NEO FOR NAMIBIA
HELPING BABIES SURVIVE

MISSION REPORT

Mission 2025 – 2

September 2 – 30, 2025

AUTHORS
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Lucerne, 14.11.2025

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1. INTRODUCTION

This was the 24th mission of a NEO FOR NAMIBIA – Helping Babies Survive Team, lasting from September 2–30, 2025 (Fig. 1). It was conducted by the founders of the NGO, Prof. Thomas M. Berger and his wife Sabine Berger, as well as their driver and assistant, Isaak Boois. Together, they drove up to Rundu with two cars to accommodate various consumables brought from Switzerland and hygiene products (soap, hand sanitizer and paper towels) purchased from Taurus Maintenance Products in Windhoek.

Fig. 1. Overnight flight with SWISS from Zurich to Johannesburg; after a 4-hour-stopover, South African Airways connects to Windhoek.

For one week (from September 9–16, 2025), they were accompanied by the Rittmann family (Patrick, Miriam, Luc and Léa). The 24th mission also marked the 10th anniversary of the collaboration between the Swiss couple's NGO and the government hospital in Rundu (East Kavango region of Namibia).

From September 5–13, 2025, they worked at Rundu Intermediate Hospital. Patrick Rittmann, MD (Deputy Chief Physician of the Department of Obstetrics and Gynecology and fetal-maternal medicine specialist at the Zuger Kantonsspital), his wife, Miriam, a registered nurse, and their two adult children Luc and Léa (both medical students) joined them in Rundu on September 9, 2025. On September 13, 2025, the reenforced team travelled to Katima with a one-night-stopover near Divundu, while Issak Boois returned to Windhoek the same day.

On September 16, 2025, the Rittmann family left for Kasane (Boswana) to complete their holidays. Prof. Thomas M. Berger and Sabine Berger, on the other hand, returned to Rundu on September 20, 2025, for another three days of work at the Rundu Intermediate Hospital. They then headed south and arrived in Windhoek on September 27, 2025. Finally, they returned to Switzerland on September 30, 2025, completing their four-week-mission. Together, they had driven more than 4'000 km through Namibia (Fig. 2).

Fig. 2. Overall, Prof. Thomas M. Berger and his wife drove more than 4'000 km, visiting the two government hospitals in the north of Namibia, as well as the Mowani Mountain Lodge in Damaraland.

2. MAIN MISSION GOALS

The main goals of the 24th mission of NEO FOR NAMIBIA – Helping Babies Survive were:

- To assess the quality of perinatal care at both Rundu Intermediate Hospital and Katima State Hospital (direct observations at the bedside, review of statistical data)
- To identify the most critical deficits and most urgent needs at both hospitals
- To introduce the Rittmann family to our project
- To discuss the logistics for the NGO's largest donation yet with local health care professionals and medical engineers
- To meet with various stakeholders in Windhoek to secure supply chains and facilitate the VAT exemption process

3. HOSPITALS VISITED

3.1 Rundu Intermediate Hospital

As always, the team of NEO FOR NAMIBIA – Helping Babies Survive (including the Rittmann family) was warmly welcomed by both doctors and nurses. The various consumables brought by the mission team were desperately needed and therefore much appreciated. The local health care professionals (HCPs) were particularly excited about the planned 1st NICU Graduate Reunion (see below).

3.1.1 Overall impression

Despite recurrent challenges, the Prem Unit at Rundu Intermediate Hospital continues to provide an advanced level of neonatal care (Fig. 3). Staffing continues to improve (e.g., there are now two nurses instead of only one assigned to each cubicle in Block A), and the advantages are obvious. Alarms are more rapidly responded to, and, consequently, the noise level in the unit has decreased significantly.

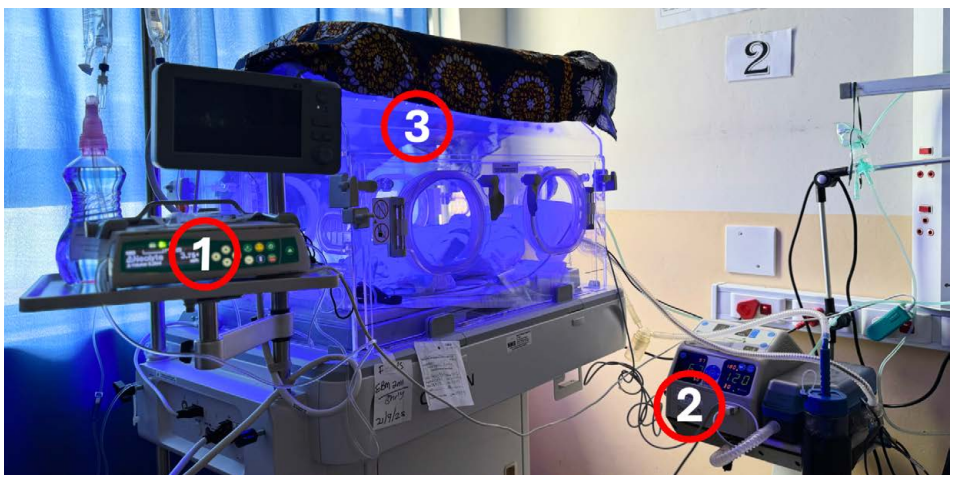

Fig. 3. Progress made over the past ten years is dramatic and obvious: controlled administration of i.v. fluids (1: B Braun® infusion pump), skillful use bubble CPAP (2: MTTS Dolphin® bubble CPAP), provision of phototherapy (3: MTTS Colibri® phototherapy unit).

