

## Implementing Kangaroo Mother Cares (KMC) using the “Monitoring of Results for Equity Systems (MoRES)”



**By: Maria Delia Espinoza**  
**Health Officer**  
**UNICEF, Nicaragua**

**November 16, 2016**



# Nicaragua



- 6.1 millions habitants
- 145,000 expected newborn
- 2.4 global fertility's rate
- 37.9 rate of maternal mortality
- 17 x 1,000 livebirth rate of U5 mortality
- 21 x 1,000 livebirth rate of infant mortality
- 31.7 rate of exclusive BF at 6 months
- 39% living in poverty
- 7.6% living in extreme poverty



## Rate of neonatal mortality

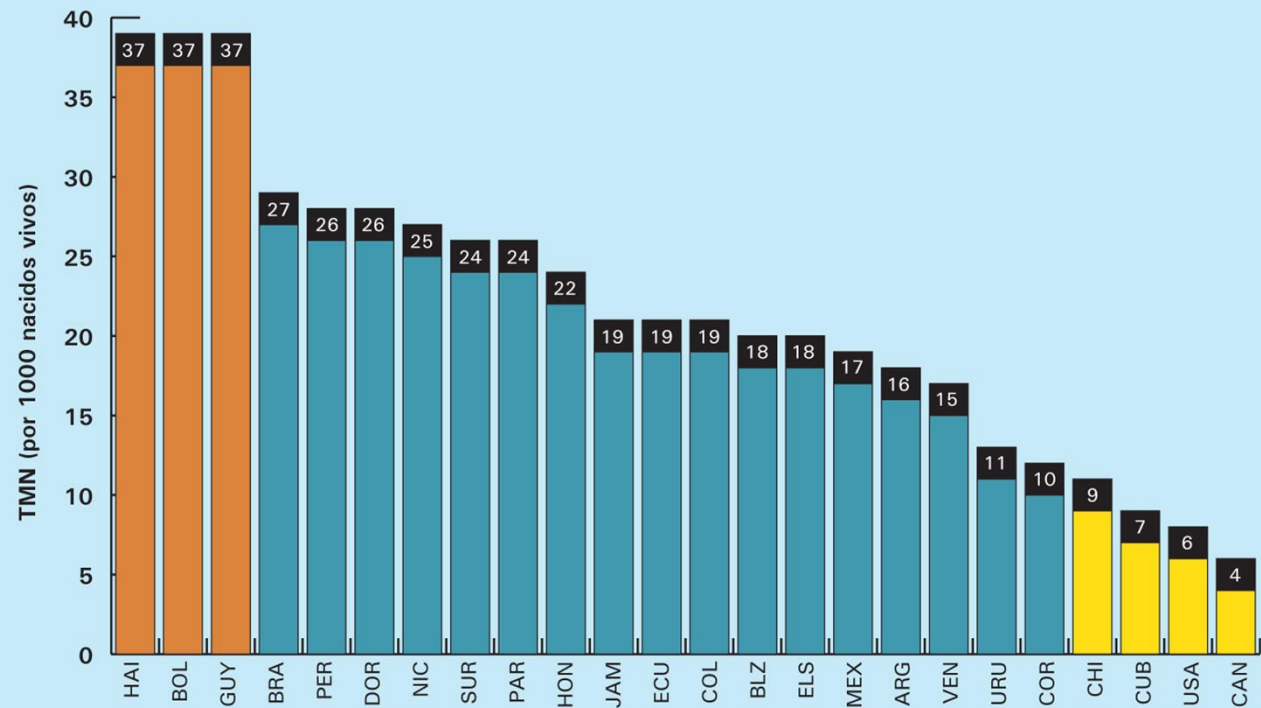
- In Nicaragua, according the Nicaraguan Demography and Health Survey, DHS (ENDESA) 2011/2012 report that the national neonatal mortality rate dropped from 16 per 1,000 live births in 2006 to 8 per 1,000 live births in 2012
- No data were recorded on premature births
- Data recorded by PAHO, show that the rate of premature births was 9.3% in 2012 and 8.8% for 2014.
- In the rural areas, this rate was 10 per 1,000 live births for reasons related to timely access to quality services



In Nicaragua, even when the data show important health achievements, neonatal mortality is 25 per 1,000 live births, considered intermediately high for Latin America.

Causes: asphyxia, prematurity/low weight, sepsis and congenital malformations.

