_confira_video