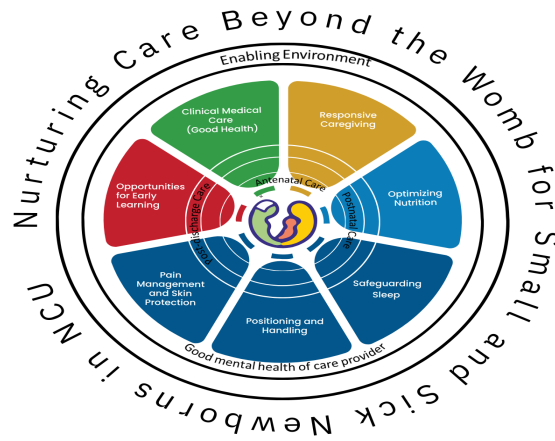




Empowering parents & Caregivers to improve quality of care for small and sick newborns

Prof. Dr Arti Maria
MD (Paediatrics), DM (Neonatology)
Dean
ABVIMS & Dr RML Hospital

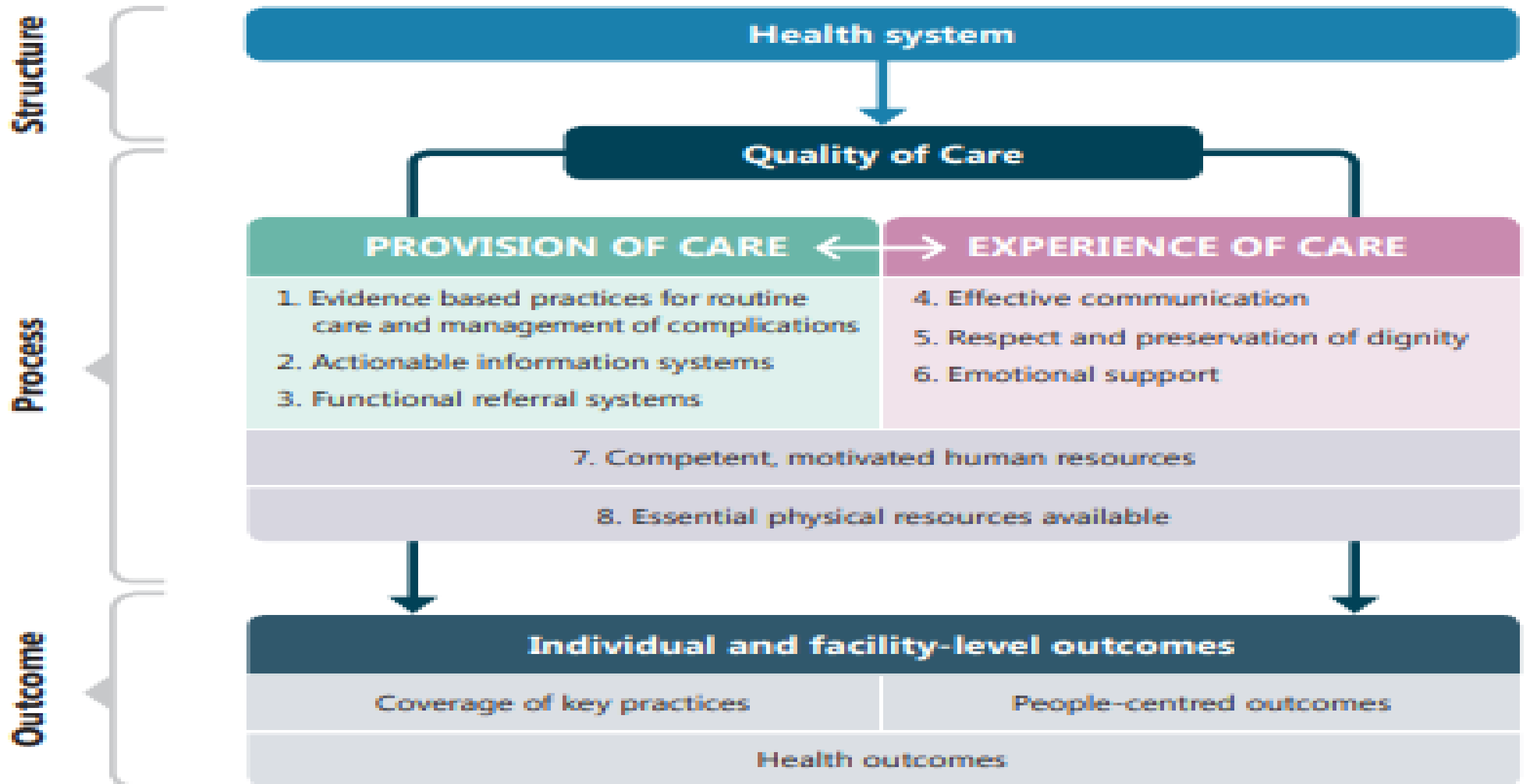
Facility
Based
Sick
Newborn
Care in
1980's....



