

**A FAMILY-CENTERED PERINATAL HEALTH MODEL:
A BEST PRACTICE FROM THE SARDA MATERNITY
HOSPITAL, ARGENTINA**



TABLE OF CONTENTS	PAGE
INTRODUCTION	1
METHODOLOGY	1
DEVELOPMENT OF A NEONATAL CARE MODEL	1
THE MODEL FROM THE PROVIDERS' AND USERS' PERSPECTIVES	5
CRITICAL ELEMENTS AND CONTINUING CHALLENGES OF A FAMILY-CENTERED MODEL	10
CONCLUSIONS AND LESSONS LEARNED	11
BIBLIOGRAPHY	13

INTRODUCTION¹

This study documents the development of a Family-Centered Model for Maternal and Newborn Care (FCM) at the Ramón Sarda Maternal-Infant Hospital (HMIRS) in Buenos Aires, Argentina. It provides a description of how the HMIRS staff created and incorporated a number of essential elements over time to achieve a service that is welcoming and responsive to the needs of the family without affecting the quality of evidence-based practices in normal and critical neonatal care.

The study places the experience of the HMIRS within the socioeconomic context of the largely poor and lower-middle class population it serves. It also provides an analysis of changes in the maternal and neonatal health situation in Argentina and Buenos Aires City over the last 25 years.

The principal focus of the study is an examination of Family-Centered Practices based on the quantitative results obtained in reducing peri- and neonatal deaths, and from the qualitative view of the lived experiences of the clinical staff and the families of newborns.

METHODOLOGY

The findings presented come from interviews with key personnel in the hospital and from their observations. The authors of the study also reviewed secondary sources of epidemiological information, as well as project and hospital records. They compared these results to findings from national and international literature. Additional information was obtained through focus groups and interviews with mothers of newborn babies during their hospitalization.

DEVELOPMENT OF A NEONATAL CARE MODEL

The National Context

In comparison with many other Latin American countries, Argentina's birth rates (19.3/1000 inhabitants) and population growth rates (1 per cent per year) are relatively low, and its life expectancy is relatively high (75.7 years²). These factors also contribute to relatively low rates of maternal (40/100,000 live births), perinatal (13.5/1000 live births), and infant mortality (13.3/1000 live births). As in other countries in the region, infant mortality has decreased over time.³ Although the historic trend has been a downward one (see Graph 1), it has not been uniform across the country. The Northern provinces of the country exhibit higher rates of mortality than in the South where the rates are lower. The mortality rates in the center of the country fall in between. Approximately one third of the population resides in Buenos Aires where better health outcomes correlate with higher incomes. Infant mortality rates are considerably higher in the poorer sections of the city (see Graph 3). There is also a much

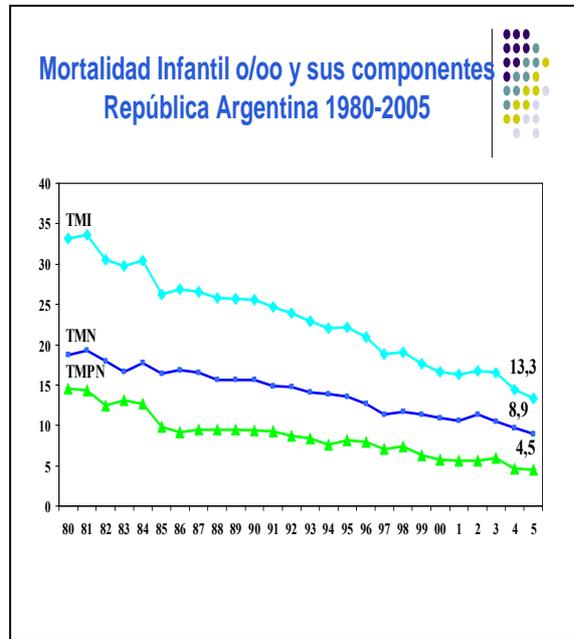
¹ This summary article is based on the paper by Graciela Uriburu (PAHO Consultant) and Raúl Mercer (PAHO consultant and Red Perinatal AMBA Project) and Mariana Romero, Nina Zamberlin and Belén Herrero (PAHO Consultants and CEDES –Center for the Study of State and Society)).

² Source: PAHO, Basic Health Indicators, 2006

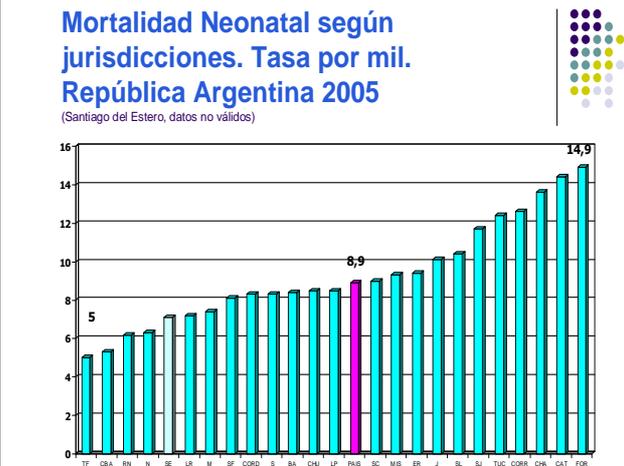
³ Source: Ministerio de Salud de la Nación. Dirección de Estadísticas e Información en Salud, 2006

higher rate of pregnancy in adolescent mothers in the poorer Southern zone(11.6%) than in the wealthier northern Zone (2.7%).

