Kanti Children’s Hospital, Nepal

Reporting period: January 1, 2017 – March 31, 2017
Prepared by: Ganesh Shrestha, Program Manager
Pragya Gautam, Program and M&E Coordinator

Organization: Real Medicine Foundation Nepal (www.realmedicinefoundation.org)
Project title: Kanti Children’s Hospital
Project location: Kathmandu, Nepal

January–March 2017
Real Medicine Foundation
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Background
Kanti Children’s Hospital is the only government referral level children’s hospital in Nepal and provides medical care to children up to age 14. The targeted number of children to be served directly and indirectly by the hospital is approximately 10,068,900 each year (34.9% of total population, Nepal Population Report, 2016).

The administration of the hospital is overseen by Kanti Children’s Hospital Development Board, which is an autonomous body under the Ministry of Health. The hospital is heavily dependent on the government for financial support and human resources. Thus, although Kanti Children’s Hospital provides free health services to financially challenged patients, there are always constraints with regard to the availability of funds, which makes it challenging to provide medical support to every child that is referred to the hospital. Recently, the hospital development board decided to upgrade the Intensive Care Unit (ICU) from 8 beds to 52 beds. The hospital has also started a triage area in the Emergency Unit.

RMF Support to Kanti Children’s Hospital
Shortly after the April 2015 earthquake, Real Medicine Foundation started its support of Kanti Children’s Hospital by donating $408,000 worth of medicines, medical supplies, and laboratory supplies. RMF also continues to support a blood bank, lodging, food, transportation, medicines, laboratory services, and other necessities for needy patients and their families.

RMF-Supported Staff
In March 2017, RMF expanded its support to Kanti Children’s Hospital, and is now providing the hospital with 3 Medical Officers and 2 Registered Nurses. RMF’s Medical Officers are working in the CICU (Central Intensive Care Unit), and the Registered Nurses are working in the emergency triage area.

RMF Nepal’s New Medical Officers and Registered Nurses:

Dr. Angel Shrestha is a pediatrician registered with the Nepal Medical Council. As an RMF Nepal Medical Officer, she serves in the ICU of Kanti Children’s Hospital, Kathmandu. She completed her MBBS degree at Xi’an Jiaotong University, Shaanxi, China in 2009 and earned her master’s degree in pediatrics (MD) at the same university in 2016.

After completing her MBBS degree, Dr. Angel worked as a medical officer at Samudaik Hospital, Gongabu in the emergency department; at Astamatrika Polyclinic, Dhoibighat; at B & B Hospital, Gwarko in the anesthesiology department; and at Nidan Hospital, Pulchowk for 2.5 years.

Dr. Anisha Shakya is a medical doctor registered with the Nepal Medical Council. She completed her MBBS degree at Weifang Medical University, Weifang, Shandong, China in 2016. During her one-year rotational internship in Weifang Medical University’s affiliated hospital, she worked in various departments. Dr. Anisha is meticulous, disciplined, and polite and soft in nature. She also has experience working with medical IT and PowerPoint. Currently, Dr. Anisha works in the CICU of Kanti Children’s Hospital as an RMF Nepal Medical Officer. In her free time, she likes indoor, as well as outdoor activities, literature, dancing, and travel.
Dr. Saraswati Parajuli is a medical doctor registered with the Nepal Medical Council. She completed her MBBS degree at Guangzhou Medical University, China in 2016. Dr. Saraswati was a scholarship winner and received the honor of 2016 Excellent International Graduate of Guangzhou Medical University. During her one-year internship at Guangzhou Medical University’s affiliated hospital, she worked in the departments of internal medicine, surgery, gynecology and obstetrics, emergency medicine, neurology, radiology, anesthesiology, ENT, ophthalmology, and dermatology. She also has experience working at Awon Clinic, Kalimiti for several months and has participated in some of the health camps organized by non-governmental organizations.

Dr. Saraswati began working at Kanti Children’s Hospital in the general ward, and is now working in the CICU as an RMF Nepal Medical Officer.

Sita Gurung is a registered nurse who hails from Manang, a mountainous district of Nepal which is difficult to access. Prior to passing her Proficiency Certificate Level (PCL) in Nursing, Sita also completed a Community Medical Assistant (CMA) course. She worked as a staff nurse at the District Health Office of Manang, providing various health services to the local residents.

Sita is now an RMF Nurse working at Kanti Children’s Hospital, Kathmandu. She is stationed in the triage area of the hospital’s Emergency Department, where she receives the sick children, assesses their condition, and classifies the urgency of their case: requires immediate medical action for survival (code red), sick but not life-threatening condition (code yellow), less severe condition that can wait awhile (code green), or dead on arrival (code black), and sends the patient to the respective color zone for treatment.