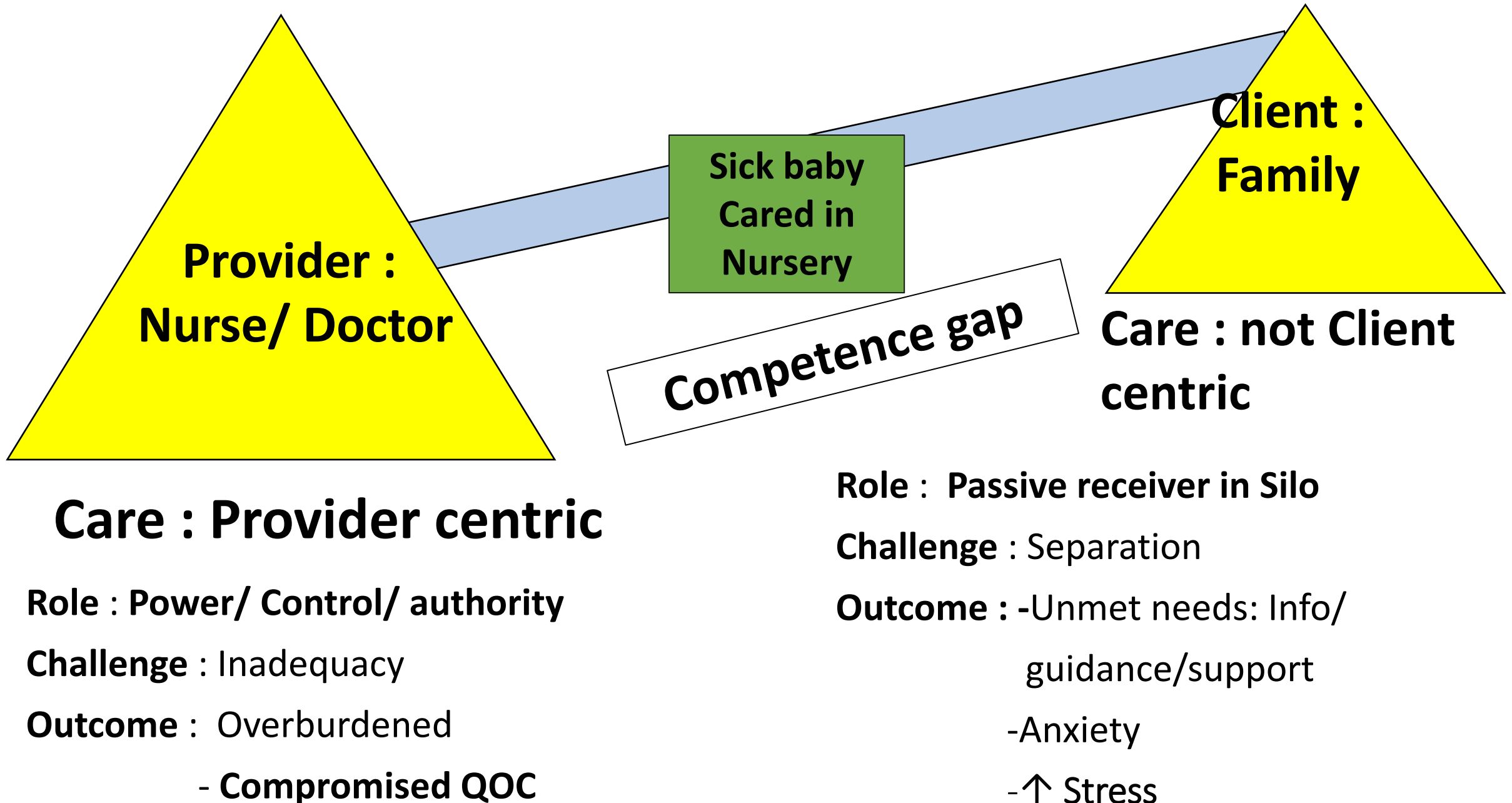
Facility
Based Sick
Newborn
Care
now.....



WHO Quality Of Care Framework for Maternal-NB



Conventional Model for Care of A Sick Newborn : GAPS



State of Newborn care Our Unit :2007



Babies often lying wet!!



Tubes/probes
often misplaced!!



Alarms
ringing
incessantly!!



IV swellings common!!





“Can we start ‘engaging’ the waiting
parent-attendants *as nursing aides* for
their own babies?”

Parent involvement as nursing aides

Passive/ Instructive Participation



- Parents
- Babies
- Nurses

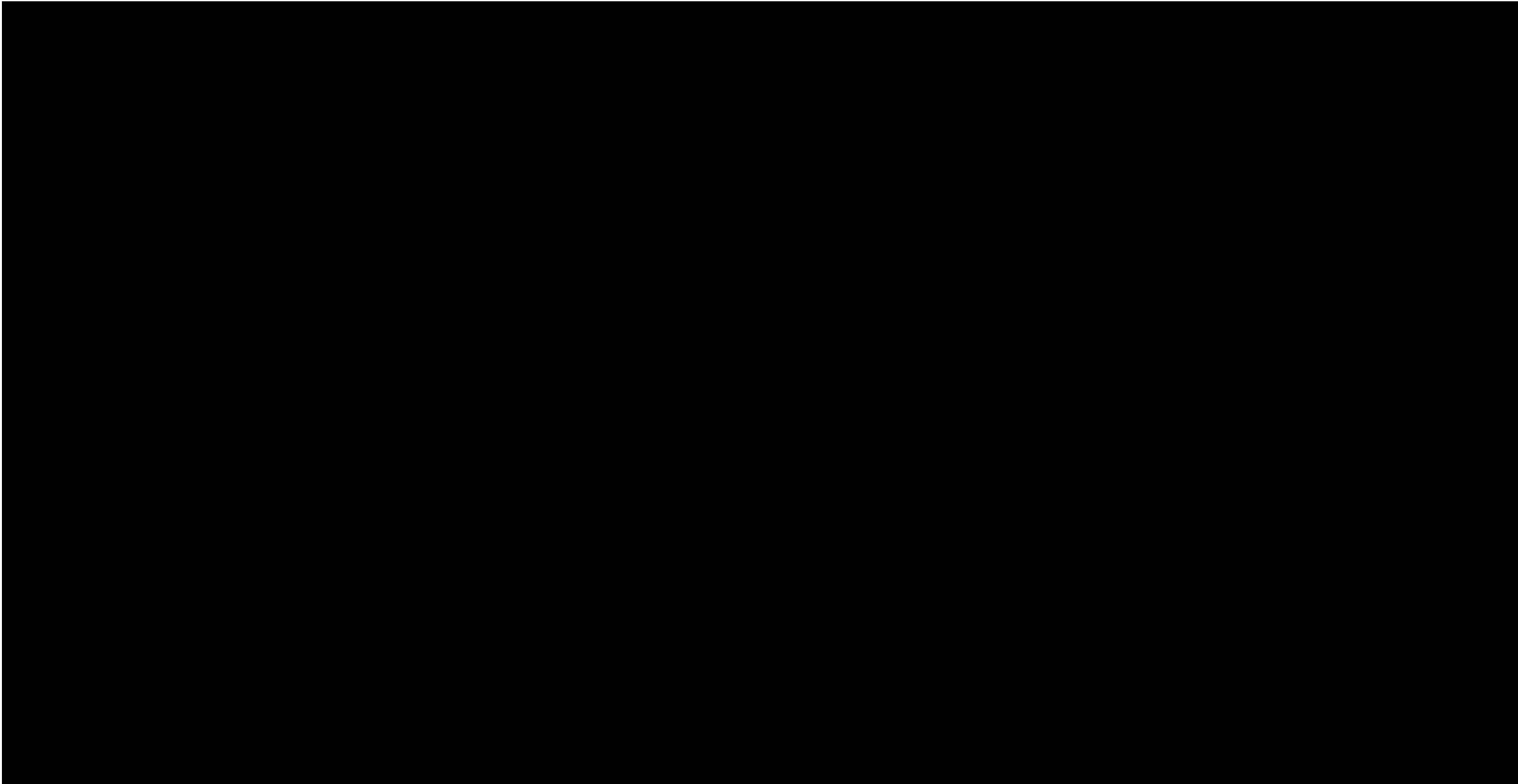
Family-Centered Care to Complement Care of Sick Newborns: A Randomized Controlled Trial