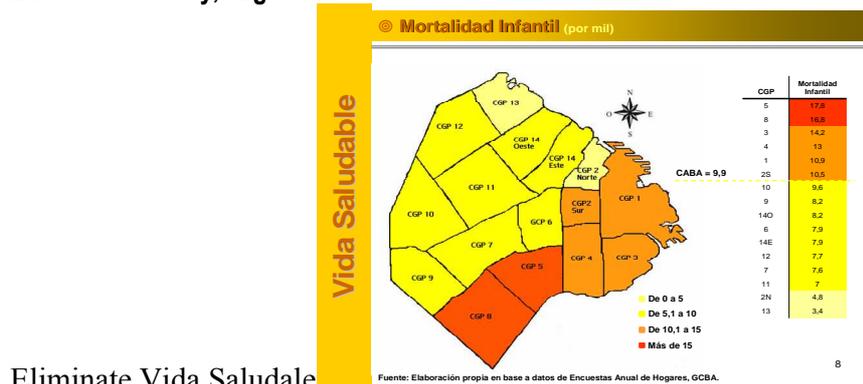
Graph 1
Infant Mortality Rate /oo and its components
Argentina 1980-2005



Graph 2
Neonatal Mortality Rate /oo by Province
Argentina 2005



Graph 3
Infant Mortality Rate (per 1000 live births), by geographic location
Buenos Aires City, Argentina



Eliminate Vida Saludable

The Institutional Context

The Ramón Sardá Maternal-Infant Hospital (**HMIRS**) is a public facility founded in 1936 and located in the Southern zone of the City of Buenos Aires.⁴ In contrast to similar tertiary-level maternal-infant hospitals, HMIRS does not serve a specific programmatic area and is not linked into a hospital coordinated referral system. The majority of HMIRS users arrive on their own according or through referrals from other hospitals in Buenos Aires Metropolitan Area or from other parts of the country on account of its excellent reputation as a critical care maternity hospital. Consequently, a large proportion of the HMIRS births are from women who experience complications during pregnancy and delivery, and premature births of their babies. They are also by large from poor and lower middle social class of the city; 38% of the hospital's users are migrants from neighbor countries (Larguía et al., 2003).

The hospital has undergone several renovations since its construction in 1936. It is now equipped with 120 obstetric, 8 gynecological, and 7 intensive care beds, in addition to facilities for 70 babies in need of intensive, intermediate, and transitional care. It provides care for an average of more than 7,200 births and 160,000 consultations per year.

Its staff is multidisciplinary with the capacity to perform all types of perinatal interventions characteristic of a tertiary level care perinatal facility.⁵ One of the hospital's greatest strengths is its nursing department, but recently it has had to deal with a deficit of qualified nurses which represents one of its most serious challenges to being able to serve to its users optimally.

HMIRS, recognized as the primary repository of up-to-date perinatalogical knowledge, clinical guidelines, and practices, hosts residency programs in obstetrics and neonatology, as well as in perinatal nursing and midwifery. Since 1997, it has served as the teaching hospital for graduate students in obstetrics and neonatology for the Medical School of the University of Buenos Aires. It also teaches undergraduate students in diverse medical specialties from many other private and public universities. It houses a large medical library with access to national and international medical databases. HMIRS has earned a number of awards for its performance and an international reputation for excellence.⁶

Trends in Neonatal Mortality at HMIRS

There has been a steady gradual decline in neonatal deaths at the HMIRS since 1983. If one eliminates babies with severe malformations from the data, premature infants born at the hospital survive at rates comparable to those in developed countries (see Graph 4).⁷

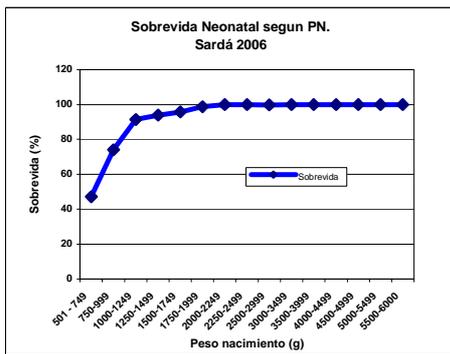
⁴ It was constructed and equipped through the donation of Mrs. Delfina Marull de Sardá who named the hospital after her late husband Ramón Sardá.

⁵ The medical specialties represented among the staff are internal medicine, gynecology and obstetrics, pediatrics and neonatology, anesthesiology, radiology, and ultrasonography, genetics, cardiology, ophthalmology, , neurology, pathology, hematology, psychology, sociology, and nutrition. There is also a full nursing department with nurses specialized in critical neonatal care.

