COLOMBIA

1. **Data that will be used to construct indicators on KMC coverage and use:**

a) Number of LBWI (<2500g) y/o premature infants (<37 weeks) per year in Colombia

Year	Total number of births	% LBWI	% Term LBWI	% Premature Infants (<37 weeks)	Total % candidates for KMC	Number of candidates for KMC
2010	654,627	9.04 %				
2011	665,499	9.00%				
2012	676,835	8.93%				
2013	658,835	8.92%				
2014	669,137	8.71%				
2015	645,550	8.87%	4%	8.8%	12.8%	83,921

b) Analysis of the access to a KMC Program (including sustained follow-up visits)

Colombia has 47 million inhabitants, 75% of the Colombian population is urban (World Bank, WHO). Our initial analysis is focused on the urban area (highly populated centers) given that the remaining areas of the country, which constitute large areas of land, are sparsely populated with a low number of low birth weights deliveries. Such as the following departments: Amazonas (109 LBW births in 2014), Guainía (37 LBW births in 2014), Guaviare and Vaupés (0 LBW births in 2014).

Given that 75% (WHO) of the 47 million inhabitants reside in a rural area, this would correspond to 35,250,000 inhabitants that live in urban areas.

According to 2015 data, the percentage of prematurity in Colombia is 8.8% and LBW is 8.8%, of which 4% corresponds to LBW term infants. Therefore, 8.8% + 4% = 12.8%. This means 12.8% of births are candidates to receive KMC according to the Technical Guideline of Kangaroo Mother Care Programs in Colombia.

Please find below the cities that were analyzed and the number of inhabitants of each:

City	**Number of inhabitants**
Bogotá	8 million
Medellín	3.8 million
Cali	2.4 million
Barranquilla	2.4 million
Bucaramanga	2.0 million
Cartagena	1.3 million
Ibagué	553,526
Pasto	440,040
Tunja	188, 340

The total number of inhabitants of these nine cities corresponds to 21 million, which represents 60% of the totality of the urban population in Colombia.

Bogotá
8 million inhabitants
Number of births 2015: 117,877
Candidates for KMC: 15,324
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 13,792

Health Institution	**Number of infants that receive KMC per year**
Saludcoop*	2000
Hospital Universitario San Ignacio, Programa Madre Canguro Integral (Center of Excellence in KMC)*	1500
Sanitas	400
Hospital Universitario San Rafael*	650
Hospital Universitario Mederi *	1000
Cafam* y Colsubsidio	800
Hospital Samaritana	500
Hospitals that belong to the district (Meissen, Engativa, Tunal, Suba, Instituto Materno Infantil, La Victoria, Simon Bolivar, Kennedy)*	3200
Clínica Reina Sofia	50
Hospital Universitario San José, Programa Madre Canguro Integral (Center of Excellence in KMC)*	900

*Trained by Fundación Canguro

Total: 11, 000

11, 000 infants have access to KMC/ 13, 792 candidates for KMC= 80% access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	
Health Promoting Entities known as EPS[1] in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	X
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	X
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for	

[1] The function of the EPS is to sell health service packages to the public, and contract such services with the healthcare-providing institution.

the services and without a guarantee of appointment in the KMC Ambulatory Program..	
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Medellín
3.8 million inhabitants (includes metropolitan area)
Number of births 2015: 36,664
Candidates for KMC: 5, 156
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 4,640

Health Institution	Number of infants that receive KMC per year
Campo Valdés, (Center of Excellence in KMC), Programa Madre Canguro Integral (Center of Excellence in KMC)*	1300
Sura	1500
Coomeva*	500
Hospital General de Medellín*	300
Saludcoop*	800
Clínica Universitaria Bolivariana	300

*Trained by Fundación Canguro

Total: 4,100

4,100 infants have access to KMC/ 4, 640 candidates for KMC= 88% access

Analysis: Medellín has begun training two small cities that receive rural patients, with small neonatal units in order to create a LBW network (Turbo with 360 infants with access to KMC per year and Yarumal with 200 infants per year). Two more trainings are scheduled to begin in order to broaden the network.