ANKIT VERMA, ARTI MARIA, *RAVINDRA MOHAN PANDEY, ^SCHAROO HANS, ARUSHI VERMA AND [#]FAHIMA SHERWANI
 From Departments of Pediatrics and ^SMicrobiology, PGIMER and Dr. RML Hospital; *Biostatistics, AIIMS; and
[#]Management Studies, IIT; New Delhi, India.

TABLE III SUMMARY OF OUTCOMES IN THE TWO GROUP OF SICK NEWBORNS

Outcome variables	Control group (n=147)	Intervention group (n=148)	Mean difference (95% CI)	P value
Culture positive nosocomial infection rate	7.17	6.43	0.74 (-4.21, 5.6)	0.76
Culture negative nosocomial infection rate	9.86	10.56	-0.70 (-6.6, 5.2)	0.82
Duration of stay, median (IQR)	11 (7,18)	11.5 (7,17.5)		>0.05
Mortality, No. (%)	13 (8.8)	10 (6.8)	(0.04, 0.134)	0.5
Breastfeeding rate, No. (%)	98 (66.7)	119 (80.4)	(0.59, 0.74)	0.007

No ↑ in Infection
↓ Hospital stay
↑ Breast feeding
Feasible & Safe



Scope of Mother/Parental Involvement in a Nursery (SNCU)

Entry Protocol (Session I)



Scope of Mother/Parental Involvement in a Nursery (SNCU) contd....

Developmentally Supportive Care (SESSION II)



Scope of Mother/Parental Involvement in a Nursery (SNCU) contd....

Developmentally Supportive Care : Feeding (SESSION II)



Scope of Mother/Parental Involvement in a Nursery (SNCU) contd....

Kangaroo Mother Care (Session III)



Scope of Mother/Parental Involvement in a Nursery (SNCU) contd....

Preparation for Discharge and care at Home (SESSION IV)