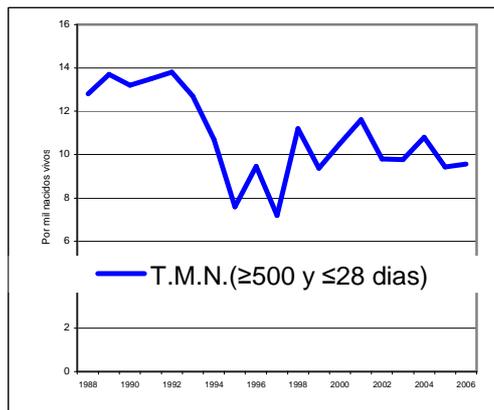
⁶ WHO/UNICEF Baby-friendly Hospital (accredited 1994, 1997, and 2003); WHO/PAHO Collaborating Perinatology Hospital (2000); ISALUD Foundation award 2002; Associate Cochrane Center (2004)

⁷ The survival rate for infants weighing between 750 and 999 grams in developed countries is 75%, while it was 70% at HMIRS in 2006. The survival rate for babies weighing between 1000 and 1500 grams in developed countries is 90%, the survival rate for babies weighing between 1000 and 1249 grams at HMIRS was 91%, in 2006.

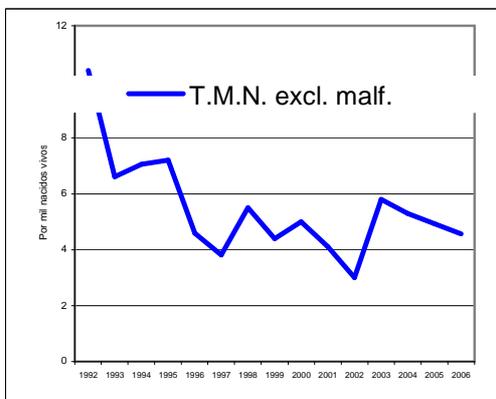
Graph 4: Neonatal Survival at HMIRS by birth weight, excluding babies with malformations (2006)



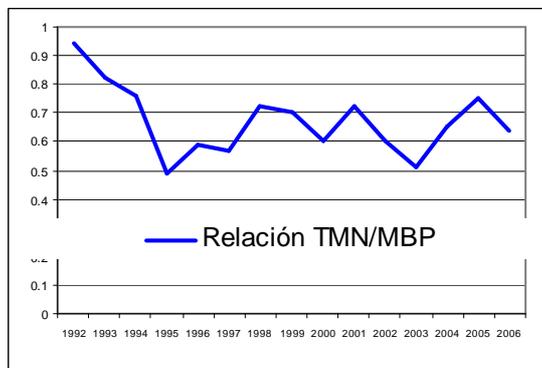
Graph 5: Changes in Neonatal Mortality Rates for all babies born at HMIRS (1988-2006)



Graph 6: Changes in Neonatal Mortality Rates for babies born at HMIRS excluding those with malformations (1992-2006)



Graph 7: Total Neonatal Mortality / VLBW incidence.(1992-2006)



Graph 7 Instead of “Relacion TMN/MBP”, please type Ratio TNMRL/VLPW

Several practices implemented over the last three decades have contributed to decrease neonatal deaths in the country.⁸ These measures reduced neonatal mortality rate from 30/1000

⁸ These measures included: Plan Colostrum to prevent E. Coli infections; use of bethametasone administered to pregnant women at risk of premature deliver to promote lung maturation; and integrated management of premature newborns, including use of continous positive airway pressure (CPAP) in RDS and cardiac and pulmonary (CPR) resuscitation in the delivery room.

live births in 1970 to 13.7 in 1982. In the 1990's the addition of other high impact interventions, such as the development of the family-centered model that includes provision of a maternal home in the Hospital for mothers with premature infants, skin to skin contact, contributed to the reduction of neonatal mortality rate to 4.5 per 1000 live births (excluding babies with lethal malformations) and to 2/1000 live births (excluding babies weighing less than 750 g. and lethal malformations).

Current objectives are also aimed at reducing levels of neonatal morbidity from bronchopulmonary dysplasia, acquired nosocomial infections, postnatal malnutrition in very low birth and retinopathy of prematurity. Graph 7 is an index of quality of care expressed as a ratio of the global neonatal mortality rate (TNR) over the incidence of babies born weighing less than 1500 grams (NMR/VLBW). This index has decreased despite the continuing challenge faced by the hospital in staffing (insufficient number of nurses.)