Nurses that have worked in the Prem Unit for years skillfully use various pieces of equipment (Wallaby® warmers, Colibri® phototherapy units, Dolphin® bubble CPAP machines, POCT devices to measure bilirubin and C-reactive protein concentrations). Interns and medical officers write structured progress notes using the templates provided by NEO FOR NAMIBIA – Helping Babies Survive. The use of the video laryngoscope to intubate babies who need surfactant or invasive mechanical ventilation has become standard (Fig. 4).

Fig. 4. Geraldine Beukes, MD, using a reusable video laryngoscope to intubate a preterm infant for the administration of surfactant (INSURE: INtubate – SURfactant – Extubate).

In contrast, training and supervision of newly appointed nurses must be improved. Some of them do not yet understand even very basic aspects of neonatal care. They are not familiar with standard alarm settings and do not know how to use incubators and warmers properly (e.g., warming modes (manual versus baby mode), humidification). In part, this is because various types of incubators and warmers are used, making it more difficult to operate all of them correctly. Proper training is often not provided by the Namibian companies that sell medical equipment, and user manuals are either missing or rarely consulted.

3.1.2 Equipment maintenance

With the help of the Cuban medical engineer, Leonardo Sandalio Sànchez de la Cruz, medical equipment donated by NEO FOR NAMIBIA – Helping Babies Survive is well maintained and several devices have successfully been repaired with spares delivered directly from MTTS in Vietnam to Rundu Intermediate Hospital (e.g., internal loudspeakers). Eight out of nine Dolphin bubble CPAP devices are now fully functional. Device Nr. 7 would require additional replacement parts (flow control and display boards) from MTTS Vietnam; the malfunctioning electronic parts will be sent to MTTS for analysis. According to Steffen Reschwamm (MTTS production management) repair might be possible, whereas replacement could be quite expensive. Therefore, it might be better to buy a new device if repair is not feasible.

The Cuban technician was also able to repair malfunctioning Wallaby® warmers (e.g., heater elements replaced in four units). Currently, eight out of nine donated units are fully functional. The Colibri® phototherapy units are all in working order, but the emitted light intensity will need to be checked soon. An MTTS lightmeter was left in the Prem Unit in April 2025, and Leonardo promised to check the units soon.

Fortunately, Leonardo Sandalio Sànchez de la Cruz will be able to stay on for another year. Undoubtedly, he will be very valuable for our ongoing work in Rundu; in fact, despite difficult working conditions (Fig. 5), he has been very reliable and successful in maintaining and repairing equipment donated by our NGO.

Fig. 5. Dire working conditions in the maintenance shop at Rundu Intermediate Hospital.

3.1.3 Invasive mechanical ventilation

All doctors and all nurses prefer to use the EVE TR® ventilators (manufactured by Fritz Stephan GmbH, Germany) when a baby needs invasive mechanical ventilation. NEO FOR NAMIBIA – Helping Babies Survive has bought two of these machines from Anandic Medical Systems, Switzerland. VC-CMV (volume control – continuous mandatory ventilation) rather than SIMV with PSV (synchronized intermittent mandatory ventilation with pressure support ventilation) has become the preferred mode of ventilation.

When more than two patients require invasive respiratory support, a Chinese Resvent® iHope RS 300 ventilator is used. Although the machine has recently been serviced (apparently including a software update), both doctors and nurses are not happy with its performance and complain about constant alarming. Prof. Thomas M. Berger was able to support the local HCPs when a former ELBW infant, who had been readmitted with bacterial meningitis (see below), required invasive mechanical ventilatory support because of severe apnea spells. He noted that while the graphical user interface was generally easy to use, alarm adjustments and alarm silencing were both difficult (Fig. 6).

He also discovered that the local health care professionals still have not received any formal training from the distributor (Novo Medical Supplies (Pty) Ltd). Apparently, the company requested NAD 59'000.00 (CHF 2'700.00) for such training; Rundu Intermediate Hospital does not have a budget that would allow this type of expenditure.

Fig. 6. The turbine-driven Resvent® iHope in action: former ELBW infant (birth weight 920 g) readmitted with bacterial meningitis, requiring invasive mechanical ventilation.

3.1.4 Lectures and teaching sessions

Prof. Thomas M. Berger and Dr. Patrick Rittmann were able to give formal lectures on the following topics:

Prof. Thomas M. Berger

- Fluid and nutrition management & fluid and nutrition orders (nurses)
- Blood gas analysis (nurses and medical interns)
- Fetal physiology and pathophysiological aspects of neonatal resuscitation (nurses and physicians)
- Peripartal asphyxia and hypoxic-ischemic encephalopathy (HIE)

Dr. Patrick Rittmann

- Postpartum hemorrhage (physicians)
- Prenatal and intrapartum ultrasound examinations (physicians)

Of great interest, Dr. Patrick Rittmann talked about Celox® PPH tamponades in postpartum hemorrhage (PPH), which, in his words, is a "gamechanger" (Fig. 7). This approved medical product consists of chitosan-coated gauze. Chitosan is a sugar derived from the outer skeleton of shellfish, including crab, lobster, and shrimp. It binds to fibrinogen and triggers increased platelet aggregation, thereby stopping bleeding. It also promotes vasoconstriction. It has been used extensively in military/combat settings and has more recently been shown to be highly effective in women with PPH. This is of particular interest for low- and middle-income countries where maternal mortality rates remain high, and PPH is the main cause of maternal deaths (followed by hypertensive disorders of pregnancy (i.e., pre-eclampsia and eclampsia), and sepsis).