Institutionalising Family Centred Care: The Process

**Induction at Admission
& Identification of
Primary Care Provider**



Daily Trainings Scheduled



**Demonstrations and
Practice**



Supervised Learning



Peer To Peer Learning



Discharge Counseling



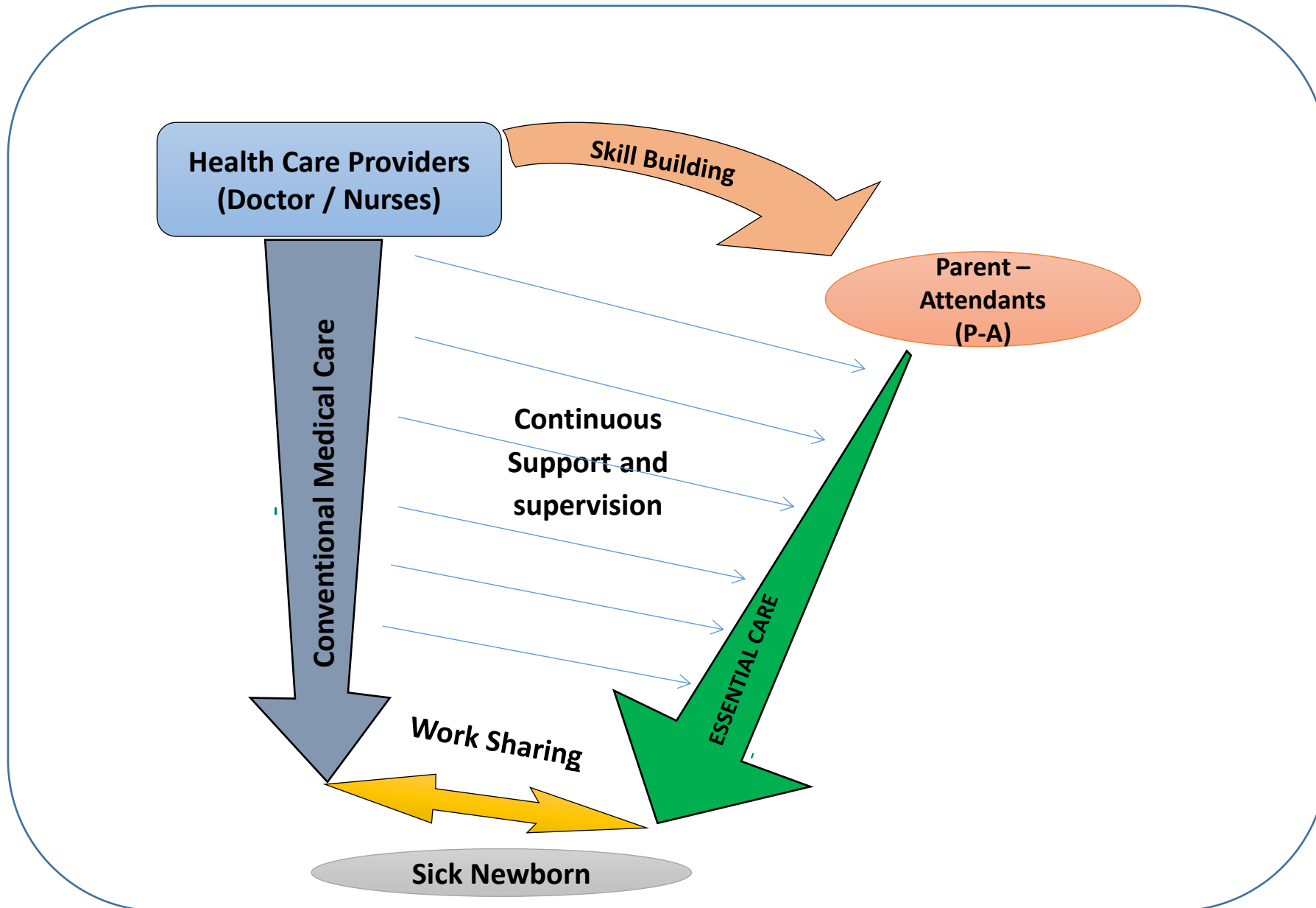
Independent Doing



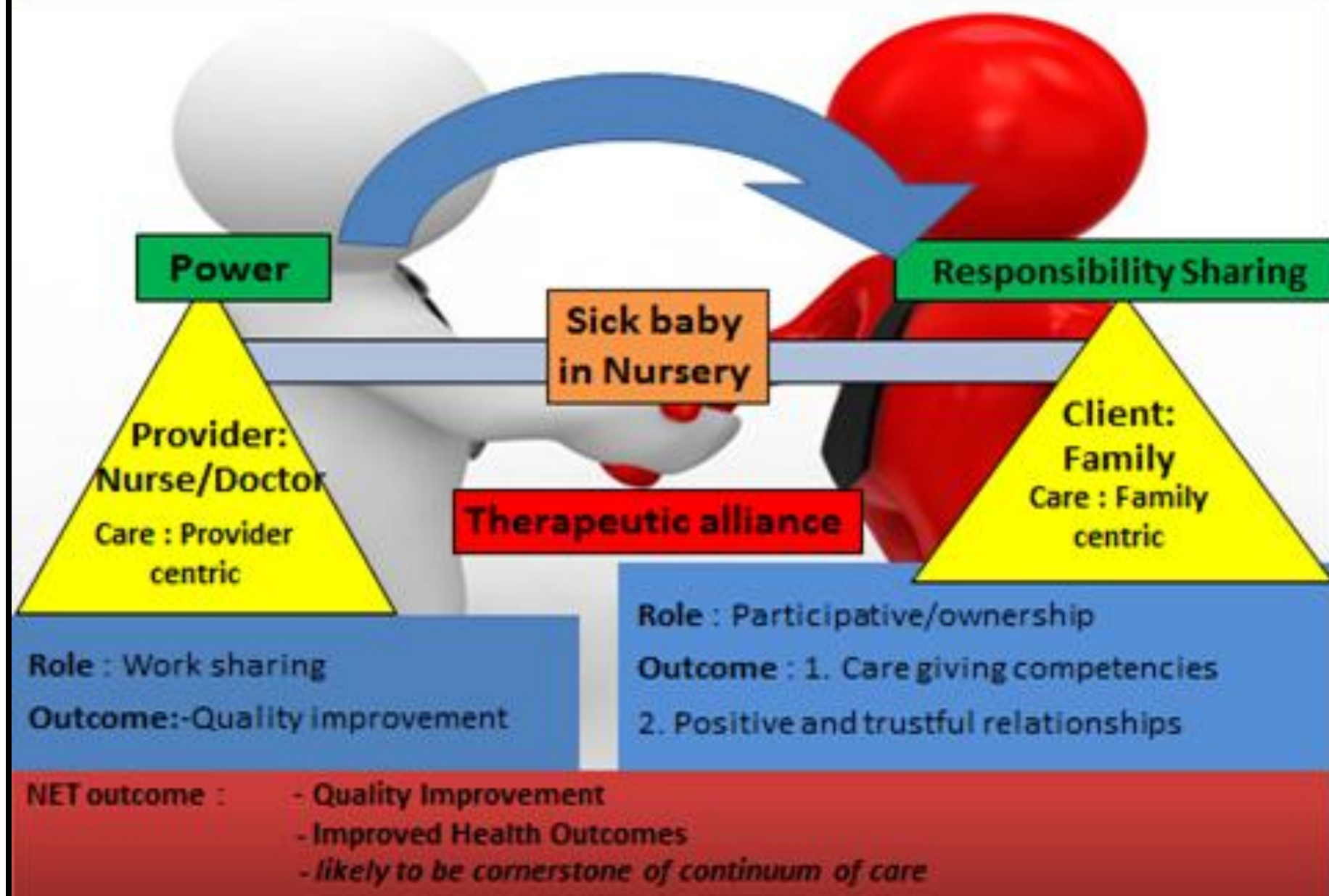
**Continuum of Care at
home**



Operational Concept of Family Participatory Care For Sick Newborn



Family Centered Care : A Paradigm Shift



Family Centered Care (FCC)?

