

## File Form 672

## Equipment to establish a Neonatal Intensive Care Unit (NICU) at IMPACT Bangladesh's community hospital in Chuadanga District Final report for the Eagle Foundation – June 2024

**Donor name:** Fondation Eagle

**Fondation Eagle reference:** FF 672

**Name of Charity:** IMPACT UK

**Introduction:** We are deeply grateful to Fondation Eagle for supporting IMPACT Bangladesh (IFB) in establishing a Neonatal Intensive Care Unit at their new hospital in Chuadanga. Your funding has purchased essential equipment, such as baby warmers, an incubator, neonatal beds, foetal monitors and breathing apparatus. This is enabling the medical team to provide specialised and often life-saving care for premature and low-birth-weight babies. Currently, there are no comparable facilities in Chuadanga, and babies in need of care are transferred to Dhaka or other large cities, which impacts survival rates and is often out of reach for the poorest families.

**Date of grant accepted:** 27/06/23 (funds received by IMPACT UK 05/07/23)

**Budget amount:** GBP 29,211

**Conversion rate, date & amount in local currency:** BDT 3,893,727  
Exchange rate 1GBP = 133.2966 BDT (08/09/2023)

**Expenditure:** GBP 29,621

**Overspend:** There was an overspend of GBP 410 as some of the budgeted items were no longer available at point of purchase and a more sophisticated ventilator was ultimately considered the best option. This has been met by IMPACT Bangladesh through their project management fee.

**Name and exact location of the project:** IMPACT hospital and diagnostic centre, Kedargonj, Chuadanga District

**Period of Project:** 05/07/23– 04/07/2024

**Project beneficiaries:** 17 babies have benefited from critical care in the months since all the equipment was



*The new equipment has been successfully installed at IMPACT Bangladesh's new hospital in Chuadanga*

installed. Going forward, it is estimated that 400 babies will be born at the hospital per year and will benefit from this potentially life-saving equipment in the event that they are sick or premature, as will babies referred through IMPACT's community health programme in the surrounding rural areas.

### Details of the project:

This project was designed to address the shortage of adequate and affordable facilities for the care of premature or low-birthweight (LBW) babies in Chuadanga District, which means that babies needing critical care are required to travel to Dhaka or another large city for care. This option is not only costly for the poorest families but also affects the life chances of the baby during a crucial period. Therefore, establishing a Neonatal Intensive Care Unit (NICU) to support the most vulnerable and sick infants at their new hospital in Chuadanga was a top priority for IMPACT Bangladesh (IFB).

Some of the primary causes of low birth weight include malnutrition; inadequate healthcare; low socioeconomic conditions; physical labor during pregnancy; lack of birth spacing; and early marriage – all factors that impact the lives of the poorest women in the Chuadanga and Meherpur districts. Since 2002, IFB has been working to improve maternal health and child survival rates in these neediest areas. Including:

Establishing **IMPACT Mothers' Clubs** to promote key health messages, such as taking good care in pregnancy; the importance of sound nutrition and ante/postnatal checkups; and reproductive issues, such as birth spacing. There are 900 village Mothers' Clubs meeting monthly and benefiting approximately 22,500 women and their families

**Training Traditional Birth Attendants** - regular monitoring and trained assistance during pregnancy and delivery is the best safeguard, yet the poorest women rely on untrained Traditional Birth Attendants (TBAs) to deliver their babies, so IMPACT trains and equips them to work safely. We trained 602 TBAs in 2023/24



*Traditional Birth Attendants are trained and provided with sterile equipment*

**Widening Access to healthcare and combatting malnutrition** – last year IFBs maternity clinics provided 5,634 women with ante and postnatal care, including micronutrient supplements (folic acid et) and 809 households were provided with training, tools and equipment to grown fruit and vegetables to supplement meagre diets

The above initiatives tackle many of the preventable causes of prematurity and low birth weight (LBW). However, in a country where the latest data from the 2017-18 Bangladesh Demographic and Health Survey (BDHS) indicates a low birth weight prevalence of 22% (compared to 6.9% of live births in the UK), it is crucial to have facilities in place to treat babies in urgent need of critical care at birth. Therefore, when IFB began work on a new hospital in 2016 to upgrade and expand their existing premises, establishing a Neonatal Unit was a top priority.