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	X
Health Promoting Entities known as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for	X

the services and without a guarantee of appointment in the KMC Ambulatory Program.	
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Cali
2.4 million inhabitants
Number of births 2015: 36,047
Candidates for KMC: 4,686
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 4,218

Health Institution	Number of infants that receive KMC per year
Hospital Universitario del Valle*	600
Fundación Valle de Lili*	360
Casa Canguro Alfa	800

* Trained by Fundación Canguro

Total: 1,760

1,760 infants have access to KMC/ 4, 218 candidates for KMC= 42% access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	X
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	X
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Barranquilla
2.4 million inhabitants
Number of births 2014: 34,649
Candidates for KMC: 4,504
Real candidates for KMC ((subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 4,054

Health Institution	Number of infants that receive KMC per year
Hospital Niño Jesus*	250
Sura	150
Saludcoop*	250
Coomeva*	250

* Trained by Fundación Canguro

Total: 900

900 infants have access to KMC/ 4, 054 candidates for KMC= 22% access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	X
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	X
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	X
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	X
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Bucaramanga
2 million inhabitants
Number of births 2014: 13,521
Candidates for KMC: 1,758
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 1,582

Health Institution	Number of infants that receive KMC per year
Hospital Universitario de Santander*	330
Saludcoop	150
Clínica San Luis	150

* Trained by Fundación Canguro

Total: 630

630 infants have access to KMC/ 1,582 candidates for KMC= 40 % access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	X
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	X
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	X

Cartagena
1.3 million inhabitants
Number of births 2014: 24,769
Candidates for KMC: 3,219
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 2,897

Health Institution	Number of infants that receive KMC per year
Clínica Santa Cruz*	1000

* Trained by Fundación Canguro

Total: 1000

1000 infants have access to KMC/ 2,897candidates for KMC= 35 % access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	X
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	X
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	X
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Ibagué
553,526 inhabitants
Number of births 2014: 9,288
Candidates for KMC: 1,207
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 1086

Health Institution	Number of infants that receive KMC per year
Hospital Federico Lleras Acosta*	180
Hospital Unidad Materno Infantil Tolima (UMIT)	300

* Trained by Fundación Canguro

Total: 480

480 infants have access to KMC/ 1086 candidates for KMC= 44 % access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	
Lack of additional KMC Programs in secondary cities with smaller health	

facilities and neonatal units in the same region as the Excellence Center.	
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	X
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	X
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Pasto
440,000 inhabitants
Number of births 2014: 8,365
Candidates for KMC: 1087
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 978

Health Institution	Number of infants that receive KMC per year
Hospital Universitario Departamental de Nariño *	500
Saludcoop	250

*Trained by Fundación Canguro

Total: 750

750 infants have access to KMC/ 1,087 candidates for KMC= 69 % access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	X
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	

Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	X
Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

Tunja
188,340 inhabitants
Number of births 2014: 5,444
Candidates for KMC: 707
Real candidates for KMC (subtracting mortality cases which corresponds to 10% LBW neonatal mortality of infants <2000 g): 636

Health Institution	Number of infants that receive KMC per year
Hospital San Rafael*	216
Saludcoop	150

*Trained by Fundación Canguro

Total: 366

366 infants have access to KMC/ 636 candidates for KMC= 58 % access

Analysis:

Criteria	**Yes**
Lack of a Kangaroo Ward (joint stay of the mother and infant) and housing facilities for mothers to stay if they live far away from the KMC Ambulatory Program.	X
Lack of additional KMC Programs in secondary cities with smaller health facilities and neonatal units in the same region as the Excellence Center.	X
Health Promoting Entities known, as EPS in Colombia do not provide prompt payment for the services provided in the KMC Ambulatory Program.	
EPS do not see KMC Programs as a profitable business and are not aware that KMC Programs are cost saving.	
The same pediatrician that works in the neonatal unit, works in the KMC Ambulatory Program given that the program does not have a pediatrician or a specific budget for this.	
Competitive interest between the funds for the KMC Minimum Package of Services and the pediatrician's private practice in the hospital.	
Since a great number of mothers live far away from the program or have not promptly registered their infant in the Colombian legal registry system, they leave the health institution without the authorization from the EPS to pay for the services and without a guarantee of appointment in the KMC Ambulatory Program.	X
There is only one KMC Ambulatory Program in the city, lack of additional KMC Ambulatory Programs.	

Only hospitalized infants will enter the KMC Ambulatory Program. There is no staff to identify KMC candidates with birth weight between 2,000 and 2,500 g or near term premature infants in the post partum ward.	

2. Description of strategy and approach for spread across regions within the country and for increased penetration within each region.