THE MODEL FROM THE PROVIDERS' AND USERS' PERSPECTIVES

Description of the Model

The Family-Centered Model of Neonatal Care provides evidence-based medical interventions within an organization of service delivery that maximizes the interactions among the family, the newborn, and the hospital staff. The model followed by the HMIRS evolved overtime with new components integrated into practice in response to observations and innovations made by the staff, feedback from the families, and new international quality standards of practice. The key components of the current model are listed in Table 1 (Organizational and Interpersonal Practices) and 2 (Evidence Based Medical Interventions)

Key Components of a Family-Centered Neonatal Care Model

Table I: Organizational and Interpersonal Practices
Unrestricted access of the parents to neonatal services
Periodic removal of the baby from the incubator for skin to skin contact with the parents
Scheduled sibling visits to see the baby
Scheduled visits for grandparents
Provision of residence space near the neonatal unit for mothers while their newborns are hospitalized
Support for parents in crisis
Communication and support for parents whose newborns are at risk of dying
Preparation of the parents on how to monitor their high risk newborn after being released from the hospital
Development of a program of volunteers who support the parents of high risk newborns

Table II: Evidence Based Medical Interventions
Early and progressive enteric feeding with human milk for premature newborns weighing less than 1500 grams
Early and periodic removal of the baby from the incubator for skin to skin contact between the parents and the newborn
Plastic sheet covering premature newborns in incubators to maintain humidity and to limit insensible water loss
Use of cylindrical cushions to create a nest for the premature newborn in the incubator for increased support and better positioning
Hosting near the neonatal unit for mothers while their newborns are hospitalized

Continuous positive airways pressure with nasal prongs for the respiratory distress syndrome
Early administration of pulmonary surfactant
Nasal-gastric (gastroclysis via drops) feeding tube as an alternative to parenteral (venoclysis) for hydration
Integral management of the neonates to maintain optimum temperature, hydration, and nutrition, as well as interaction with the family.

As it is currently conceptualized and implemented, the greatest benefit of the model is for the families of premature and/or babies with problems identified at birth, and the staff that works with them. The model is defined by the quality of the relationship between hospital staff and the newborn's family. This relationship varies, however, according to the newborn's condition at birth, with families of premature, low birth weight, and other at risk babies forming a much closer relationship with the staff, over the babies' prolonged hospitalization period, than parents of healthy babies.

Services for Full-term Healthy Babies: Full term babies with normal weight go to rooming-in sector. The average length stay is about 54 hours after delivery, varying from about 2 days for women with vaginal deliveries to 3-4 days for women with C-sections. Mothers of healthy babies tend not to build strong relationships with the staff as they are there for a short time, but they do benefit from counseling to promote breast feeding, infant care, and family planning offered by nurses through group sessions. Mothers receive all their meals so their babies can remain with them at all times. Women who underwent C-sections are allowed to have a female companion with them to help with the baby care and the initiation of breast feeding. All babies are seen by a neonatologist before being released.

Intensive Care Services for Premature, Underweight, and at Risk Babies: The model was really designed for maximizing care for premature babies. The staffs that work with them recognize the irrefutable value of integrating the babies' families into all dimensions of the treatment and care process. Parents have 24 hour access to the Neonatal Intensive Care Unit (NICU). The staff initially found that it took time to become accustomed to work in the presence of the babies' mothers and fathers, and some were even resistant to doing so. Nevertheless, over time, they have come to recognize the enormous benefits of the model in reducing parents' stress and in aiding the development of their babies.

Transitional Care Services: This unit treats babies with less severe complications or healthy babies that can not rooming-in (e.g. babies of mothers with C-sections who do not have a female companion to help her on the ward). As in the case of the NICU, parents have 24 hour access to their babies. There are beds placed near the cradles where mothers can spend the day or night next to their babies. This gives them ready access to freely ask questions to doctors.

Outpatient Services: There is also an important outpatient component which has been an integral part of the model for a long time. Outpatient care includes monitoring of the developmental progress of both healthy and high risk newborns released from the hospital. The outpatient services are particularly important for the socially vulnerable population served by HMIRS which, by and large, lacks the necessary resources to meet the demanding needs of high risk newborns after been released from the hospital. Outpatient care at HMIRS includes:

- Well baby visits for healthy newborns (for the first month of life)
- Consultations for low-birth weight babies

- Training of medical students in primary pediatric care
- Follow up programs for high risk newborns⁹
- Consultations in specialized areas of pediatrics such as cardiology, genetics, neurology, infectious diseases, speech and hearing, psychopathology, early intervention and treatment of neuromotor development, and help with breast feeding.

Volunteers assume responsibility for administrative tasks such as the distribution of per diems to families to ensure that the babies stay in the program. They also provide material support in the form of clothing, formula, and medication. Even so, the desertion rate goes from 15 to 20 percent in the follow up of VLBW infants. Several factors contribute to the problem including the challenging socioeconomic situations faced by many of the families that use the hospital. Another factor has to do with the geographic dispersion of the user population. Unlike other hospitals with a circumscribed catchment area, HMIRS serves people from the entire metropolitan area and across the country. The staff also does not have the resources to seek out families in their homes or by telephone, although the social workers try to follow-up when they can.

Some Quantitative Outcomes¹⁰

Neuromotor and Sensory Problems: After an age-corrected of 12 months, 77% of the VLBW infants released from HMIRS demonstrate normal developmental scores; 7% are still at risk and 16% exhibit delayed development. By 24 months of age-corrected, 71.1% were within the normal range, 20% were at risk, and 4% were delayed.¹¹

Nutritional Status, Breastfeeding and Skin to Skin Contact: The population from HMIRS of VLBW ex-premature babies exhibits some promising results. Only 13% of the children are under weight, 4.4% are under the norm for height, and 8.8% have undersized head circumferences at their age-corrected two year evaluation. Those that received enteric or intensive parenteral feeding had significantly larger head measurements than a control group. Another factor that probably contributed to the positive outcomes is HMIRS' emphasis on preemies receiving breast milk and skin to skin contact with their parents during and after their stay in the hospital: 87% were receiving breast milk as a part of their feeding regime upon release from the hospital, and breast milk continued to be part of their diets at age-corrected 4 months, 8 months, and 12 months respectively for 45%, 22%, and 12% of the infants.