An *approach*,
an *attitude*,
a *mindset*,
a *concept*

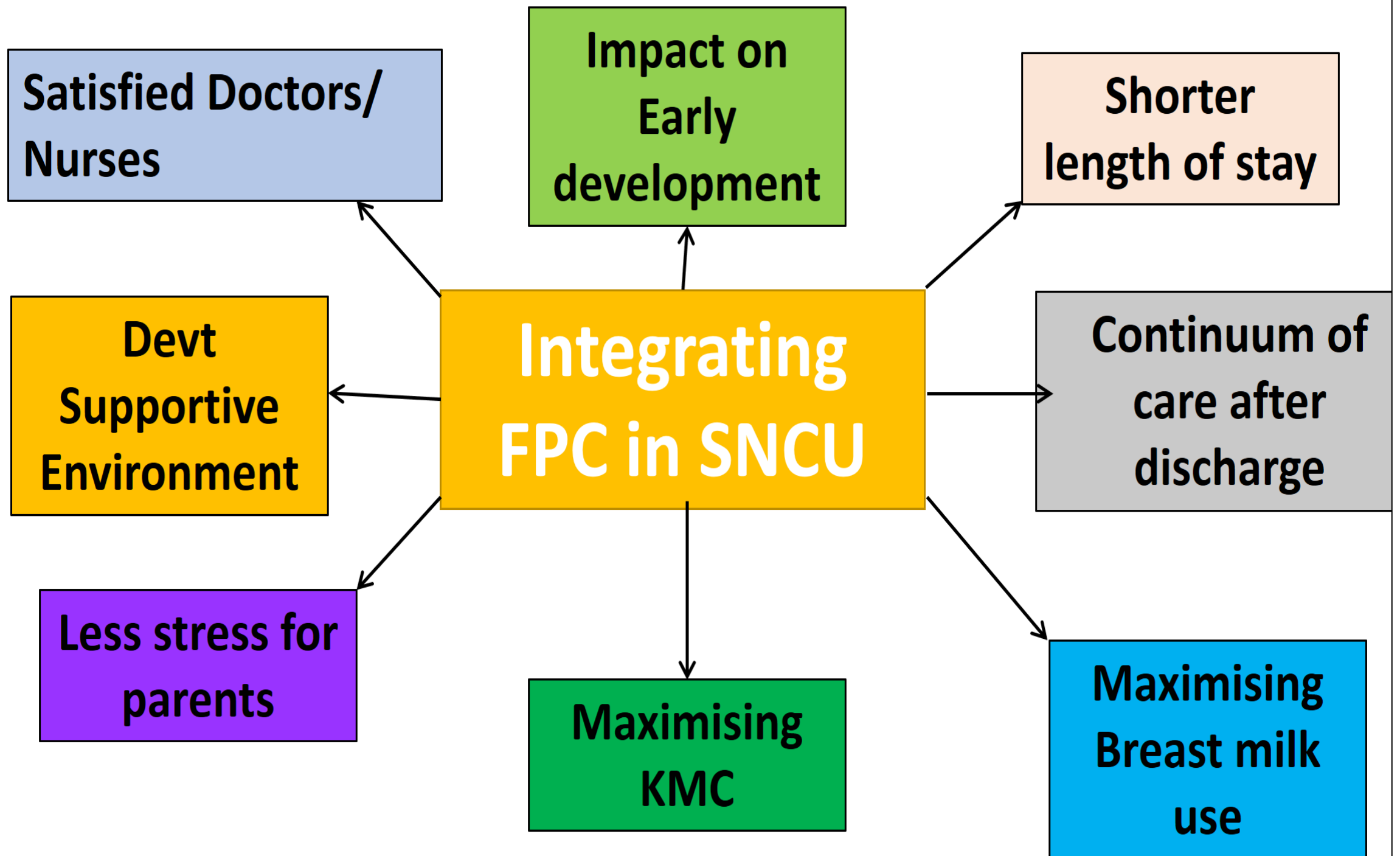
that **aims to develop and nurture family's role in partnership with health care team** in care of a patient .

WHAT?