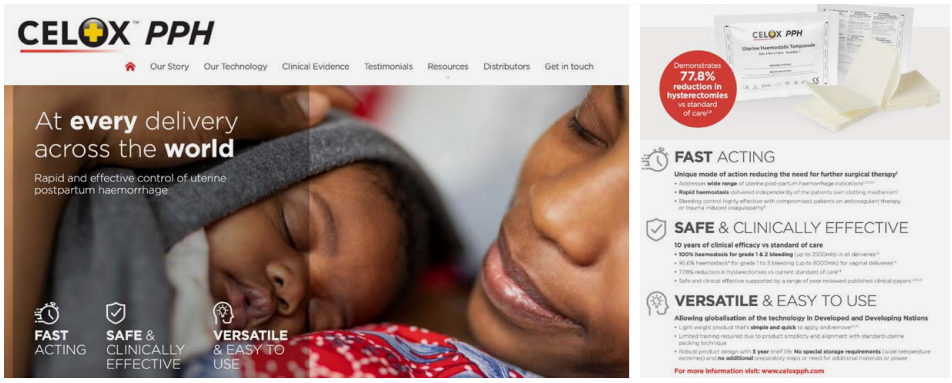

Fig. 7. Celox® PPH has been shown to be highly effective in controlling postpartum hemorrhage (PPH) (source: www.celoxpph.com).

3.1.5 Statistics DR and Prem Unit

As always, relevant statistical data was abstracted from the Prem Unit's admission book and put into context with statistical data from labor & delivery. Analyses revealed that progress made over the past years has not only been sustained but mortality rates have improved even further.

Over the first eight months (January–August) of 2025, there had been a total of 4'125 deliveries, resulting in 4'134 live births and 54 stillbirths. In addition, four babies died in the delivery room. The Cesarean section rate was 20.1 %. Over the same period, 631 babies were admitted to the Prem Unit (532 inborn (admission rate 12.9 %), 99 outborn). Overall, there were 50 deaths (mortality rate 7.9 %). Of these, 35 were inborn infants (mortality rate 6.6 %) and 15 were outborn infants (mortality rate 15.2 %).

Birthweight-specific mortality rates were as follows: < 1'000 g – 16/26 (61.5 %); 1'000 – 1'500 g: 9/79 (11.4 %); 1'501 – 2'500 g: 13/208 (6.3 %); > 2'500 g: 12/318 (3.8 %) (Fig. 8). Since some of the babies born in July and August 2025 were still hospitalized in September 2025 (all in a stable condition), the data will have to be reviewed again on the next mission.

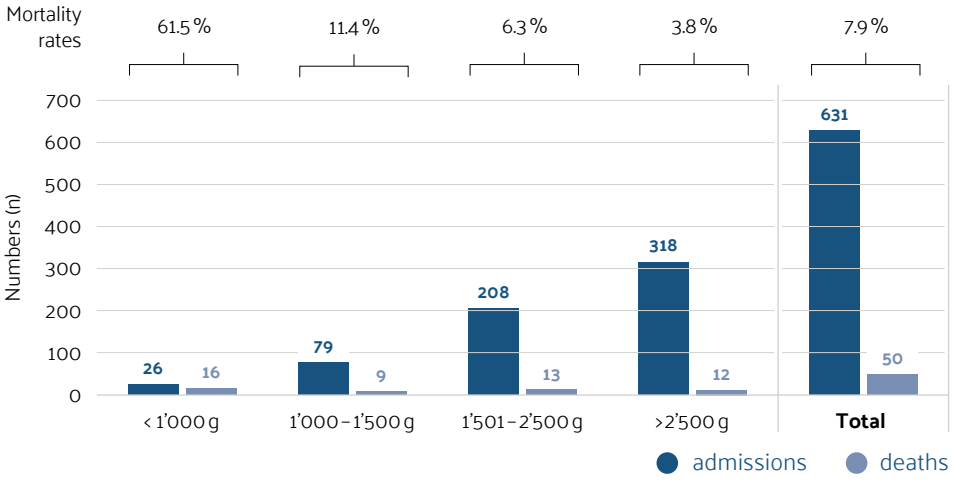

Fig. 8. Overall and birthweight-specific number of admissions, deaths and mortality rates of babies admitted to the Prem Unit at Rundu Intermediate Hospital from January 1 to August 31, 2025.

3.1.6 1st NICU Graduate Reunion

On September 10, 2025, the 1st NICU Graduate Reunion took place at the Fun Park outside of the Kaisosi River Lodge to celebrate 10 years of successful collaboration between NEO FOR NAMIBIA – Helping Babies Survive and the Rundu Intermediate Hospital. The event was

very successful with more than 60 participants (mothers, their children, nurses and doctors from Rundu Intermediate Hospital, the Rittmann family and the founders of the Swiss NGO).

Prof. Thomas M. Berger welcomed everybody and expressed his gratitude towards all those who had contributed to the success story. To illustrate the historical perspective and the large gap that exists between high-income and low- and middle-income countries, he recounted the story of two moderately preterm babies that had died from hyaline membrane disease.

The first one was the story of Patrick Bouvier Kennedy, the fourth child of then US president John F. Kennedy. The boy died in 1963, only 39 hours after his birth because, at the time, only oxygen was available to support babies with respiratory distress. Patrick Kennedy's death made international headlines (Fig. 9). It was followed by intense research into diseases of the newborn, leading to milestone discoveries over the next 30 years. Consequently, survival rates of preterm babies decreased dramatically in high-income countries.