Thanks to Fondation Eagle, we have been able to equip the newly established unit as follows:

- ✓ **Two incubators, two special NICU beds and two new baby warming machines:** These allow nurses and midwives to monitor a baby's vital signs, regulate temperature and enable easy access for medical interventions. IFB has been satisfied with the make and model of the new incubators (the original models they quoted were no longer available at point of purchase)
- ✓ **A mechanical ventilator:** To help underdeveloped babies breathe by providing oxygen to the lungs, removing carbon dioxide and providing pressure to keep the air sacs in the lungs from collapsing.
- ✓ **Four nebulisers** to aid infant breathing and deliver aerosolised drugs

- ✓ **Miscellaneous items including, two patient monitors and a foetal doppler** for monitoring the heart rate and vital signs of neonates and an **intubation set** for the airway management of newborn babies.

*‘Through this new initiative, we aim to provide critical care to newborn babies in Chuadanga and surrounding areas, saving their lives from life-threatening conditions, usually due to resulting from low-birth weight, acute infection or congenital abnormalities. We have already provided intensive care to a number of young patients including 17 critically ill neonatal babies.’ – IMPACT Bangladesh*



*Two IMPACT nurses have taken part in advanced neonatal intensive care training in Dhaka*

Conditions for NICU admission since all the equipment has been on site:

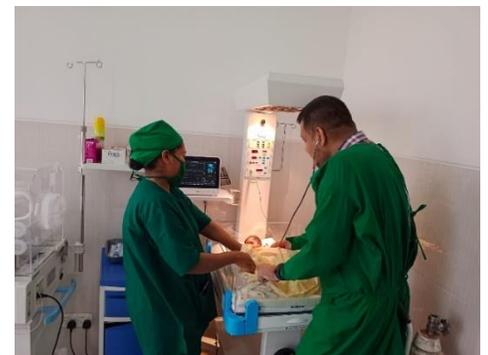
Neonatal jaundice – 7 patients

Low birth weight – 4 patients

Respiratory distress syndrome – 4 patients

Premature babies – 2 patients

The equipment was installed by engineers from the medical supply company, who checked the items were properly functioning and provided hands-on training to the NICU staff. In addition, IFB arranged for two nurses to undertake advanced training in neonatal critical care at a specialised children’s hospital in Dhaka.



### Case stories – recounted by IMPACT Bangladesh

**Baby Aisha** was born full term in a rural village. Her parents, Shojib and Sohana, were very happy when they learnt about their daughter. But, their happiness was overshadowed when they noticed that little Aisha was showing a yellowish tint to her skin and eyes within 24 hours of birth. Not knowing what to do, they brought their daughter to our IMPACT Hospital and Diagnostic Centre for a check-up.

Sohana said, “We were not aware about the severity of the condition. Her condition worsened rapidly. We got frightened and sought medical help immediately.”



After the girl was brought to the hospital, the on-duty Medical Officer examined and consulted with the pediatrician for providing appropriate care and support to the baby without any delay. Upon examination, the doctor revealed that Aisha had severe Jaundice. The girl was placed under phototherapy lights to reduce her bilirubin levels. She was kept under supervision round the clock by IFB’s doctor and nurses. Her vital signs, including heart rate, oxygen saturation, and temperature, were continuously tracked to ensure she remained stable throughout the treatment. Aisha received intravenous fluids to maintain hydration.

Talking to Pediatrician Dr. Md. Yasin, he stated, “The baby Aisha was placed under phototherapy lights, a common and effective treatment for neonatal jaundice. The blue light emitted from the phototherapy unit helped break down the excess bilirubin in her blood, facilitating its excretion. After four days of routine phototherapy and care, Baby Anika's bilirubin levels returned to normal. She showed no signs of any neurological damage from the jaundice. Her jaundice was effectively managed.”

Sohana said, “We are so happy to have received care for our little baby here. The NICU facility is new at Chuadanga. We hope they provide such services to more infants in future, who are in-need of such services and facilities.”



**Baby Shahana**, born to Taufiq and his wife Shila, was admitted to IMPACT Hospital and Diagnostic Centre after she was born pre-term at 30 weeks gestation. They hail from to Alamdanga upazila (sub-district) of Chuadanga district. During her delivery, Shila Begum experienced complications due to preeclampsia, necessitating an emergency caesarean section, causing the little girl to be transferred immediately to the Neonatal Intensive Care Unit (NICU) due to her critical condition.

Little Shahana, weighed 1.6 kg at birth, received neonatal intensive support at the NICU facility. She was administered Intravenous (IV) fluid to supply her with nutrients to support her growth and stabilise her condition. The Paediatrician measured her vitals and diagnosed her with Respiratory Distress Syndrome (RDS), a common condition in premature infants caused by insufficient surfactant in the lungs.