Infections and Re-hospitalizations: Approximately 42% of the very low-birth weight preemies who are followed by the outpatient clinic contract lower-tract respiratory infections. The rate of re-hospitalizations for the low birth weight preemies is about 30% (78.6% of these for respiratory infections) which is lower than the published average of 40%. Only 5% require

⁹ This is for newborns with: birth weights under 1500 grams; Perinatal asphyxiation; previous need for mechanical ventilation, ; HIV positive mothers; adolescent mothers; congenital syphilis; other intrauterine transmitted infections; genetic syndromes such as Down's Syndrome; and RH and ABO isoimmunization

¹⁰ These results come from articles published in scientific journals and from presentations at scientific conferences. See Bibliography

¹¹ A 2005 controlled study found that 84% of VLBW infants fed enterically or through intensive parenteral feeding had normal developmental scores at after an age-corrected year, while 15.5% had some motor impairment and 10.5% of those had severe motor problems. Their head circumferences were also significantly larger than a control group (Dinerstein et al 2006).

multiple re-admissions. The HMIRS attributes its lower rates of re-hospitalization to its promotion of breast feeding and skin to skin contact during the preemies stay in the neonatal intensive care unit.

Some Qualitative Measures of Outcomes: Providers' and Users' Perspectives on their Experiences with HMIRS NICU Services

The nurses guard and transmit the model to new professionals who join the team. All new pediatric and neonatal residents must spend their first month of training with the nurses in the NICU. The nurses are the ones who orient the new staff and emphasize the importance of the FCM model as the fundamental pillar of neonatal care in HMIRS.¹²

When I receive the new personnel, the first thing I say ‘. .the family doesn’t wait outside and does not go away; they have to be with us, be aware of that from the start.’ And I show them how the mothers work with the nurses in the unit (nurse).

The nurses are in closest contact with the families and accessible both in space and in the way they interact with families through the use of vernacular language and emotional support. The lack of adequate numbers of nurses puts additional stress on the nurses, who suffer from lack of psychosocial support for the very difficult work they do.¹³ Despite their heavy workload, they take the time to include the families into the routine of the NICU because they recognize the incredible benefits for the newborns.

When we started skin to skin contact, the difference was enormous, the indicators were excellent, and the results of the indicators were good, not only for the babies but for the mothers, too (nurse).

Treatment: One of the most critical elements of the FCM model is the transfer of knowledge from the medical staff to the parents so that they become an extension of the staff in monitoring the progress-of their infant through a series of developmental benchmarks. Mothers are trained in attaching feeding tubes, changing diapers, hygiene, and maintaining skin to skin contact. They learn to identify danger signs and unexpected changes in their newborns, thereby actively contributing to their babies' care and treatment.

And they teach you if the baby changes color, if she turns purple, it is because of apnea. It is because of low saturation. Therefore it is necessary to pay attention to how the baby looks rather than what the machine says. I realize when the baby is anemic also. The other day I told them and they told me I was right, the baby was anemic (mother of a newborn).

The mothers become auxiliary nurses who monitor the babies constantly (doctor).

¹² Groups of 20 residents rotate through the unit for four month periods.

¹³ This is recognized by the health team in general and is regarded as one of the ongoing challenges in the implementation of the model.

Prevention: The role of the parents as partners in care becomes even more important as they move closer to being released. One of the most important roles of the pre-release staff is to help organize the knowledge that mothers have acquired during the intensive care period to ensure that they are prepared to care for the baby at home. Some key elements are knowledge of cardiopulmonary resuscitation and prevention of respiratory infections, as these are the primary causes of re-hospitalization. Another critical element is breast feeding which is introduced as early as possible. Even before the preemie is capable of breast feeding, the nurses encourage the mother to extract breast milk every 3-4 hours from the time of birth to ensure that the mother can breast feed once her premature baby develops sufficiently. The HMIRS prides itself in the high percentage of mothers and babies that leave the hospital breast feeding.

Finally, a major part of the process of preparing the parents and baby for leaving is the care of the mother. During the hospitalization of the baby, the staff helps the mother to set up appointments for her at the HMIRS or other hospitals for any medical problems she may have and to facilitate her access to family planning. The volunteers help the mother to negotiate appointments and information necessary to care for her own health.

Emotional Wellbeing of Newborns and their Families: Another objective of the FCM is to contribute to the emotional wellbeing of babies and their families by reducing stress and supporting the family unit. In addition to involving the parents in care and promoting skin to skin contact, the staff encourage visits from other family members, such as siblings and grandparents. They try to minimize the impact of the preemie's hospitalization on the stability of the family by helping siblings and grandparents to feel part of the treatment process. Volunteers also assist the family with material and logistical support.