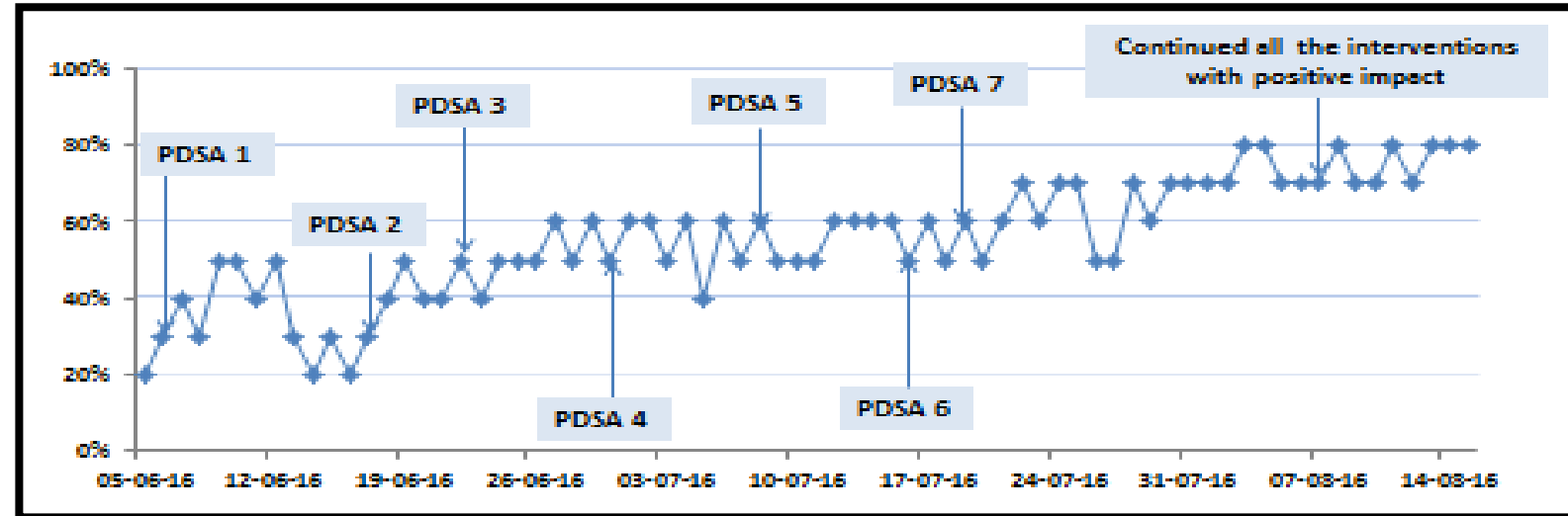


Experience of care- Mother/ Family: Family Centred Care





1. Improving hand hygiene among mothers under FCC: A quality improvement initiative



Open access

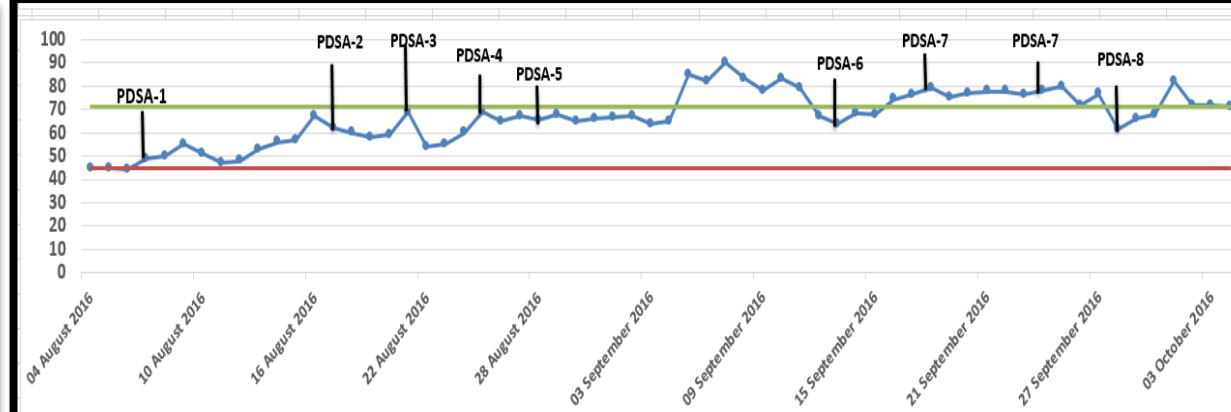
Quality improvement report

BMJ Open Quality

Improving handwashing among parent-attendants visiting a newborn unit practising family participatory care

Arti Maria ¹, Ankur Sooden ^{2,3}, Rashmi Wadhwa ¹, Ravleen Kaur ¹, Indu Gaur ¹, Kalsang Lhamo ¹, Vallamkonda Nagaratna ¹

2. Quality Improvement Project on increasing the amount of Breast milk intake among neonates admitted in the unit



Quality Improvement Project to Increase the Average Amount of Breast Milk Intake among Sick Neonates at a Tertiary Level Family Centred Care Outborn Referral Neonatal Unit.

Team of Department of Neonatology, Dr. Ram Manohar Lohia Hospital & PGIMER, New Delhi, India



Problem Statement

Breastmilk use/Exclusive breastfeeding rates among the enterally fed sick neonates at the Outborn nursery of Dr. RML hospital was perceived to be much less.

Methods: Team Formulation and Baseline Assessment

GI team was formulated consisting of doctors & nurses.
Unit of Analysis: Each feed(EBM)/baby/ day
Inclusion: Babies who was ever on enteral feeding.
If baby is receiving mother's EBM for 3 consecutive days, in her absence.
Exclusion: Duration of NPO period.
Non availability of the mothers throughout the hospital stay
Abandoned baby/ Death of mother
Babies whose mother is absent, and not getting EBM from last 3 consecutive days
Average EBM rate = $\frac{\text{Sum \% of EBM of total feed volumes calculated for all feeds all the eligible babies}}{\text{Number of eligible babies}}$

is calculation done daily was used to get average weekly or monthly EBM rates of CU.
eg: Babies who ever on direct breast feeding contributed towards a 100%
It was collected on a daily basis prospectively from the nursing monitoring

Analysis tool: Microsoft excel.
Baseline data: 14 mothers data was collected daily over 4 days period. The data shows that 45.7 % of babies received average amount of EBM

Aim Statement

To increase the average intake of Breast Milk (EBM) direct breastfeeding) among sick newborns eligible for feeding at the outborn nursery from 45.5% (4 Aug'16) to 80%(4 Oct'16) in 8 weeks.

