Improving the Maternal and Child Health Care in Malawi
Understanding Malawi Nutritional Health Status, Maternal and Child Health Challenges and our Innovative Solutions

2018
U.S.A
CURRENT SITUATION IN MALAWI

- **Family Health**
  - HIV/AIDS affects nearly a million people, including 83,000 children. Nearly a third of infected mothers pass the virus to their babies.

- **Poverty**
  - Nearly half of Malawi’s population struggles to live on less than $1 a day.


Population: 17.5 million
Total area: 118,484 km²
GDP per capita: USD 353
Absolute poverty ratio: 51%
Life expectancy: >60 years old
Access to electricity: 9.2%
“Malawi, a home to 6.8 million children (39% of the total population), presents a number of challenges for its youngest citizens and their families”

Quote Source: UNICEF
1 IN 100 DELIVERIES END IN MATERNAL DEATH
4 IN 100 BABIES DO NOT MAKE IT TO 1 YEAR
6 IN 100 CHILDREN’S LIVES END BEFORE THEY TURN 5
Malawian Women’s inability to access care has been related to:

1. Delay in deciding to seek medical care
2. Delay in reaching a health facility
3. Delay in receiving medical care at the health facility.

Causes of Maternal Mortality

- Excessive bleeding (24%)
- Sepsis (24%)
- Obstructed labor/Ruptured uterus (20%)
- Abortion (18%)
- Adolescence pregnancy (14.8%)
- Eclampsia (4%) – one type of toxemia

Sources: WHO 2015, Malawi Safe Motherhood Project and Ministry of Health and Population, 2004
Child survival rates suffer due to imbalance in population age distribution mostly related to low education, early sexual activity, child marriages and other factors related to poverty.

Sources: World Health Organization, Global Database on Child Growth and Malnutrition, ScoopWhoop, Helen Keller Foundation, Malawi Ministry of Health’s Micronutrient Survey (2001), WASH FAIR
Stunted Children
42.4%

With just small packets of peanut paste, millions of acutely malnourished children have been successfully treated through the approach by Concern Worldwide and others.

Sources:
World Health Organization, Global Database on Child Growth and Malnutrition, Concern Worldwide
WHAT CAN YOU DO?

JOIN THE MAF MOVEMENT

MIRACLE FOR AFRICA FOUNDATION
Maternal and Neonatal Care Program

1\textsuperscript{st} Stage

Antenatal Care (10 months)
1. Medical check-up (5 times in total)
2. Prescribe necessary medicines to pregnant women
3. Provide nutrition to undernourished pregnant women

2\textsuperscript{nd} Stage

Postnatal Care (6 months)
1. 2 weeks of hospitalization after giving a birth
2. Medical check-up (Once a month)
3. Implement infant vaccinations
4. Provide nutrition to mother for exclusive breastfeeding to infants

3\textsuperscript{rd} Stage

Neonatal Care / Providing Supplementary Food (12~18 months)
1. Infant medical check-up (2 times in total)
2. Provide supplementary foods for nutritional supply
SUGGESTED PERIODIC SOLUTIONS

1. Antenatal Care (10 months)

Care & Treatment

1. Medical check-ups (5 times in total)
   - Pregnancy health screening (0~12 weeks) (urine tests, blood pressure checks, blood tests etc.)
   - Blood tests before giving a birth
   - Infant’s hearing test & inborn error of metabolism test

2. Prescribe necessary medicines to pregnant women
   - Provide folic acid supplements (0~12 weeks)
   - Provide iron supplements (16~40 weeks)

3. Provide nutrition to undernourished mother

Budget Estimates: USD 230,000

- Medical check-ups: USD 20,000 in total (USD 2 X 5 times X 2,000 mothers)
- Provide nutrition and necessary medicines (70%) : USD 210,000 in total (USD 0.5 X 300 days X 1,400 mothers)

Coverage

- 2,000 pregnant women per year
- Regular medical check-up (5 times in total) until giving a birth
- After medical check-ups, provide nutrition up to 70% of mothers
  (In case that 70% of pregnant women is malnutrition.)
2. **Postnatal Care and Exclusive Breastfeeding Period (6 months)**

**Care & Treatment**

1. 2 weeks for hospitalization after giving a birth  
2. Medical check-ups (once a month)  
3. Implement infant vaccination  
4. Provide nutrition to mother for exclusive breastfeeding to infants