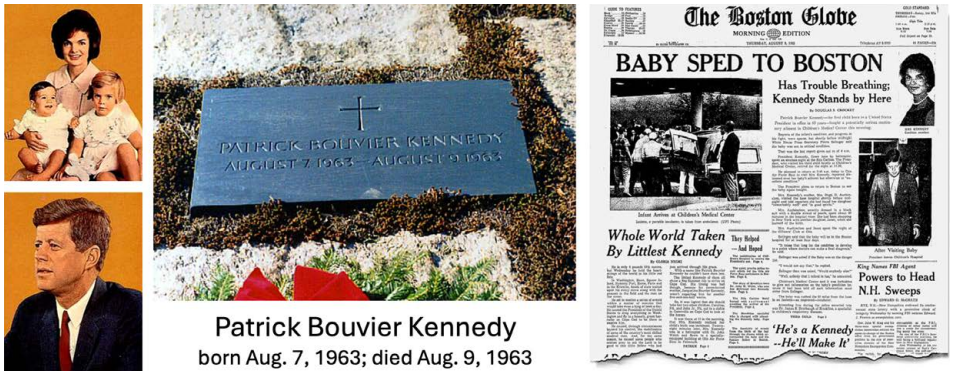

Fig. 9. The death of Patrick Bouvier Kennedy in 1963 made international headlines.

The second story happened at Rundu State Hospital in 2016. More than 50 years after the death of John F. Kennedy's son, oxygen was still the only therapy available in Rundu, and the baby died on the fifth day of his live. This death did not make the headlines, it remained anonymous. However, it prompted Prof Thomas M. Berger and his wife to start a program with the aim to improve neonatal care at this hospital.

Next, Martina Hausiku, RN and Chief Matron, and Cecilia Ndepavali, RN and Nursing Head of the High Care and Prem Units, gave thoughtful but also humorous speeches describing their perspectives of the progress made over the past ten years. Then, in very emotional testimonies, three mothers recounted their experiences when their babies were cared for in the Prem Unit (Fig. 10).

Fig. 10. Sabine Berger and mothers with their former Prem Unit babies at the 1st Prem Unit Graduate Reunion.

Finally, the nurses released white balloons to commemorate NICU babies ("both angels and survivors"), and Isha Kamara, MD and pediatric specialist, thanked the team of NEO FOR NAMIBIA – Helping Babies Survive for their unwavering support over many years. After the official part, all were invited to play, eat and drink. Pictures from the event were later used to print a large poster that has since been mounted in the Prem Unit (Fig. 11).

Fig. 11. Poster illustrating the 1st NICU Graduate Reunion held at the Fun Park outside the Kaisosi River Lodge.

The national TV station NBC (Namibia Broadcasting Corporation) later released a report on NBC news entitled "NEO FOR NAMIBIA brings hope to premature Babies" (to view this report go to: https://youtu.be/9g2UUE1Q9UE?si=nECNqtX2uRVseasA) (Fig. 12).

Fig. 12. The Namibian National Broadcasting Corporation (NC) reported on the 1st Prem Unit Graduate Reunion (link).

3.1.7 Case observations

3.1.7.1 Congenital hydrocephalus

The mother of this child was an 18-year-old G1/P1. She was referred to Rundu Intermediate Hospital when the fetus was noted to have massive hydrocephalus with only minimal brain structures identifiable. The obstetricians decided to proceed with vaginal delivery because of the young age of the mother, the risks associated with a Cesarean section and the likely limited prognosis of the baby.

Once the cervix was fully dilated transvaginal cephalocentesis (puncture of the infant's head) was performed to drain cerebrospinal fluid. The baby adapted well and was admitted to the Prem Unit. The mother, on the other hand, suffered severe postpartum hemorrhage (PPH) and had to be admitted to the High Care Ward in hemorrhagic shock. Ultimately, bleeding stopped when a Celox® PPH gauze was used to tamponade the uterine cavity (see above). The mother eventually made a full recovery.

On examination, the baby appeared active and stable on low flow oxygen by nasal cannula. The baby's head was grossly deformed, and floating skull bones were felt swimming on top of fluctuating fluid filled areas (Fig. 13). A very limited bedside US examination by Prof. Thomas M. Berger demonstrated large fluid filled spaces, no recognizable cortex and some basal brain tissue. It was decided to provide palliative care and not to escalate therapy.

Fig. 13. Baby with massive congenital hydrocephalus born vaginally following cephalocentesis: on palpation, the skin overlying the neurocranium was very floppy and free-floating skull bones could be felt.

At the time of this writing, the baby was still alive and hospitalized in the Prem Unit.

3.1.7.2 Cyanotic congenital heart disease

This patient was diagnosed with likely cyanotic congenital heart disease. He was a twin and had been admitted from home. An initial chest X-ray was obtained in casualty (Fig. 14 A, B). At this time, his oxygen saturation (SpO_2) was only 65 % in room air with no pre-/postductal difference. The baby was started on oral prostaglandin E2 under the assumption that he might have duct-dependent congenital heart disease.

When the patient was seen by Prof. Thomas M. Berger, he was on invasive mechanical ventilation on minimal inflation pressures, but despite an FiO_2 of 100 % his SpO_2 was only 65–75 % (Fig. 14 C). On clinical examination, a 3-4/6 systolic murmur was heard, and the precordial impulse was hyperactive. Brachial and inguinal pulses were easily palpable (Fig. 14 D).

Fig. 14. Baby with suspected cyanotic congenital heart disease: A and B) admission CXR with a boot-shaped heart ("coeur en sabot"), as seen in some cases of Tetralogy of Fallot; C) very compliant lungs (PIP 14 mbar to achieve a tidal volume of 14 ml (i.e., 5 ml/kg), but despite an FiO_2 of 100 %, the SpO_2 only reached 71 %; D) a 3–4/6 systolic murmur could be heard on cardiac auscultation.

Neither an echocardiogram (babies must be sent to Windhoek) nor a follow-up CXR (mobile X-ray broken) were available. When a patient with a presumably better prognosis was admitted requiring invasive ventilatory support, this patient was extubated and put on CPAP.