References

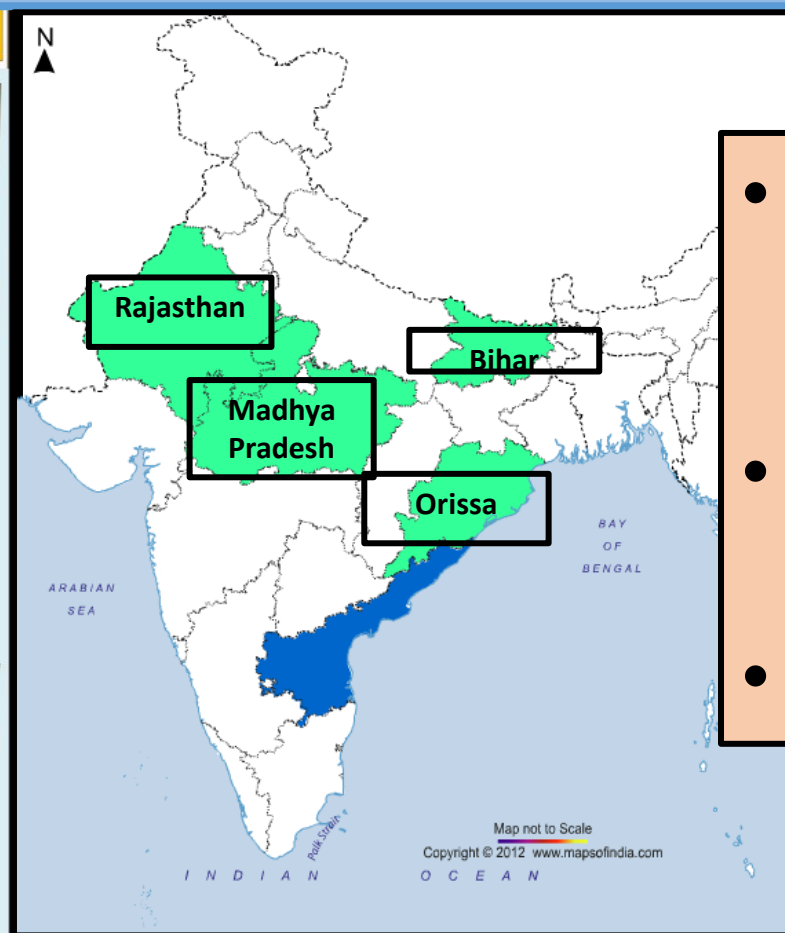
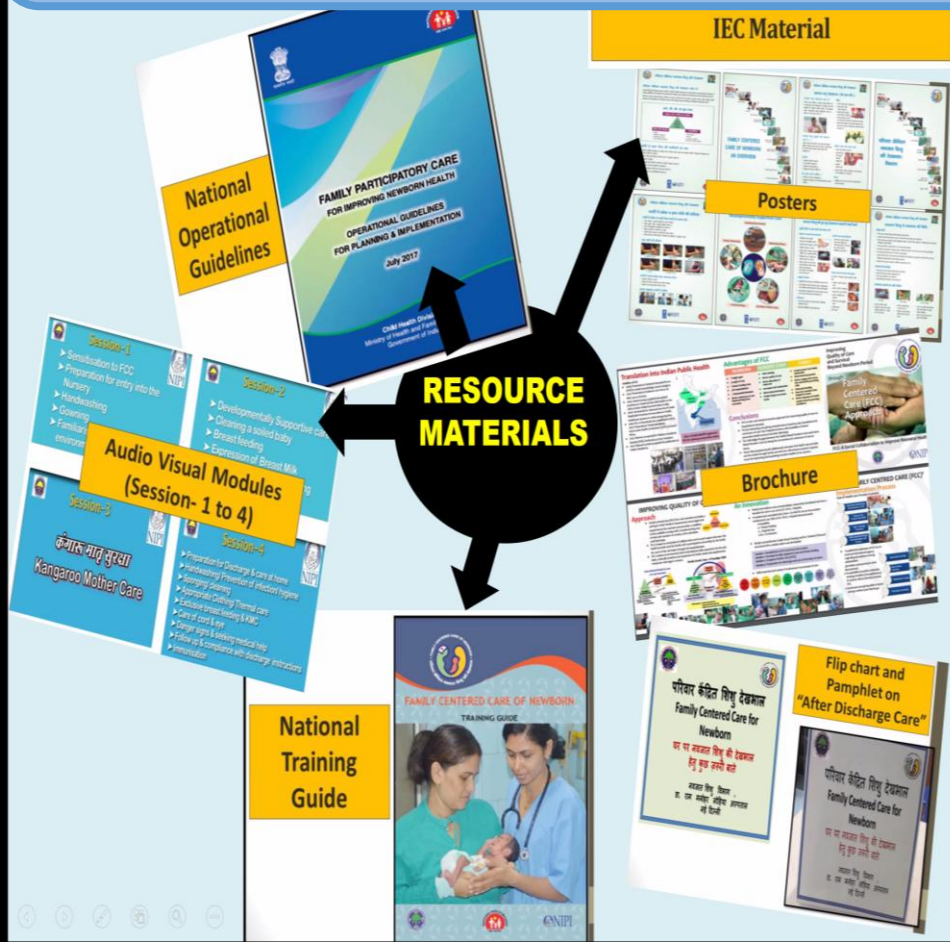
1. http://www.who.int/maternal_child_adolescent/topics/child/nutrition/breastfeeding/en/
2. <https://www.ncbi.nlm.nih.gov/pubmed/25674867>
3. <https://www.unicef.org/uk/babyfriendly/wp-content/uploads/sites/2/2016/12/Guidance-for-neonatal-units.pdf>



3. Quality Improvement Project on increasing Kangaroo mother care hours in NICU



Translation in Public Health Country Scale up 2014- till date



- FPC: National Health Program 2017
- 69 Units 2017
- > 700 Units ...



FPC Model

Facility



Improving Health Systems



Community



Attitude



Infrastructure



Practices

STRENGTHENING INFRASTRUCTURE (KMC units approved under NHM)



TRAINING OF KEY PROVIDERS AT PROPOSED APEX RESOURCE CENTRE



TRAINING OF KEY PROVIDERS AT PROPOSED APEX RESOURCE CENTRE: SKILLS LAB



ORIENTATION OF PROVIDERS IN DISTRICT NEWBORN CARE UNITS



ORIENTATION PROGRAMME FOR MOTHERS IN SNCU



ORIENTATION PROGRAMME FOR MOTHERS IN SNCU



ORIENTATION: PREPARATION FOR ENTRY INTO NURSERY



ORIENTATION: BREAST FEEDING AND KMC



SUPPORT FOR KMC



At SNCUs

**Transformative
Participation**



Qualitative & Quantitative Assessment of FPC in 38 facilities in India

S N	Qualitative Opinion of Doctors and Nurses (N=38)	Improved	No Change	Not Sure
1.	Quality of care since starting FPC in the facility	97%	-	3%
2.	Breast feeding practices in the facility	97%	3%	
3.	KMC practices in the facility	100%	-	
4.	Nosocomial infections in the facility	34%	39%	27%
5.	Follow up of discharged cases in the facility	74%	26%	