### Neonatal mortality variation in LAC



# Background

- 1980s there was a pilot experience in the application of KMC in Nicaragua's Bertha Calderon Hospital
- 2010 Ministry of Health, MoH with the support of USAID, trained health worker's Bertha Calderon Hospital at the Kangaroo Foundation of Bogota, Colombia.
- 2013 Ministry of Health, MoH with support of PAHO and UNICEF trained doctors and nurses from three departmental hospitals at the same time supported the purchase of basic supply
- 2014 the MoH with support from UNICEF developed a training program for pediatricians and nurses from four departmental hospitals to improve the quality of newborn care.
- Participants did an analysis applying the Monitoring of Results for Equity System (MoRES) based on analysis of determinants that affect the effective implementation of the Mother Kangaroo strategy



70 YEARS  
FOR EVERY CHILD

# Determinants affecting the effectivity of the Mother Kangaroo strategy.

## Bottlenecks identified through determinant analysis

### Bottlenecks and barriers identified through determinant analysis



#### Enable enviroment

- Social norms
- Technical norms
- Coordination and communication mechanisms

#### Supply

- Competent health personnel
- Availability of inputs for managing newborn

#### Demand

- Geographic barriers
- Beliefs and practices
- Utilization of the services

#### Quality

- Data analysys (quality indicator)
- Identification of gaps
- Implementation of quality improvement methodology



## Bottlenecks identified

### Humanization of the attention to premature or low weight newborns with the Mother Kangaroo method.

Areas	Determinants	Facilitating factors
<b>Enable environment</b>	<p>Lack of regulations for application of the Mother Kangaroo method.</p> <p>The coordination mechanisms among local levels for implementation of the Mother Kangaroo method are not determined.</p>	<p>There is a family and community health model (MOSAFC).</p> <p>There are maternal centers near the health unit.</p> <p>Decision exists by the authorities to reduce neonatal mortality.</p>
<b>Supply</b>	<p>The personnel are not trained in the Mother Kangaroo technique.</p> <p>There are no inputs or needed equipment.</p>	<p>Experiences exist in the country that could be disseminated among the health units.</p>
<b>Demand</b>	<p>The population does not have enough information on the Mother Kangaroo technique.</p> <p>The technique is implemented only in national referral hospitals.</p>	<p>High coverage of institutional birth (88% ENDESA 2011-2012)</p>
<b>Quality</b>	<p>There is no monitoring of implementation of the Mother Kangaroo technique</p>	<p>Health personnel experience in measuring care quality indicators for maternal and infant health.</p>

Source: UNICEF, Nicaragua



70 YEARS  
FOR EVERY CHILD

# Findings

## Enabling environment

- Neonatal mortality was not a priority problem.
- MoH had not a structured strategy for implementing the Mother Kangaroo Care from which the health personnel could be trained.
- There were not coordination mechanisms that would ensure follow up to the children's care by pediatricians or other clinical specialists due potential disabilities.





# Findings

## Facilities



- Lack of personnel trained in quality standards of newborns care.
- High turnover of health worker.
- Lack of supplies and organization of spaces in the neonatology wards.
- Staff of SILAIS or hospital did not used data to analysis trends and identify critical areas for improvement.
- Instruments for analysis or follow up quality attention of premature or low birthweight newborns were not available.



70 YEARS  
FOR EVERY CHILD

## Standards for humanizing attention to premature and low weight newborns with the Kangaroo Family method.

Standard	Indicator	Variables	Definition	Verification	Periodicity	Sample	Value
All neonatology health personnel and those of other services linked to attention to newborns are trained in the Kangaroo Family strategy	Percentage of the neonatology personnel trained in the Kangaroo Mother method	<p><b>Numerator:</b> Neonatology personnel trained in the Kangaroo Mother methodology</p> <p><b>Denominator:</b> Total neonatology personnel</p> <p><b>Formula:</b> Numerator x 100 divided by the denominator</p>	Personnel who receive training and pass the learning evaluation test on the Kangaroo Mother method	Learning evaluation test	Monthly	10 observations	100%
All pre-term and/or low birth weight newborns who meet the selection criteria are attended with the Kangaroo Mother method	Percentage of pre-term and/or low birth weight newborns who meet the selection criteria and were attended by the Kangaroo Mother method	<p><b>Numerator:</b> Number of pre-term and/or low birth weight newborns attended with the KM method</p> <p><u>Denominator:</u> All pre-term and/or low birth weight newborns</p> <p><u>Formula:</u> Numerator x 100 divided by the denominator</p>	<p><b>Low birth weight:</b> all newborns under 2,500 grams (1,499 grams inclusive)</p> <p><b>Pre-term:</b> all newborns under 37 full weeks (fewer than 259 days of gestation)</p> <p><b>Selection criteria:</b> a newborn may be attended with the Kangaroo Mother method when the following criteria are met:</p> <ul style="list-style-type: none"> <li>• Newborn under 37 weeks</li> <li>• Newborn under 2,000 grams in a stable clinical condition.</li> <li>• Newborn hemodynamically stable</li> <li>• Newborn without ventilator support</li> </ul> <p>It is considered adequate when the mothers report that:</p> <ul style="list-style-type: none"> <li>• They can stay with their newborn 24 hours a day and take turns with the father or any other relative to support the care of their baby while the mother is fed, eats or rests.</li> <li>• The personnel provide them educational activities about the Kangaroo Mother twice a week.</li> <li>• They sign the informed consent form, authorizing entrance into the method.</li> <li>• Every day the ward's responsible base doctors report the baby's clinical condition to the parents.</li> <li>• They learn the technique for carrying the baby.</li> <li>• They have been trained in breastfeeding and feeding with extracted milk.</li> <li>• They learn about care, precautions and the baby's alarm signs at home.</li> <li>• They have been trained in physical relaxation exercises with the baby in kangaroo position.</li> <li>• They have been trained in stimulating and massaging the baby when it is in skin-to-skin contact.</li> </ul>	<p>Interview with the mothers</p> <p>File of the newborn</p>	Quarterly	<p>10 mothers interviewed</p> <p>All premature and/or low weight newborns that meet the KMM criteria</p>	100%