At the time of this writing, the baby had been transferred to Windhoek Central Hospital, where a diagnosis of Tetralogy of Fallot (TOF) with pulmonary atresia (PA) had been made (Fig. 15). In order to survive in the long run, this baby would require heart surgery; it is, however, not clear whether this option will become available for this baby in Namibia.

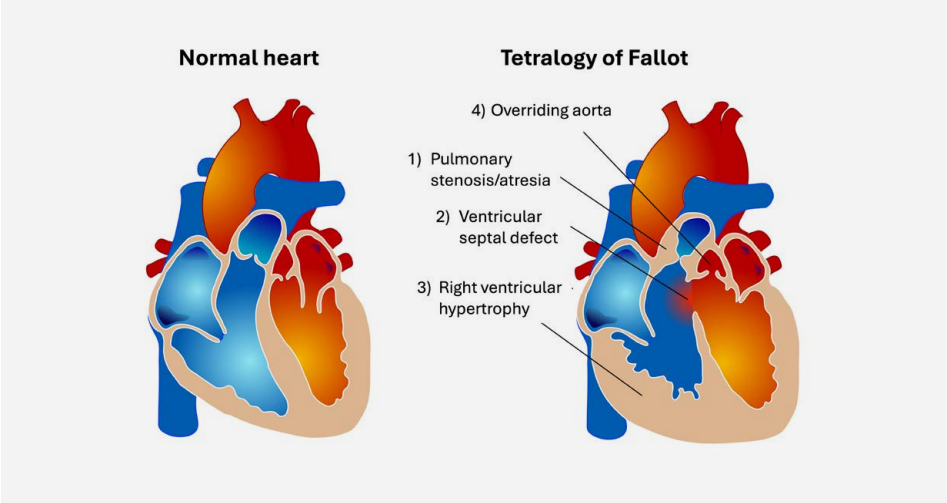

Fig. 15. Schematic drawing of Tetralogy of Fallot (TOF) with pulmonary atresia (PA): 1) pulmonary stenosis/atresia, 2) ventricular septal defect (VSD), 3) right ventricular hypertrophy, and 4) overriding aorta (source: www. wikipedia.com).

Small bowel atresia

This near-term baby had been referred from Nyangana District Hospital, 100 km east of Rundu because of recurrent vomiting. Abdominal X-ray was suggestive of bowel obstruction, and the patient was taken to the OR. Intraoperatively, total atresia of the small bowel was found with no valid surgical options (Fig. 16). It was therefore decided to provide palliative care only.

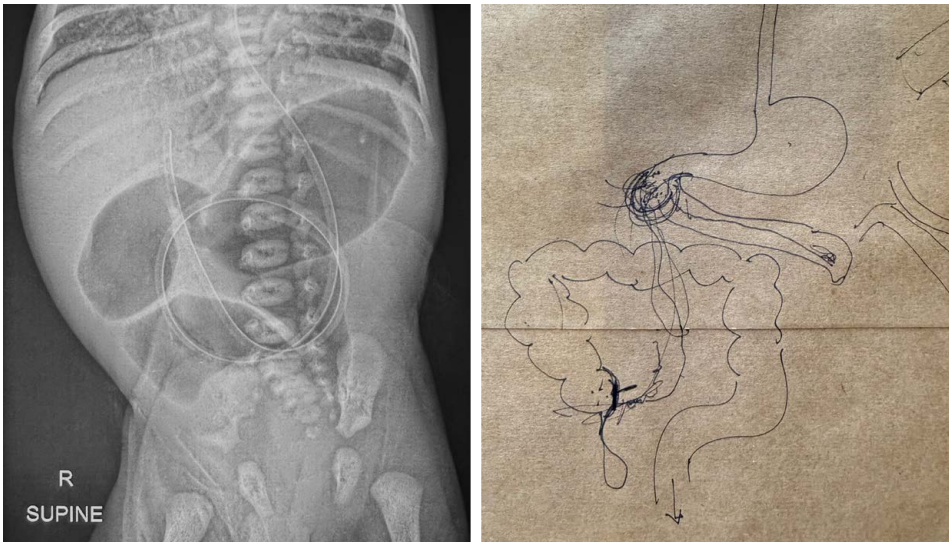

Fig. 16. Abdominal X-ray suggestive of bowel obstruction (left), surgeon's sketch of the intraoperative findings: complete small bowel atresia (right).

For obvious reasons, the baby could not be fed, and no intravenous fluids were provided. After becoming increasingly dehydrated and anuric (Fig. 17), the baby died peacefully on day of life 17.

Fig. 17. The baby with complete small bowl atresia receiving palliative care only.

3.1.7.3 Bacterial meningitis in a former ELBW infant

This former extremely low birthweight (ELBW) infant (birth weight 920 g) was brought to the hospital because of fever and poor feeding. On admission, severe recurrent apnea spells were noted, and the baby had to be intubated. Examination of the cerebrospinal fluid (CSF) from a spinal tap was consistent with bacterial meningitis. The gram stain showed gram positive coccis; however, neither identification of the organism nor its resistance pattern became available.

Prof. Thomas M. Berger noted that not only was the fontanel bulging, but the sagittal and metopic sutures were wide. On a (technically) limited ultrasound examination, enlarged ventricles partially filled with echogenic material were noted (Fig. 18). These findings were interpreted to either represent yet undiagnosed posthemorrhagic hydrocephalus and/or hydrocephalus secondary to meningitis.

At the time of this writing, the baby had been discharged and follow-up (hydrocephalus, development) had been scheduled.