When the siblings come in, they are in contact with the baby, even to the point of holding them. For those babies on the respirator, their siblings can touch them in the incubator. The mothers say that their children's anxiety levels go down once they come in to see their newborn sibling...(nurse).

An important dimension of emotional support for the parents also comes from allowing them to be heard. The FCM staff tries to listen and then respond to the needs and opinions expressed by the parents. Without this the model becomes stale and doctrinaire. For example, the NICU adjusted their somewhat overzealous promotion of skin to skin contact when members of a focus group expressed their concerns about discomfort and privacy during the morning hours when many of the medical specialists come through on rounds. The staff obtained more comfortable furniture for the mothers to sit in while they held their babies and allowed them to opt for their skin to skin sessions in the quieter afternoons and evenings when the lights could be dimmed and there was less activity. The nurses also gave the mothers and fathers control over the length of the sessions.

Sometimes, we are asked, 'how do you manage the aggression of the parents?' We say, 'You disarm their aggression by opening doors.'" You open one door, and the parent opens the other, and it is very rare that we have an aggressive parent on our unit (doctor).

CRITICAL ELEMENTS AND CONTINUING CHALLENGES OF A FAMILY-CENTERED MODEL

This case study identified critical factors that supported positive outcomes, as well as negative factors that created obstacles along the way. The HMIRS team recommends that any institution that may be considering a model similar to the FCM take all of the factors into consideration.

Positive Elements

1. The institutionalization of the Family- Centered Model transformed the culture within the hospital to one of devotion to one's work. It had positive benefits for the staff as well as for the users of the services. The model improved respect and cooperation within the team whose members previously had worked interdependently. Inclusion of members of the Mental Health Section is essential.
2. The model encouraged the staff to be analytical and self-critical of their practices. Staff made adjustments in response to new information and feedback from parents and other professionals and volunteers.
3. The staff developed the capacity to listen to the families of the newborns. Families became partners in rather than mere recipients of services. The staff also valued the surveillance and monitoring roles of the parents as part of the healthcare team.
4. Results demonstrate the importance of the direct participation of parents in the medical care of their children. This remains valid during and after hospitalization.
5. The model had a positive effect on everyone's self esteem (families, doctors, and nurses) as evidenced by the comments of the staff and the families. It also is a significant reason why the staff continued implementation of the model even in the face of staff shortages, increased labor loads, and the stress of working with critical care of premature babies.
6. The involvement of the wider family network is very important in providing support to the mothers and fathers of newborns. The involvement of the extended family had positive results for siblings, parents, and newborns by reducing everyone's stress.
7. The importance of providing mothers with free comfortable housing within the hospital to allow them close and continuous contact with their newborns. The logistical support was critical to allowing mothers full 24 hour participation in their infants' care.
8. The importance of socializing new professionals to the model through directed training by the existing staff, especially by nurses. This strategy overcame one of the most difficult challenges to sustaining successful innovations: how to incorporate new staff into a different institutional culture. The strength of the approach is in empowering the nurses to be the guardians and transmitters of the model.

9. The importance of generating information for reviewing practices, and the systemization and dissemination of results through publications and conferences. This was particularly important in a climate of shrinking resources.

Negative Elements and Continuing Challenges

1. Insufficient funding, aggravated by the impoverishment of the public sector, to support full implementation of the model. This was a particular impediment to include the maternal health services of the hospital fully into the model. Labor, delivery and recovery rooms in the Obstetric Center are badly needed but funds are not available. It also meant that the model was somewhat diluted for the families of healthy newborns.
2. Shortage of human resources, particularly of nurses constrained the continuous training necessary to successfully implement the model.
3. Absence of a defined catchment area inhibited the HMIRS' ability to coordinate primary care and referral and counter-referral of patients. As a result it was difficult to do follow-up with about 20% of newborns and their families who lived too far away or lacked the resources to return for outpatient care.
4. Overcrowding as a result of increased demand created by closings of a number of other neighboring hospitals put strains on the programmatic activities of the model.
5. Despite improvements in teamwork, there is still the need to achieve a more equitable distribution of power within the medical team. Some doctors continue to disregard the opinions and contributions of the families and other staff.
6. Persistent resistance on the part of some units of the hospital, such as the Obstetrics Department, to fully implementation of the model.

CONCLUSIONS AND LESSONS LEARNED

This case study demonstrates the feasibility of developing and implementing a family friendly model of service delivery for newborns, especially for newborns in need of critical care, by promoting an active and close collaboration between medical professionals and family members. The value of this model of shared responsibility and co-participation is evidenced by the positive outcomes for premature infants, and the satisfaction of the families and the medical staff.

The HMIRS team believes that the model confers on the baby, via their parents, realization of the full panoply of rights to the best possible healthcare. It also empowers their parents to make informed decisions in order to demand those rights for their children who are unable to demand them for themselves.