Nirjala Bhattarai is a registered nurse who hails from Kathmandu. She completed her Proficiency Certificate Level (PCL) in Nursing at the Manmohan Institute of Health Sciences in 2015 and volunteered in the Emergency Department of Kanti Children’s Hospital for 6 months before joining RMF’s team.

Nirjala now works as an RMF Nurse in the triage area of the Emergency Department at Kanti Children’s Hospital. She receives the children at the Emergency Department, assesses their condition, and classifies the urgency of their case: requires immediate medical action for survival (code red), sick but not life-threatening condition (code yellow), less severe condition that can wait awhile (code green), or dead on arrival (code black). She then sends the patient to the respective color zone for treatment.

Looking Ahead
RMF will continue our long-term support of Kanti Children’s Hospital. Our current support consists mainly of human resources, but we are also strategically providing the hospital with funding for necessary equipment, facilities, and are looking into affiliation with international hospitals.

With this in mind, Kanti Children’s Hospital has formally requested that RMF increase its support for the expanding ICU department:
1. ICU beds for the CICU (Central Intensive Care Unit)
2. Fully equipped cardiac catheterization laboratory
3. Additional staff for the CICU and emergency triage area
4. Financial support for children’s first phase treatment

Request letters received from Kanti Children’s Hospital:

Letter 1

Unofficial translation:

<table>
<thead>
<tr>
<th>Government of Nepal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
</tr>
<tr>
<td>Kanti Children’s Hospital</td>
</tr>
<tr>
<td>Maharajgunj, Kathmandu</td>
</tr>
</tbody>
</table>

Date: March 26, 2017

Subject: Regarding support

Real Medicine Foundation,
House 249, Ward no-6, Chhuchepati, Kathmandu

With regards to the above subject, Real Medicine Foundation (RMF) has approached the Ministry of Health regarding support to Kanti Children’s Hospital. A letter has been received by Kanti Children’s Hospital from the Ministry of Health in this regard, instructing that Kanti Children’s Hospital present a written request to Real Medicine Foundation about their immediate needs/support that they expect from RMF. The letter from the ministry was presented to the 285th meeting of Hospital Development Board dated March 26, 2017 and the decision has been made to request 3 competent Medical Officers for the CICU (Central Intensive Care Unit), 3 Security Guards, and 2 Staff Nurses for smooth running of the triage area under the Emergency Service Unit. We request Real Medicine Foundation to support with human resource requirement for the period of one year to Kanti Children’s Hospital.

Dr. Ajit Rayamajhi
Director
विषय: सहयोग सम्बन्धमा।

श्री रियाल मेडिसिन फाउंडेशन,
349, बढा नं. ६, चुप्पे पाटी।

प्रमुख विषयमा यस कालिक बाल अस्तालबाट आवश्यक सहयोग गर्ने इच्छा जताइ स्वस्थ फाउंडेशनबाट स्वस्थ मन्त्रालयमा पेश भएको पहिलो सन्दर्भमा स्वस्थ मन्त्रालयबाट आवश्यक श्रीत साधनहरू विशेष प्रस्तुति भन्ने व्यस्तहरूको यस प्राप्त हुन आएको हो। उक्त विषयमा पहिलो स्वस्थ विकास समितिको मिलित २०७२/२०७३ मा वसन्तकोट बाट संचालनमा आएको एकीकृत स्वस्थ उपचार क्षेत्र (CICU) को सरल संचालनको लागि दश कर्मचारीहरू अभिमान रहेको भई उक्त कालिकलाई जनाउने नै जना खुलेको अभिव्यक्ति, औंक जना सुविधा, गाउँको अधिकारिक Emergency सेवा निर्माण संचालनमा रहेको Triage को सुपूर्व संचालनको लागि जना स्टाफ नसे आवश्यक मान्यता रहेको हुन उपरोक्त वर्तमानमा जनाउने १ वर्षको सेवा सुविधा लिमा फाउंडेशनको माध्यम अनुसार उपलब्ध गर्नु गरिदिएको र उपरोक्त वर्तमानमा स्वस्थ श्रीत उपलब्ध गराई दिन अनुरोध गर्ने निर्णय भएको हुन सो अनुसार हुन अनुरोध गरिन्छ।

दा. अधिक द्वितीयको
निदेशक
Government of Nepal
Ministry of Health
Kanti Children’s Hospital
Maharajgunj, Kathmandu

Ref. No.: 625

Date: March 29, 2017

Subject: About the statement of necessary particulars

The Ministry of Health
Ramshah Path, Kathmandu

This is to inform you that in accordance with the request letter from Real Medicine Foundation to the Secretary of the Ministry of Health, dated February 9, 2017, under the registration no. 6224, we had received a request letter from the ministry to provide an elaborated statement about the opinions and particulars necessary for the hospital under the reference no. 1(A) 652 on February 16, 2017. I hereby declare that the 285th meeting of the board members of the hospital, held on March 26, 2017, has decided that the following mentioned particulars are necessary for the hospital:

1. ICU beds for CICU: 17 in number
2. A fully equipped cardiac catheterization laboratory

Dr. Ajit Rayamajhi
Director
च.म. ६०२५

विषय :-  खुलाई पठाईको सम्बन्धमा

भृत स्वास्थ्य मन्त्रालय,
रामाशालय, काठमाडौं।

उपरोक्त विषयमा Real Medicine foundation (RMF) ले भृत स्वास्थ्य मन्त्रालयमा भित्र २०७३००२७ मा भृतीमान संचिकेयू सममुँश गर्दै धेरौ परीक्षा गरेको पनि व्यायाम नियमलग्नको र खिलाउ ६२२४ मिति २०७३०२१४ मा रत्नाखान को अनुरोध धेरौ तलालाई नियमलग्नको भित्र २०७३०२१४ च न १५४। ६६२ को मसा अस्थायी राज प्रतिकृति एवं सामाजिक आवश्यक भए को निर्धारित खुलाई पठाई भृती भेठी आएको हुन् मिति २०७३०२१६ मा भएको २८४ भृत स्वास्थ्य विभाग निर्माण को वैद्यकीय डिविजन सामाजिक आवश्यक भएको व्यायाम खुलाई लेख गरेको निर्देश निर्देशांक अनुरोध हुन्।

1. CICU को लागि ICU Bed १६ नबन
2. CARDIAC CATRETERIZATION LABORATORY (क्याम्फ) लागि पूर्ण अवस्थापन

दा. अमित सचमुखी
निर्देशक
Patients Admitted to Kanti Children’s Hospital ICU: March 2017
The 3 medical doctors, Angel Shrestha, Anisha Shakya, and Saraswati Parajuli, had been working at Kanti Children’s Hospital for several months, and their official contracts as RMF Medical Officers began on March 22nd, 2017. During the month of March, 64 patients were admitted to the Kanti Children’s Hospital ICU, as seen in Table 1:

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital Heart Disease (CHD)</td>
<td>15</td>
</tr>
<tr>
<td>CHD with Neonatal Seizure</td>
<td>7</td>
</tr>
<tr>
<td>Neonatal Jaundice</td>
<td>4</td>
</tr>
<tr>
<td>Meningitis</td>
<td>4</td>
</tr>
<tr>
<td>Biliary Atresia</td>
<td>2</td>
</tr>
<tr>
<td>Late Onset of Neonatal Sepsis</td>
<td>18</td>
</tr>
<tr>
<td>Early Onset of Neonatal Sepsis</td>
<td>4</td>
</tr>
<tr>
<td>Necrotizing Enterocolitis</td>
<td>5</td>
</tr>
<tr>
<td>Perinatal Asphyxia</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
</tr>
</tbody>
</table>

Some of the ICU patients treated by RMF Medical Officers at Kanti Children’s Hospital are shown in Table 2:

<table>
<thead>
<tr>
<th>SN</th>
<th>Name</th>
<th>Age/Sex</th>
<th>Address</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unik Shrestha</td>
<td>9 years/male</td>
<td>Gongabu</td>
<td>Cerebral palsy with global developmental delay. Pneumonia, respiratory distress.</td>
</tr>
<tr>
<td>2</td>
<td>Kushal Nepali</td>
<td>4 months/male</td>
<td>Dolakha</td>
<td>Cyanotic congenital heart disease and Down syndrome. Pneumonia, respiratory distress.</td>
</tr>
<tr>
<td>3</td>
<td>Dip Nepali</td>
<td>2 months/male</td>
<td>Tanahu</td>
<td>Cyanotic congenital heart disease. Pneumonia, respiratory distress.</td>
</tr>
<tr>
<td>4</td>
<td>Pralad Karki</td>
<td>3 years/male</td>
<td>Okhaldhunga</td>
<td>Bronchial asthma</td>
</tr>
<tr>
<td>5</td>
<td>Hasta Bahadur Gole</td>
<td>10 years/male</td>
<td>Mahottari</td>
<td>Septic sock</td>
</tr>
<tr>
<td>6</td>
<td>Yogesh Acharya</td>
<td>8 months/male</td>
<td>Dang</td>
<td>Bronchiolitis, respiratory distress</td>
</tr>
<tr>
<td>7</td>
<td>Abishan Rai</td>
<td>5 months/male</td>
<td>Diktel</td>
<td>Pneumonia with hypernatremic dehydration, in distress</td>
</tr>
<tr>
<td>8</td>
<td>Baby of Goma Adhikari</td>
<td>2 months/female</td>
<td>Gorkha</td>
<td>Cyanotic congenital heart disease with VSD in failure, and Down syndrome. Pneumonia, in distress.</td>
</tr>
<tr>
<td>9</td>
<td>Aryan Chaudhary</td>
<td>7 years/male</td>
<td>Kanchanpur</td>
<td>Hemolytic anemia</td>
</tr>
</tbody>
</table>
Success Stories

1. **Lok Bahadur Syantang**

On Monday, March 20\textsuperscript{th}, 2017, a chubby 2-month-old baby boy named Lok Bahadur Syantang was brought to Kanti Children’s Hospital ER by his parents, who are from Hetauda. He was having difficulty breathing. It was immediately obvious that Lok Bahadur needed immediate advanced care, and thus he was quickly moved to the Pediatric Intensive Care Unit (PICU).