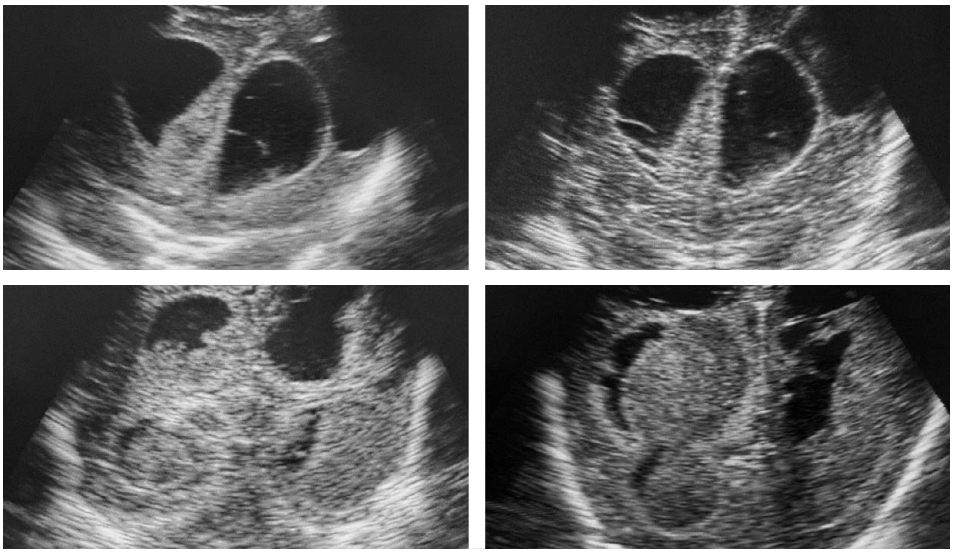

Fig. 18. Limited head ultrasound examination of former ELBW infant with bacterial meningitis: dilated ventricles, partially filled with echogenic material.

3.1.7.4 Congenital diaphragmatic hernia

This term baby had been admitted from home with presumed pneumonia. On admission, the patient had been in severe respiratory distress and required intubation and mechanical ventilation following admission to the Prem Unit. Since the mobile X-ray machine was still malfunctioning, no X-ray was obtained.

Prof. Thomas M. Berger saw this patient when the mission team returned from Katima. He noted moderate ventilator settings and variable FiO_2 requirements (50–85 %). On physical examination, breath sounds were much louder on the right side than on the left side. Both lung auscultation and the flow-time curve on the ventilator display suggested increased secretions. Left-sided atelectasis was suspected, and the baby was preferentially nursed in a right lateral position with no clear improvement.

Upon the mission team's return to Switzerland, Isha Kamara, MD, informed Prof. Thomas M. Berger that the baby had been taken to the X-ray department while being hand-bagged through the endotracheal tube. A diagnosis of left-sided congenital diaphragmatic hernia was made (Fig. 19).

Fig. 19. Term baby with left-sided congenital diaphragmatic hernia.

The baby was operated in Rundu and reportedly recovered rapidly. At the time of this writing, the baby was still hospitalized in Block B of the Prem Unit but in a stable condition.

3.1.8 Next steps

Given the enormous success and dedication of the local health care professionals witnessed, NEO FOR NAMIBIA – Helping Babies Survive will continue to support Rundu Intermediate Hospital. The main principles of the NGO's involvement will remain the same:

- Provision and maintenance of affordable and robust equipment
- Developing and securing reliable supply chains for essential consumables
- Training of local health care professionals (lectures, simulation training, bedside teaching)
- Strengthening the ties with local nursing and physician leaders
- Measuring the impact of various interventions by statistical analyses (birthweight-specific admission and mortality rates, in depth analyses of deaths)

In the not-too-distant future (time frame: 3-5 years), ownership of the program will have to be transferred to the hospital. Obviously, NEO FOR NAMIBIA – Helping Babies Survive will continue to support Rundu Intermediate Hospital as best as possible even beyond that time period.

3.2 Katima State Hospital

As had been the case in Rundu, the team of NEO FOR NAMIBIA – Helping Babies Survive and the Rittmann family were warmly welcomed by both doctors and nurses at Katima State Hospital. As supply chains continue to be brittle, consumables brought by the mission team were much appreciated.

3.2.1 Overall impression

The Neonatal Unit at Katima State Hospital continues to provide solid neonatal care at an Intermediate Care Unit (IMC) level, including well calculated fluid and nutrition management, (mostly) adequate use of antibiotics, routine use of CPAP and surfactant replacement therapy and POCT-guided phototherapy for neonatal hyperbilirubinemia. For more advanced care (i.e., invasive mechanical ventilation, neonatal surgery, exchange transfusions), babies must be transferred to Rundu (distance: more than 500 km) or even Windhoek (distance: more than 1'300 km).

As was the case at Rundu Intermediate Hospital, training and supervision of newly appointed nurses and nursing students must be improved (Fig. 20). Without knowledge of basic aspects of neonatal care, they will not be able to support the more senior nurses, and, occasionally, put patients at risk.

Fig. 20. Routine use of CPAP with appropriate settings and correct alarm limits (left); proper positioning of babies with respiratory distress needs to be improved (right).

Over the past months, physician staffing has changed remarkably with several new Medical Officers joining the Department of Pediatrics. In addition, there is a new Chief Medical Officer, Dr. Helen Bainga. Unfortunately, time was too short to get to know the new team members in more detail. Contrary to our expectations, Dr. Yurisleydi Valdes, the Cuban pediatrician/neonatologist and wife of Dr. Manolo Berbe, head of the Department of Obstetrics and Gynecology at Katima State Hospital, had not yet left for her annual leave to Cuba. The mission team was therefore able to discuss pressing issues regarding both the Neonatal Unit and Obstetrics with the Cuban couple.

3.2.2 Equipment inventory and maintenance

Equipment maintenance and repair remains an area of concern. Staff and financial resources are scarce; consequently, the condition of medical equipment rapidly deteriorates, often beyond repair (Fig. 21).