Lessons Learned

1. The essence of the FCM is based on the active involvement of the family that includes unrestrictive parent's and family (grand parents, brothers and sisters) visits and their participation as main actors in the process of their baby care.
2. The model allows the hospital team to incorporate low-cost high impact interventions such as skin to skin contact into the treatment process. The intervention increases the affective bond between babies and their parents, increases physiological stimulation, and reduces crying and stress. It also contributes to successful breast feeding, even when delayed due to developmental factors, and provides all benefits that come from breast milk.
3. The model is not possible without a Mother's Residence in the hospital premises, close to their babies. Most mothers are poor and live far from the Hospital. The hosting facilities provide not only warm food and a comfortable bed but also a caring environment.
4. Volunteer Organization support is crucial for Mother's Residence administration and other family support in a public hospital. They are an independent source of contacts and resources to help the families with basic needs.
5. Early and aggressive nutritional strategy (parenteral and enteral) decreases postnatal grow failure in very low birth weight infants
6. A reorientation from a focus on medical apparatuses to a broader vision of promoting low-cost high impact technology such as continuous positive airway pressure produces benefits for more newborns.
7. Dispelling the myth that the family's presence in the NICU increases the risk of transmission of infections. HMIRS has found that following a strict and systematic hand washing regime is sufficient precaution.
8. Nurses have proven to be a key factor for the whole model, but especially for intra-hospital infections: when there is nurse's absenteeism, infections rise and so do mortality at NICU. Moreover, in the graph showing neonatal mortality peaks mean nurses shortage.
9. Involvement of nurses in the education of other health professionals has a positive impact on their ability to understand and work within the Family-centered model of care and positions the nurses as guardians of, educators, and advocates for the model.
10. It is important to train mothers and their families on the care and detection of danger signs after release of their premature babies.
11. The power, solidarity, and satisfaction that come from working as a team of health professionals make the model able to incorporate the work of volunteers in support of participant families.

12. The value of developing alliances among the staff and with the families to achieve positive outcomes for the newborns in a shorter time, and to create a positive change in the culture of healthcare.

BIBLIOGRAPHY

ASAPER. Primera Guía Argentina de Perinatología. Organización de un Centro Perinatólogo. Tomo II. Asociación Argentina de Perinatología. 1996.

Achaval A, Buscaglia J, Larguía M. Remodelación del Servicio de Neonatología. Propuesta de un Modelo Racional y Funcional. Revista del Hospital Materno Infantil Ramón Sardá. 2003, 22 (1):16-18.

Als H: Assessing and assessment. Conceptual consideration, methodological issues and a perspective of the future on the Neonatal Behavioral Assessment Scale. En: Sameroff A J., Organization and stability of newborn behavior. A commentary on the Brazelton Neonatal Behavioral Assessment Scale. Monogr.Soc. res.Child. Dev 1986; 177:14-28)

Aspres et al. Amamantamiento en R.N. Prematuros de muy bajo peso al nacer (PMBPN \leq 1500 g). Analisis de una experiencia en una institución pública. Rev. Hosp. Mat. Infant. Ramón Sardá, XIII,No.3, 1994.

Aspres N. Consultorios Externos de Pediatría, desde sus comienzos hasta hoy. Rev. Hosp. Mat. Inf. Ramón Sardá,; 17: 97-192.,1998

Benítez N.,et al., 2002, Jornadas de Seguimiento del RN de alto riesgo y Congreso Argentino de Pediatría, 2003

Benitez, N et al., Revista Saludarte, diciembre 2001- febrero 2002..

Bocaccio,C et al: Aspectos relacionados con el psiquismo y el desarrollo de los recién nacidos. Rev. Hop. Mat. Inf. Ramón Sardá, (3):1997

Brazelton TB. Psychophysiological reactions in the neonate. The value of the observation of the neonate. J.Pediatr.; 38:50, 1961.

Brundi, M. Contacto Piel a Piel madre/hijo prematuro. Conocimientos y dificultades para su implementación, V Congreso Argentino de Lactancia Materna, SAP., Buenos Aires, 2005.

Brundi, M. et al. Contacto Piel a piel Madre/hijo prematuro y lactancia materna. Rev. Hosp. Sardá, 2007, en prensa.

Dinerstein NA., et al. Crecimiento y neurodesarrollo al año en niños de muy bajo peso al nacer. Comparación de dos estrategias nutricionales durante el periodo neonatal. Nutrición, Año 5, No.1.,Febrero 2006.

Dinerstein, NA et al. Early and aggressive nutritional strategy (parenteral and enteral) decreases postnatal growth failure in very low birth weight. Journal of Perinatology , 26, 436–442, 2006.

Druon, Cathérine, L'entrée des frères et sœurs en médecine néonatale, une expérience à Port Royal. XXIèmes Journées Nationales de Néonatalogie, Paris, France, 2001.

Escardó, Florencio: Abandónicos y Hospitalismo. Cuadernos de EUDEBA, 208, 1981.

Grandi, C y-Bellecchi C. Sardá 2003 : Grupo Colaborativo Neocosur(<1500 g ;cobertura 69%). Revista Hosp.mat.Inf.Ramón Sardá, 23 (4), 2004.