**Coverage**

- 2,000 mothers and infants per year, respectively  
- After medical check-ups, provide nutrition up to 70% of mothers  
  (In case that 70% of pregnant women is malnutrition.)  
- Implement infant vaccinations according to each different period

**Budget Estimates: USD 150,000**

- Medical check-ups : USD 24,000 in total  
  (USD 2 X 6 times X 2,000 mothers & babies)  
- Provide nutrition : USD 126,000 in total  
  (USD 0.5 X 180 days X 1,400 mothers)
3. Neonatal Care / Providing Supplementary foods (12~18 months)

Care & Treatment

1. Infant medical check-ups (2 times in total)
2. Providing supplementary foods
   - 6-7 months: soft foods such as porridge (1-2 times)
   - 7-8 months: finely chopped soft foods (2-3 times)
   - 9-11 months: semi-solid foods such as tofu (3-4 times)
   - 11-18 months: general foods (3 times + 1-2 snacks)

Coverage
- 2,000 babies per year
- After medical check-up, provide supplementary foods up to 70% of infants (6 months)
- After another medical check-up in 6 months elapse, provide supplementary foods up to 50% of infants (35% of total babies) (6 months)

Budget Estimates: USD 121,400
- Medical check-ups: USD 8,000 in total (USD 2 X 2 times X 2,000 babies)
- Supplementary foods (70%, 6 months): USD 75,600 in total (USD 0.3 X 180 days X 1,400 babies)
- Additional supplementary foods (50%, 6 months): USD 37,800 in total (USD 0.3 X 180 days X 700 babies)

Total Budget Estimates: USD 501,400
DAEYANG LUKE HOSPITAL

- 200 beds
- 150,000 patients annually (400 daily)
- Cumulatively, over 850,000 patients

✓ Medical Services:
- Surgical/Theatre
- Radiology
- Obstetrics & Gynecology
- Dental & Eye
- Medical Laboratory
- Physiotherapy
- Emergency/Casualty
- Pediatrics
- Family Planning
- Under 5 Clinic
- Antenatal Clinic
- ART Clinic
- TB Clinic
- HTC Clinic
- Outreach Clinic
### PATIENT HISTORY 2008 - 2016

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<thead>
<tr>
<th>Department</th>
<th>2008 - 2015</th>
<th>2016</th>
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<tr>
<td>Patients</td>
<td>672,767</td>
<td>158,697</td>
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<tr>
<td>Babies Delivered</td>
<td>5,524</td>
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<td>Out-patient</td>
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<tr>
<td>In-patient</td>
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<td>Mother &amp; Child</td>
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<td>Surgery</td>
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<td>Radiology</td>
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<td>11,833</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>831,464</strong></td>
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WHAT MAF IS CURRENTLY DOING?
Ways that MAF can be supported to improve access to health care
TO REDUCE MORTALITY AND PREVENTABLE DEATHS

- Specialist Training/Education for Nurses and Doctors (applying for scholarships)
- Increasing Nursing and Medical Staff
  - The Second Medical School in Malawi (need equipment and infrastructure)
  - A New Teaching 500-bed hospital (need equipment and infrastructure)
  - A Northern Region 50-bed hospital (need equipment and infrastructure)
- Rural Community Outreach Clinic Services
  - Health Surveillance Assistants (HSAs), Ophthalmology surgery,
- Delivery Kits for New Mothers
  - Need: Baby clothes, menstruation pads, reusable diapers,
- Daeyang Luke Hospital Medical Equipment Needs (CT Scanner, etc.)
- And so much more.....
DAEYANG UNIVERSITY

- 314 students living on-campus boarding
- 27 Highly Qualified Lecturers

✓ 4 Year Degree Programs:
  ✓ Bachelor of Science in Nursing and Midwifery (Registered Nurse)
  ✓ Bachelor of Science in Information Communication Technology (ICT)

✓ 6 Year Degree Program:
  ✓ Bachelor of Science in Medicine specializing in Surgery
Memorable Moments…Accomplishments
Three simple truths drive the MIRACLE FOR AFRICA FOUNDATION:

- The sick have the right to be treated.
- The curious have the right to be educated.
- The hungry have the right to eat.
In 2008, a 200 bed hospital was built, transforming healthcare in Malawi. Using modern technological and hygienic standards, the hospital offers basic services, surgical wards, advanced radiology and laboratories.
The ready-to-use therapeutic food (RUTF) is formulated specifically for the dietary treatment of severe acute malnutrition before the onset of medical complications, which allows rapid growth and recovery of children. The most common type of RUTF is a lipid-based formula made of peanuts, milk powder, oil, sugar and a micronutrient powder. The peanuts contain mono-unsaturated fats, are easily digestible, and are high in zinc and protein, which greatly helps the immune system. A great benefit to this type of RUTF is that it can be stored without refrigeration for months without spoiling and requires no cooking.
Opportunities for Partnership

- **Community**
  - Visit Daeyang Campus
  - Professional Development Training opportunities for Hospital or University Staff

- **Hospital**
  - Capacity Building Opportunities
  - Health Promotion program support
  - Teaching Hospital Equipment or Facilities support

- **University**
  - Masters and PhD advancement opportunities for lecturers or Student Exchange
  - Support for Student Facilities
  - Research collaboration

**OUR WISH**

MAF hopes to support Malawi by increasing qualified human resources that will serve in Malawian schools, hospitals, industries etc.
Chairman’s Message

Solution for maternal and neonatal health in developing countries

• In Malawi, many mothers and infants die from malnutrition, or suffer from a weakened immune system. Therefore, in order to reduce the infant mortality rate, care for a certain period (from 0 to 2 years) is critical, and preventive measures are most essential.

• If the fetus develops poorly, even after birth, the brain is not healthy. As a result low physical and mental development, will cause an enormous burden to society.

• In terms of the national economy, if pregnant women’s health is managed well for the first 1,000 days, then the cost of health focuses would shift from high malnutrition and infectious diseases to regular and preventative health care, which can help someone can live healthy for a lifetime.

• MAF is focusing on these facts to establish a specialized pediatric hospital for children as a mid-term target, and is now planning to expand the gynecology department of hospital.
Poverty hinders children's brain growth

◆ Women living in developing countries face challenges in receiving prenatal care but the cost saving through regular screenings of fetuses and mothers, reduce the risk for malnutrition is highest especially when the fetus is in the mother's womb.

◆ Decline in memory, concentration, thinking and language ability (Reduction of cerebral cortical area)

◆ Decline in recognition and language ability (Reduction of gray matter)

◆ Decline in learning, memory, stress control ability (Weak connection of hippocampus and amygdala)

◆ Decline in emotional and psychological aspects (Decreased activation of prefrontal lobe)
Solution for maternal and neonatal health in developing countries

- As a first project for maternal and neonatal health solution, we plan to establish standard medical treatment program for mother and infant for systematic operation including special prescription, personalized treatment program and periodical solutions is being set as below.
  
  1st stage (From fetus to birth)

  2nd stage (From birth to six months: the most critical period)

  3rd stage (From six months to 18 months after birth)

- The most important precautionary solution is to reduce the risk for malnutrition of a mother and baby. It is important to prepare maternal nutrition measures during the pregnancy and after birth during the period of breastfeeding (about 6 to 10 months).

- The mother's nutritional status is 100% consistent with infant nutritional status. A Mother’s malnutrition can cause serious aftereffects of newborns more than 70% in the developing countries.

- Supplementary feeding to infants in 12 months after exclusive breastfeeding period is important for infant growth.
Chairman’s Message

Comprehensive Conclusion

Measures and methods are simple and if planned well should, balance the cost of healthcare more economically.

Daeyang Luke Hospital, is a relief hospital, as a center we prioritizes the care for maternal health as a basic healthcare need.

We believe that having healthy mothers and children, will lead to more sustainable development in Malawi.

Regular hospital check-ups is a way to improved nutritional status of mothers and children.

- Medical expenses including nutrition for children and mothers are expected to be $200 / year for one child. (2,000 babies X USD 200 X 2.5 years = USD 1 million). If a budget is secured, we can increase the number of cared people.

- Together we can implement disease prevention measures to attend to at risk mother's and child's nutritional status. The development of supplementary foods for child nutrition are more advanced considering that people in developing nations do not have a refrigerators making it difficult to store for food a long time.
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