Colombia's strategy and approach to spread KMC across regions within the country can be described in the following four strategic axes, following a bottom to top approach:

a) The design and conduction of research studies followed by the creation of the Kangaroo Foundation as a KMC research and diffusion center
b) Establishment of Excellence Centers in KMC.
c) National and International diffusion of the KMC method.
d) Collaboration with health authorities to further diffuse and evaluate the KMC method. (Transforming KMC into National Policy)

a) The design and conduction of research studies followed by the creation of the Kangaroo Foundation as a KMC research and diffusion center

After the development of the Kangaroo Mother Care Method by Dr. Edgar Rey Sanabria in 1978, a group of Colombian researchers set out to evaluate the safety of KMC. The first stage consisted in the elaboration of an analytical observational study of two cohorts, the first cohort corresponded to premature and/or low birth weight infants that were born or referred to Instituto Materno Infantil where they received the original KMC intervention, and a second cohort of similar weight and gestational age that received the 'conventional' care of incubator use and prolonged hospitalization for weight gain at Clínica San Pedro Claver, Bogotá. The study was conducted between 1989 and 1993. Although the follow up was carried out until 24 months of corrected age, the main results at 12 months of CA were published.

In 1993–1996, our group conducted a randomized clinical trial (RCT) to compare the original KMC intervention and "traditional" inpatient care. The trial showed that morbidity, mortality, growth, development, and other selected health-related outcomes were at least as good or better that those obtained with usual care when infants reached term and at 1-year corrected age. The main short- and mid-term results have been reported in international, peer-reviewed journals

In 1994, the professionals that were part of the KMC research team decided to come together and created the Kangaroo Foundation, led by health professionals with the task of humanizing the care of newborn infants, particularly those most vulnerable. Encouraging the use, development and dissemination of KMC both in Colombia and Internationally.

The Kangaroo Foundation chose the path of rigorous scientific research to document the safety and efficacy of the KMC method in order to convince health professionals worldwide, particularly from developing countries, to change their practice and integrate KMC in the routine care of the preterm and/or LBW infant.

In 2013, with the support of Grand Challenges Canada we conducted a 20-year follow-up of original RCT to compare the original KMC intervention and 'traditional' inpatient care. The two main questions addressed in the study were whether the documented 1-year benefits persist up to 20 years and whether the KMC intervention has a long-term protective effect against cognitive, social, and academic difficulties.

- Establishing safety

Two Cohort study (1989-1992)

- Study of effectiveness

Randomized controlled trial (1993-1996)

- Refining the KMC intervention

Explanatory research (1996-2013) with emphasis in neurodevelopment and long term impact of KMC

Pragmatic research (1996-2013)

- Research translation into health care

National and international diffusion (1994-2013)

Identification of barriers and quality assurance (1994-2013)

b) Establishment of Excellence Centers in KMC.

Goal: To guarantee the coverage of 100% of all preterm and/or low birth weight infants with a high quality of care follow-up in Colombia.

How: Through the establishment and provision of support to three Excellence Centers in KMC, which are able to receive health professionals in order to provide training in KMC and are also able to act as research centers to further enhance the KMC method.

- *Programa Madre Canguro Integral at the Hospital Universitario San Ignacio, Bogotá*
  1500 infants per year

- *Programa Madre Canguro Integral at the Hospital Universitario Infantil San José, Bogotá*
  900 infants per year

- *Programa Madre Canguro Integral at Campo Valdés, Medellín*
  1300 infants per year

c) National and International diffusion of the KMC method.

The model of KMC diffusion we have chosen is "see one, do one and teach one" (also known as train the trainer model), meaning that, in order to translate KMC to another geographical location we invite a multidisciplinary healthcare team to be trained in a KMC Excellence Center in Bogotá ("see one"), implement a KMC program in their own health institutions ("do one") and afterwards, train other centers in their region and help them to implement it ("teach one").

The training includes an aspect in recording and monitoring of key quality indicators, so KMC Programs can establish a reliable information system to support health care quality assurance and to measure impact on mortality and

morbidity indicators. Promoting a culture of continuous self-evaluation, quality improvement and accountability.

Goals:

- Training multidisciplinary health teams to implement at least one KMC Program in each Colombian State
- Teaching agreement with various universities in Bogotá and Medellin
- Establishment of a KMC network for preterm and low birth weight infants in the country

How:

- Teaching KMC to pediatric residents, neonatology fellows, students of psychology, nursing and other health areas during a monthly rotation at a KMC Program.
- **Train the trainers program**, in order for multidisciplinary health teams to learn both the clinical and administrative issues needed to implement a KMC Program in their own institution.
- Offering to see different modalities of KMC implementation.

In more than 85% of teams trained in Bogotá, KMC implementation has been successful, despite specific needs and difficulties encountered by the program in each setting.

d) Collaboration with health authorities to further diffuse and evaluate the KMC method. (Transforming KMC into National Policy)

We have worked with the Ministry of Health and representatives, contributing to the rationale of the legal framework, resolutions and tools that support the official implementation of KMC.