Gonzalez, MA. Acerca de la conflictiva familiar en una Unidad de cuidados intensivos neonatales, Rev. Hosp. Mat.Inf. Ramón Sardá, 1995

Gonzalez, MA, Problemática de los padres de los Recién nacidos en unidades de cuidados intensivos . Abordaje interdisciplinario, Arch. Arg de Pediatría (94):178-82, 1996.

Hellman V et al: Ingreso de familiares a una unidad de Cuidados intensivos neonatales. Rev. Hosp. Mat. Inf, Ramón Sardá, (15):107-11, 1996

Kennel JH y MH Klaus. Paradigma neonatal. ¿Ha llegado el momento de cambiarlo? Clínicas de Perinatología (4),827-841, 1988.

Larguía M, Lomuto C, González MA. Guía para transformar Maternidades tradicionales en Maternidades Centradas en la Familia. Buenos Aires, Fundación Neonatológica para el Recién Nacido y su Familia, 2006

Larguía M et al, Estadísticas Vitales 1995, Rev Hosp. Mat. Inf. Ramón Sardá,1, 8, 1999

Larguía AM. Proyecto: Maternidades Centradas en la Familia. Rev. Hosp. Mat. Inf. Ramón Sardá, :19 (4):177-195, 2000.

Larguía M, Lomuto C, González MA, Naddeo S, Tortosa G, Andina E, Otheguy L, Aspres N, Waisman M. Programa Maternidad Centrada en las Familia (MCF) Segunda Etapa (2003). Propuestas para el Hospital Materno-Infantil Ramón Sardá. Revista del HMIRS; 22 (2) 74-81, 2003.

Larguía M, Lomuto C, Tortosa G, Naddeo S, González MA. Detección de interferencias y evaluación cuali-cuantitativa de actividades para transformar el Hospital Materno-Infantil Ramón Sardá en Maternidad centrada en la familia. Revista del Hospital Materno Infantil Ramón Sardá. 22 (2) 53-873. ,2003.

Larguía M., Manejo Integral de los Padres en los servicios de Neonatología. En Larguía, AM, Manejos integrales en neonatología, Buenos Aires, Ergón, 176-203, 1986

Martínez JC., El contacto madre e hijo prematuro piel a piel. Un aporte a la moderna asistencia neonatal. Arch Arg. Pediatr., 89: 142-146, 1991

Martínez JC, Skin to Skin Contact, a Paramount Contribution to the Modern Neonatal Paradigm. AAP On-Line Journal Neoreviews-American Academy of Pediatrics. January, 2007.

Martínez, JC: Atención Individualizada del recién nacido Pretérmino, Rev. Hosp. Mat. Inf. Ramón Sardá, 12: 46-9, 1993

Martínez,J.C: Actualizaciones en perinatología (1):1, 1991.

Ministerio de Salud. “Guía para la atención del parto normal en Maternidades Centradas en la Familia” . Buenos Aires, el Ministerio, 2005

Ministerio de Salud de la Nación. Organización Panamericana de la Salud. Indicadores Básicos 2006. Argentina. 2006.

Ministerio de Salud. Dirección de Estadísticas e Información en Salud. Argentina. Estadísticas Vitales. Información Básica 2006.
<http://www.deis.gov.ar/publicaciones/archivos/serie5nro49.pdf>

Muzaber, L e I Shapira: Parálisis cerebral y el concepto de neurodesarrollo, Rev. Hosp. Mat. Inf. Ramón Sardá vol 17, N.2. , 1998.

Roy, E et.al, Evaluación del Desarrollo Psicomotor de 319 niños de 1-24 meses de la consulta ambulatoria de los hospitales Ramón Sardá y Luisa Gandulfo, Arch. Arg. Pediatr, 86,1988.

Roy, E et al: Desarrollo Neurológico del Prematuro, en: A. Miguel Larguía y col., Manejos Integrales en neonatología, Edit. Ergón, Buenos Aires, 1986.

Roy, E et al:Atención Pediátrica primaria,: evaluación del desarrollo y efectos de la estimulación temprana del niño sano durante el primer año de vida,, Arc. Arg, Pediatr.,:83-87,1985.

Shapira et al., Estudio Prospectivo de recién nacidos Prematuros hasta los 2 años. Evaluación de un método de medición del neurodesarrollo Rev. Hosp.Mat.Inf.Ramón Sardá, , Vol 17, N.2;1998

Shapira I et al. Intervención ambiental y en el desarrollo de recién nacidos de alto riesgo. Revista del HMIRS, XIII, N° 3, 1994

Shapira , I y N. Aspres: “Estrés en Recien nacidos Internados en Unidad de Cuidados Intensivos: Propuesta para minimizar sus efectos” Rev. Hosp. Mat. Inf. Ramón Sardá,; 23 (3), 2004.

Shapira I et al., Hallazgos en dibujos de la figura humana en niños de 2 a 5 años, nacidos prematuros, Arch. Argent. Pediatr, , 99 (1), 2001.

Shapira I: Evaluación sistemática del desarrollo psicomotor y social desde la atención pediátrica primaria”, en Neuropediatría, temas relevantes, Benasayag et al. Edit. CELCIUS, Buenos Aires,,: 118-130,1989.