The team of doctors, including RMF Medical Officer Dr. Angel, rushed to assist the patient. Lok Bahadur was in distress. During the thorough check-up, we learned that he had been having difficulty breathing for 10 days, and his condition had become steadily worse. He also had a fever and cough for the past 8–10 days. Lok Bahadur’s breathing was fast (respiratory rate: 64 breaths per minute). Marked chest retractions and nasal flares suggesting that he was struggling for each breath. Routine laboratory investigations showed that his white blood cell count (WBC) was very high (54,000/cm\(^3\)), and the chest x-ray showed severe pneumonia in both lungs. Without oxygen, he was not able to maintain a normal oxygen saturation level (only 40%). He required a high level of continuous oxygen supply. We could not delay any further procedures and needed to relieve the baby’s pain; he was shifted to our PICU immediately.

Lok Bahadur’s weight was 5 kg. The team intubated him promptly at about 10:00 PM, and he was kept on a mechanical ventilator. He was sedated, and his intravenous antibiotics were upgraded. The youngest child of a poor, farming family of 5 with two elder siblings, Lok Bahadur was fighting for survival. During the course of treatment, his condition worsened initially. There were persistent signs of deterioration, such as generalized swelling of his whole body, gastrointestinal bleeding, left lung collapse, and collection of fluid in both lungs. Lok Bahadur had to be re-intubated about 3 times, and a blood transfusion was given. The worried, loving parents of this very sick child could not pay for any of his treatment, so the hospital, with RMF’s support, provided all medications for free for his further management. Gradually, after a week of treatment on the mechanical ventilator, there were subtle improvements. With constant monitoring, prompt management, and supportive care, he finally came off of the ventilator after a total of 17 days.

Currently, our sweet Lok Bahadur is active, playful, and has started to recognize the ICU team, as he smiles at us during each interaction. He still has a cough and is being treated with oral antibiotics.
2. Baby of Goma Adhikari

On April 7th, 2017, the 2-month-old baby girl of Goma Adhikari was brought to the Emergency Department of Kanti Children’s Hospital by her parents, who are from Gorkha. They reported that the baby had a fever and loose stool for 2 days, and difficulty breathing for 2 days. On presentation, the child looked ill. She was in distress and could not maintain a normal level of oxygen saturation (her saturation was 50%–60% vs. the normal 90%–100%). The team of doctors, including RMF Medical Officer Dr. Saraswati Parajuli, managed the case immediately. They found that the baby was breathing rapidly and was in distress, so they quickly admitted her to the PICU (Pediatric Intensive Care Unit).

The baby received first-line antibiotics for 2 days. Because there were no signs of improvement, her antibiotics were upgraded to second-line and third-line, respectively. Doctors did an arterial blood gas analysis, and the results showed severe metabolic acidosis. The baby was also gasping for breath (irregular respiratory pattern), so she was intubated and kept on a mechanical ventilator. The baby’s condition was deteriorating despite extreme efforts; none of her tests were within normal range, the ventilator was on its maximum setting, and there were still no signs of improvement. The baby’s parents were counseled about her condition, but they refused further treatment and told doctors to take the baby off of the ventilator.

The baby was extubated per her parents’ wishes and was given headbox oxygen. Her breathing was labored, and her respiration pattern was not normal; the baby was fighting for her life, and her vitals were unstable. The doctor continued treatment from the hospital supplies, and the baby gradually began showing signs of improvement. The parents were told of the baby’s improved condition, and they were convinced to allow further treatment. After seeing the child’s improving condition, they agreed to do what was needed. Now baby is doing well. She has started having a social smile and is active and playful.
Bikash Tamang, a 3-month-old, male baby from Hetauda, was treated for pneumonia.

The 28-day-old male baby of Nanumaya Sunar, from Sindhupalchok, was shifted to the NICU. The child was treated for intestinal malrotation.

8-month-old Jiban Mahab, from Bara, received surgery to correct intussusception.
The 20-day-old female baby of Sita DK, from Dhading, was treated for neonatal sepsis.

Pratik Chitrakar, an 18-month-old from Swayambhu, was treated for second-degree burns.

1-year-old Suk Lal Sandhyal was treated for an infected wound.