# Findings

## Demand

- Lack of coordination between hospitals and health centers.
- Community leaders have not adequate material for promoting and supporting families of a premature or low weight newborn to assure timely care
- Erroneous concepts and practices linked to intra-hospital attention.



# Findings

## Quality

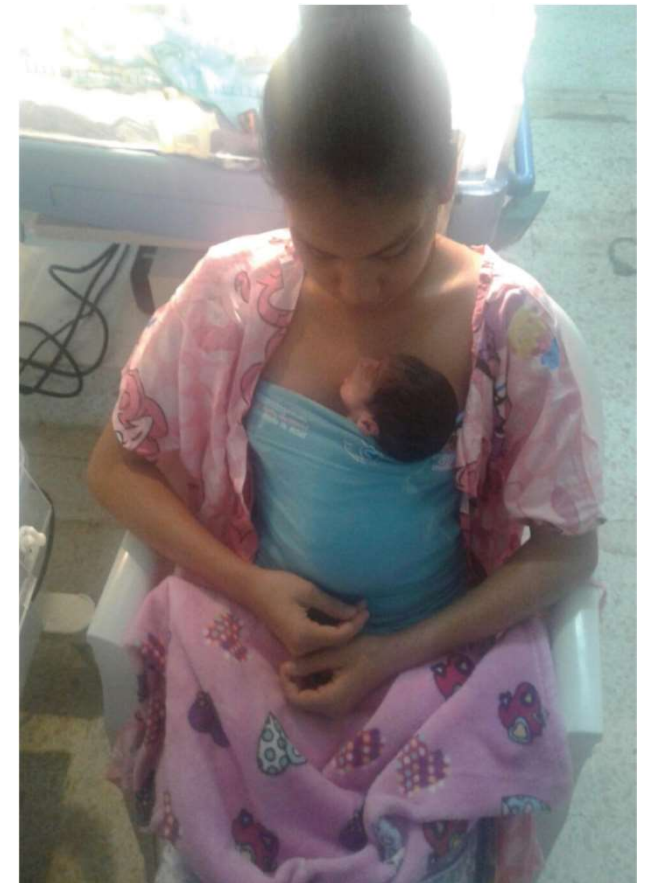
- Lack of standards for to ensure quality in the newborn attention, coordinations, supply and equipment that are needs as hospitals as health centers.
- Hospitals were not doing data analysis and had not plan for improvement of the quality of neonatal care



70 YEARS  
FOR EVERY CHILD

## Achievements

- Sharpened focus on equity
- Improvements in planning and monitoring
- Monitoring systems related to reduction of neonatal mortality using “Kangaroo Family”



# Lessons learned

- Engagement, leadership and partnerships
- The active engagement and leadership of the Government are essential.
- Engagement of other key partners – in this case PAHO/WHO
- Adaptation, flexibility and building on existing systems.
- Advocacy and technical assistance.
- Adaptation and flexibility in identifying entry points in the government planning cycle.
- Rebranding of MoRES as "restoring rights" was key to its uptake by the Government.





# Results

- Based on the removal of bottlenecks, premature mortality was reduced by 30% in Siuna and 50% in Bilwi and Madriz, from 2014 to 2016.
- In the facilities area, main bottlenecks were the lack of clinical standards manuals, supplies, physical space, and trained health workers.
- In demand area, bottlenecks were inadequate cultural beliefs and practices related to premature children.
- Lack of access to health facilities due to distance or transportation costs are other important barriers.
- The implementation of MoRES approach showed to be a useful management tool in the 3 hospitals
- Implementation of KMC strategy have continued in 2016, including documentation of good practices and support from community health workers and from community leaders to mothers when they were back home.



## Recommendations and next steps



- Scale up Kangaroo Family method using the MoRES approach
- Potential for using SMS for counselling and support for the demand' side and for facilities' side
- Create a hospitals network connected by a technology platform
- Implement c4D strategy
- Create a network for care and support between parents.
- Analysis of situation and factors associated with congenital malformations.





**Tinki pali!!!  
Muchas gracias!!!**



**70 YEARS  
FOR EVERY CHILD**