Fig. 21. The consequences of poor equipment maintenance are obvious: improvised repair of suction device (left), broken incubator (right).

3.2.3 Statistics DR and Neonatal Unit

Relevant statistical data was abstracted from the Neonatal Unit's admission book and put into context with statistical data from labor & delivery. Analyses revealed that progress made over the past years has been sustained; in fact, the 2025 mortality rate of infants admitted to the Neonatal Unit is the lowest ever recorded (5.7 %, see below).

Over the first eight months (January – August) of 2025, there had been a total of 2'660 deliveries, resulting in 2'666 live births and 49 stillbirths. No baby had died in the delivery room. The Cesarean section rate was 8.9 %, much lower than the one at Rundu Intermediate Hospital (20.1 %). Over the same period, 383 babies were admitted to the Prem Unit. Overall, there were 22 deaths (mortality rate 5.7 %).

Birthweight-specific mortality rates were as follows: < 1'000 g – 11/14 (78.6 %); 1'000 – 1'500 g: 3/31 (9.7 %); 1'501 – 2'500 g: 4/132 (3.0 %); > 2'500 g: 4/206 (1.9 %) (Fig. 22). Since nine babies born in August 2025 were still hospitalized in September 2025 (all in a stable condition), the data will have to be reviewed again on the next mission.

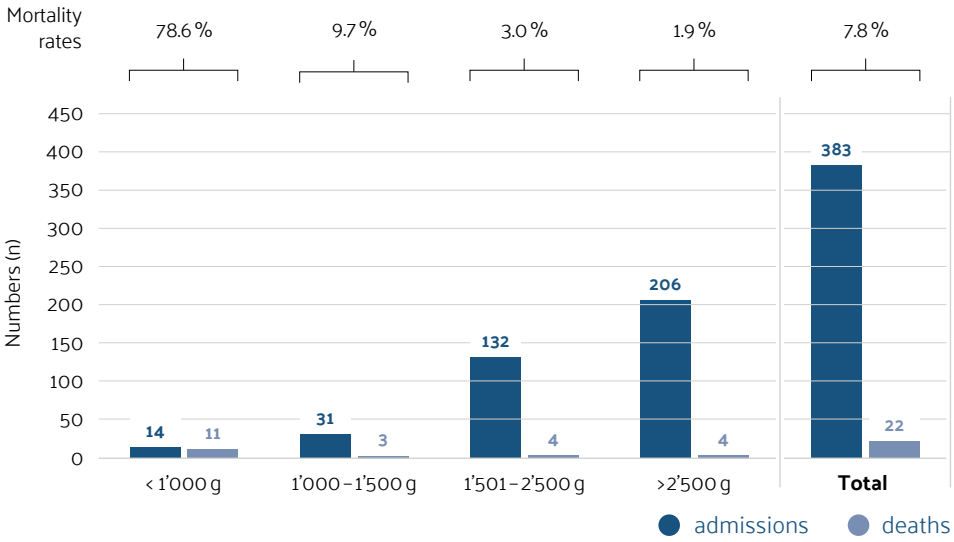

Fig. 22. Overall and birthweight-specific number of admissions, deaths and mortality rates of babies admitted to the Neonatal Unit at Katima State Hospital from January 1 to August 31, 2025.

3.2.4 Comparison of statistical data between Rundu and Katima

It is interesting to compare statistical data between Rundu Intermediate Hospital and Katima State Hospital. In the first eight months of 2025, the overall mortality rate of sick neonates admitted to the Neonatal Unit in Katima is lower than the one observed in the Prem Unit at Rundu Intermediate Hospital (5.7 % versus 7.9 %). Except for extremely low birthweight (ELBW) infants, this is true for all other BW strata (Fig. 23). This observation cannot be explained by BW-specific contributions to the total number of admissions (Fig. 24).

While it would be interesting to explore these findings in more detail, any explanations must remain speculative at this point (e.g., differences in the number of outpatient admissions (not recorded in Katima), differences in antenatal care attendance, differences in obstetrical care: e.g., use of tocolysis, antenatal corticosteroids, antibiotics).

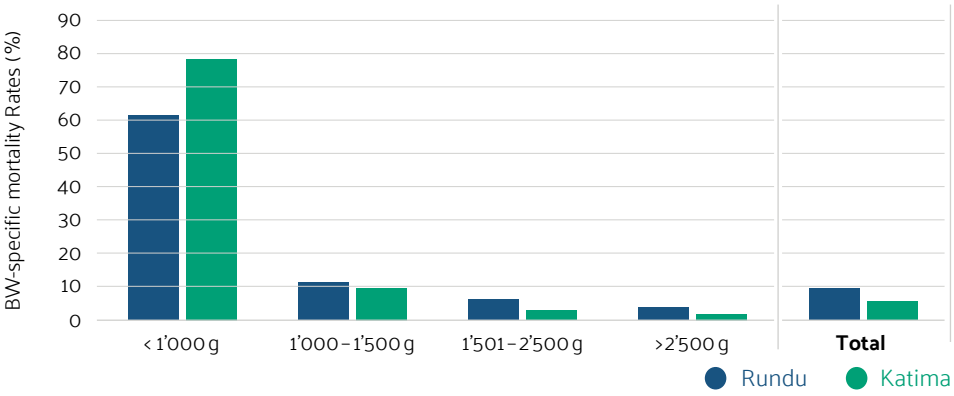

Fig. 23. Comparison of BW-specific mortality rates between Rundu and Katima: except for extremely low birthweight (ELBW) infants, the BW-specific mortality rates are lower in Katima than in Rundu.