During the first week of treatment at NICU, the baby’s condition remained critical. Over the next few weeks, Shahana showed gradual improvement in respiratory distress syndrome. By the time she reached 32 weeks

gestational age, her lungs matured and her breathing stabilized. The little girl also gained weight (around 2 kg, i.e. 4.4 lbs)

After spending about two weeks in the NICU, baby Shahana was discharged from the hospital. On her way home, the mother received comprehensive instructions on kangaroo care, feeding, and monitoring for signs of illness. After a few days, when they returned to the hospital for her follow-up appointment, the baby looked healthy, and her vitals were normal.

Toufiq and Shila thanked the hospital staff for the intensive care of their baby during the critical situation. Shila said, "I am so grateful to everyone at IMPACT for their generous support. I cannot explain what it means to our family. We thought we almost lost our child. If it was not for the treatment we received here, we have no idea if we could return home with our child. NICU facility is new at Chuadanga and is not available elsewhere. Many people do not know about the facility yet. The people of Chuadanga will benefit immensely from the NICU."



**Baby Rahim** was born prematurely at 32 weeks to Khadijah and Ahmed and he was brought to our IMPACT Hospital and Diagnostic Centre. Upon arrival, the baby weighed just 1.2 kg.

Upon arrival at the NICU, Baby Rahim was placed in an incubator to regulate his body temperature. The little boy was under the supervision of IFB's Pediatrician at Impact Hospital and Diagnostic Centre. Quoting Major Dr. Md. Yasin, "The baby also required assisted ventilation due to underdeveloped lungs. The baby was closely monitored and his vital statistics were recorded at regular intervals."

Rahim was released from the hospital after six weeks of intensive care when his condition stabilised. He gained weight steadily and no longer required respiratory support. He was discharged at a weight of 2.5 kg. His parents expressed gratitude and were overjoyed when they found their baby healthy and left the hospital. Stating the parents, "We were worried about our boy. We did not know such a facility was available in Chuadanga. We are thankful to IMPACT for the support for our son."

### Independent verification



"The establishment of a Neonatal Intensive Care Unit at the IMPACT Hospital and Diagnostic Centre has been a transformative step for neonatal care in Chuadanga. Equipped with advanced equipment like incubators, ventilators, and phototherapy units, the NICU is crucial for managing the health of premature and critically ill newborns. Until now, we did not have any such facility in Chuadanga. The newly established NICU facility at our hospital has drastically improved our ability to provide comprehensive and life-saving care to the vulnerable young children."

Major Dr. Mohammed Yasin is serving in the Bangladesh Army Medical Unit as a Child Specialist at the Border Guard Bangladesh (BGB) Hospital, Chuadanga. He earned a fellowship degree from Bangalore, India. Dr. Yasin practised as a NICU specialist at a renowned private hospital in Dhaka-Evercare, formerly known as Apollo Hospital. He has been serving as a Consultant Pediatrician in helping to establish the NICU services at IMPACT's Hospital and Diagnostic Centre.

## Thank you

Your support is enabling IMPACT Bangladesh's medical staff to provide safe and effective care for their smallest and most vulnerable patients—newborns in need of intensive care. The presence of this advanced equipment is significantly enhancing the survival chances of sick and premature babies born at the hospital and in the surrounding rural areas. The NICU equipment is ensuring that babies do not have to be transported long distances to receive specialist care, at vast expense to their families. We are immensely grateful to Fondation Eagle for this grant and look forward to developing and specialising these services into the future. We look forward to keeping you updated.

## Expenditure statement

Budget	Budget GBP	Budget BDT	Expenditure GBP (including VAT and AIT @ 10.5%)	Expenditure BDT
NICU beds x2	7,272	969,333	713	95,040
Baby warmer machines x2	3,636	484,666	3,813	508,260
Incubators x2	8,742	1,165,279	3,896	519,324
Nebuliser machines x4	280	37,323	73	9,731
Mechanical ventilator machine	7,290	971,732	16,129	2,150,000
Smaller items to support and monitor babies breathing (intubation set, body warmer, pulse BP monitor, foetal dopplers)	600	79,978	3,606	480,668
Sub-total	27,820	3,708,311	28,230	3,762,963
Project Management 5%	1,391	185,416	1,391	185,416
<b>Grand Total</b>	<b>29,211</b>	<b>3,893,727</b>	<b>29,621</b>	<b>3,948,379</b>

**Budget note:** The original budget had to be adjusted to make it fit within the grant available. This is largely due to the lack of availability of some of the items. For example, the original NICU beds sought were no longer on sale by point of purchase but thankfully a cheaper, Chinese semi-automatic bed of good quality became available. There was also a cost saving on the incubators, as the originally quoted model was unavailable at point of purchase. The mechanical ventilator required was more sophisticated than originally quoted for by the supplier. There is a small overspend of GBP 410 which has been contributed from the project management fee.