Colombian Health Authorities and KMC:

- ✓ **The Guideline for delivering KMC** to LBWI in Colombia was published in 2000.
- ✓ The Ministry of Health passed a decree in 2009 that recommends heath facilities **to implement and promote KMC**. In the past years, various new decrees (2011, 2013) have established the compulsory implementation of KMC in all private and public health facilities caring for mothers and infants.
- ✓ In collaboration with the Ministry of Health and the World Food Program the **Technical Guidelines for the Implementation of Kangaroo Mother Care Programs was published** in 2010 and have been currently updated in 2015.
- ✓ The Kangaroo Foundation and the Pontificia Universidad Javeriana published the evidence-based clinical practice guidelines to optimize the use of KMC. (2013)
- ✓ A bill issued in 2011 extended maternity leave and with it further extended the maternity leave to mothers of premature infants (mothers of premature infants will recuperate the weeks between 37 weeks and the gestational age at birth of her infant).

3. Observations and insights regarding the obstacles and leverage points for achieving spread and penetration.

Training and exposure to successful practice in a KMC Center of Excellence, has been in our experience the key to successful dissemination.

A mayor component not only to diffuse KMC but also to guarantee the continuity of KMC Programs is to have an institutional policy in place in all health facilities, so the continuity of KMC Programs is non-dependent of the current hospital administration. All health facilities should have protocols for the care of preterm and/or LBWI. Ideally, KMC should be included in the Ministry's of Health national health policy.

Based on our experience from applied research in a pilot study in Mali and Cameroon, a major leverage point in achieving spread and penetration has been through the development of the KMC E-Learning Platform. The platform contains (1) virtual courses, depending on the level at which the KMC will be implemented. Indeed, all local health centers do not have the same medical facilities and cannot give the same attention in Kangaroo Mother Care. (2) Technical directives to implement a KMC with protocols, manuals, guides, videos, presentations, virtual chats with kangaroo Experts, etc. (3) Monitoring and evaluation program with virtual interaction, self-evaluation tests, quality indicators, final certification. (4) A virtual space dedicated to the parents with documentation, videos, autobiographic histories, a space for comments, etc. And (5) a place where KMC state-of-the-art and news can be found.

Some major difficulties in the implementation and diffusion of KMC include:

- ✓ Adaptation of the three components of KMC to local circumstances, patient needs and level of care.
- ✓ Early discharge and ambulatory follow up.
- ✓ Insufficient access to Kangaroo network and scientific literature on KMC.
- ✓ Insufficient local research and monitoring capability.
- ✓ Costs: Direct cost of training the kangaroo team, cost of KMC staff and physical structure.
- ✓ Quick turnover of administrative and medical staff.
- ✓ Sustainability in the health system: the need to establish a Kangaroo Mother Care Minimum Package of Services and costs for all KMC Programs in the country to help guarantee the quality of service offered by existing and future KMC Programs.
- ✓ Integration in the public health policies of each country.

4. Key priorities to increase spread and penetration and corresponding leadership and investment requirements.

A key priority in order to increase spread and penetration is to encourage data collection in the KMC Programs to help convince other health professionals and therefore overcome health staff resistance. In order to do so, a requirement is to invest in a data manager.

There is a real gap between those that promote KMC diffusion and those who are truly on the field, working on KMC implementation. Some of the reasons include that some see the availability of mothers to provide KMC as 'free' and consider KMC to be a simple and easy method that does not require

technology, only the use of a chair, a bed and a scale. Others see beyond this and appreciate a fragile infant that cannot always be placed in Kangaroo Position, an ill mother that is not always available, the need to manufacture the lycra bands to provide support during the Kangaroo Position, the lack of space and trained personnel. Further more, the workload that represents for parents the care of a premature or LBW infant, the lack of financial capacity of patients or the health system to pay for the services provided, whether or not the neonatal units provide food and drink for the mothers that stay at the neonatal units during the day to provide breastfeeding and Kangaroo Position, the need to create a KMC Ambulatory Program. In short, KMC is a complex intervention that serves as a complement to neonatal care, not as a replacement for the care of these fragile infants. KMC requires training and evaluation of its implementation and application. KMC must be adapted to the difficulties; there must be a clear budget before and after the implementation since the costs might differ if the number of infants that survive increases. The financial sustaibility of a KMC Program must not depend on the support from NGOs, KMC must be integrated in the health system.

Considering all of this, we created an E-Learning Platform that serves as a companion during the implementation of a KMC Program.