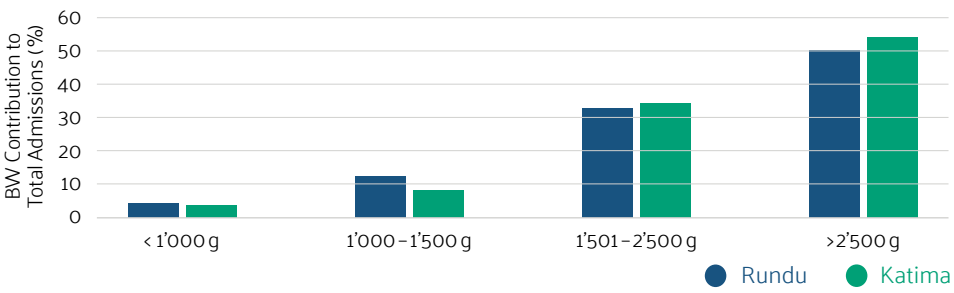

Fig. 24. BW-specific contribution to the total number of admissions: differences in overall mortality rates between Rundu and Katima cannot be explained by baseline population differences.

4. THE RITTMANN FAMILY

As outlined above, the Rittmann family joined Prof. Thomas M. Berger and Sabine Berger for one week on the 24th mission of NEO FOR NAMIBIA – Helping Babies Survive. Together, they visited both Rundu Intermediate Hospital and Katima State Hospital.

Patrick Rittmann, MD, is an obstetrician/gynecologist and Fetomaternal Medicine specialist. He was able to join the local OB/GYN teams in their daily clinical activities (morning reports, rounds, ultrasound consultations). At both hospitals, he gave lectures on two different topics: first, the prevention and management of postpartum hemorrhage (PPH) and, second, the prenatal and intrapartum use of ultrasound. In Katima, he assisted Manolo Berbe, MD, a Cuban obstetrician/gynecologist, in the operating theatre (Fig. 25).

Fig. 25. Patick Rittmann, MD, assisting his colleague from Cuba in the OR at Katima State Hospital.

Miriam Rittmann, RN, Léa and Luc Rittmann, both medical students, also had opportunities to get insights into the realities of medical care in low-resource settings. They joined Prof. Thomas M. Berger on rounds and assisted Sabine Berger, RN, in her work (Fig. 26, 27).

Fig. 26. Miriam, Léa and Luc Rittmann joining rounds in the Prem Unit at Rundu Intermediate Hospital.

Fig. 27. Together with Prof. Thomas M. Berger, Léa and Luc Rittmann, medical students from Switzerland, examine a term baby with suspected congenital heart disease in the Neonatal Unit at Katima State Hospital.

5. CONCLUSIONS AND OUTLOOK

In spite of many challenges, the collaboration between local Namibian HCPs and NEO FOR NAMIBIA – Helping Babies Survive has been highly successful. Sustainability has been demonstrated. Scalability is certainly feasible but will depend on financial and staff resources, as well as investments from the Namibian Ministry of Health and Social Services.

In 2026, there will be at least three additional missions. The first one will take place early in the year to facilitate the distribution of a large number of patient monitors (more than 100), neonatal resuscitation units and incubators donated by the Cantonal Hospital of Zug, Switzerland, and Anandic Medical Systems, Switzerland. Prof. Thomas M. Berger will travel to Rundu and Katima to oversee that process and provide in-depth training. In addition, Dr. Salome Waldvogel and Dr. Kundai Mapanga, as well as Prof. Thomas M. Berger, Sabine Berger and her niece Lea Bürge, an enrolled nurse, will conduct missions number 26 and 27, respectively.

The Vayu® project (a low-cost bubble CPAP device, ideal for DR stabilization and transport of sick babies), still has not made any progress and will require additional effort. It is planned to draft a memorandum of understanding between the Ministry of Health and Social Services (contact person: Mr. Lawrence Siyanga) and NEO FOR NAMIBIA – Helping Babies Survive. Once signed, it could greatly facilitate future collaborations.

6. IMPRESSIONS FROM THE 24TH MISSION

To conclude this report, some images will illustrate the beautiful landscapes, animal life and people the team encountered on their mission (Fig. 28–38). Enjoy!

Fig. 28. Stopping at David's place on the way to Rundu: the talented woodcarver showed us his workshop behind his roadside sales stand.

Fig. 29. Meeting our friends: Sabine Berger and Ottilia "Unique" Hamutenya, a teacher, (top left), Sabine Berger and Eleotelia Hamutenya, mother of a very low birth weight (VLBW) infant (bottom left), Prof. Berger and Sabine Berger with Johannes, security guard at the Kaisosi River Lodge (right).

Fig. 30. Sabine Berger with Maria at the open market (left), and former Prem Unit patients at the 1st Prem Unit Graduate Reunion (middle, right).

Fig. 33. Growing up in Africa.

Fig. 31. African scenery: always amazing!

Fig. 32. African flowers.

Fig. 34. Crocodiles at the Kavango River near the Popa Falls.

Fig. 35. Hippos in the Kavango River near the Popa Falls.

Fig. 36. African birds: yellow-bellied greenbul at Riverdance Lodge near Divundu (left), a very tame arrow-marked babbler at Kaisosi River Lodge, named Sakkie (right).

Fig. 37. Southern carmine bee-eaters at the banks of the Kavango River near Popa Falls.

Fig. 38. Amazing rock formations with huge ochre-colored boulders at Mowani Mountain Camp near Twyfelfontein in Damaraland.

Fig. 39. Desert-adapted African bush elephants near the Huab riverbed (an ephemeral river in Damaraland) have adapted to survive in harsh, arid conditions; they are known for their ability to travel long distances to find water and food.

Fig. 40. Tombstones at the cemetery in Rundu: many children are buried here.

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