- ❖ Integration with FBNC
- ❖ State own up: Scale up support
- ❖ FPC is doable in public health framework
- ❖ At Facility: : Enabling logistics, Increased demand by Moms, better QoC
- ❖ Post discharge :Mortality dec., Improved Adherence with Follow up, continued EBF & KMC at home

Outcome: Follow up of 9500 newborns after discharge shows mortality<1%

FPC: Challenges in implementation

Major

- **Strong Leadership: Drivers for Change !**
- **Mindset, Behaviour & Attitudinal Change of Providers : BCC**

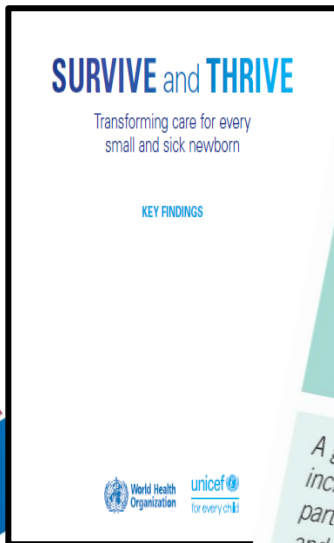
Minor

- *Adherence to entry protocols ,Involving mothers who had complications/ CS, Availability of logistics (AV aids/ Mother gowns/ Sleepers/lockers), Involvement of service providers of all the cadres in FPC ,Communication and training skills of service providers, Availability of space for conducting sessions, Organising sessions as planned on fixed time, Documentation and reporting*

Recommendations for way forward:

- Phased implementation
- Allocation of adequate finances
- **Enhancing capacity of system**
functionaries
- Strengthen Follow Up Mechanism
with Integrated Home Visitation
- **Reflect FPC & nurturing care in all**
training packages

- Data related to coverage & quality
- Supportive Supervision
- Effective Social Mobilization
- Expand scope of FPC
- **Linkages to other programs**
- Invest in local research & Explore
evidence based newer solutions
- **National Coordination mechanism**



Family Participation in the Care of the Inpatient Newborn

DO NO HARM TECHNICAL BRIEF

Every year 15 million newborns are born preterm¹ and many others have life-threatening conditions that require hospitalization. Family engagement in inpatient care of small and sick newborns leads to better health and developmental outcomes, improved patient and family experience of care, enhanced clinician and staff satisfaction, and wiser allocation of resources. Conversely, a lack of systemic support for parental participation may result in unintentional harm to both newborns and their families. Engaging families as active caregivers during inpatient newborn care requires context-specific adaptation and flexibility.

A global focus to ensure that newborns not only survive but thrive into adulthood has led to an increased appreciation for the value of family participation in inpatient care. Building reciprocal partnerships between families and providers is fast becoming a standard for healthcare planning and delivery across the lifecycle. The core principles of family-centered care are: 1) dignity and respect; 2) information sharing; 3) participation; and 4) collaboration.² While there are many models of family participation for the inpatient newborn (see note on terminology below), all share a common view that the baby, the parents/primary caregivers, and healthcare providers all share of care. Integrating parents as caregivers during the inpatient period, and healthcare providers to families of newborns is an important training and...



NURTURING CARE FOR SMALL AND SICK NEWBORNS: EVIDENCE REVIEW AND COUNTRY CASE STUDIES

August 2019



World Health
Organization



11th GENEVA CONFERENCE ON PERSON-CENTERED MEDICINE

Person - Centered Women's Health 40 Years after Alma Ata

Core Conference 9 – 11 April 2018

Pre-Conference Workmeeting 8 April 2018

Geneva University Hospital and World Health Organization

FAMILY CENTERED CARE IN LMICS: EXPERIENCE FROM INDIA

Arti Maria

The concept of parental involvement in NICU was tested initially in 2007 to overcome severe HR constraints at a Neonatal Intensive Care Unit of north India. However multiple fringe benefits were observed with this intervention! A randomized controlled trial¹ (2010-12) demonstrated improvement in exclusive breast feeding rates with no increase in infection rates in the intervention group.

Adapting and translating principles of family centred care (FCC) into a discrete implementable framework of a respectful collaborative partnership between the provider and receivers of care for care of their sick neonate and delivered through a culturally sensitive, structured, audio-visual training tool to build capacity of P-A to care for their sick neonate was demonstrated to be feasible and



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acceptable. Additionally, FCC addresses unmet developmental needs of a sick neonate as well as psychosocial needs of the stressed family². After the successful initial pilot at 5 districts, Government of India MOHFW has recently approved countrywide

References

1. Family-Centered Care to Complement Care of Sick Newborns: A Randomized Controlled Trial

Seventy-first World Health Assembly

#WHA71

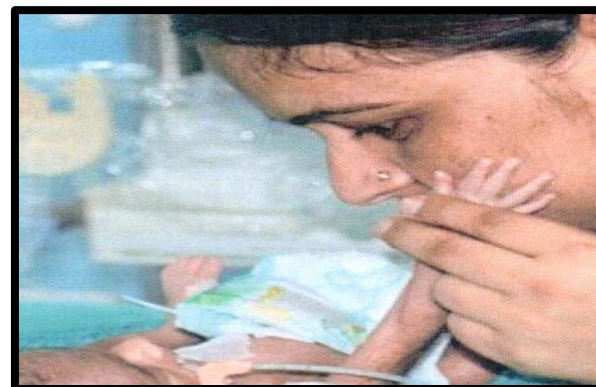


NURTURING CARE FOR EARLY CHILDHOOD DEVELOPMENT



Family Participatory Care in India

A gateway to nurturing small and sick newborns



Acknowledgements: This profile was developed in support of Nurturing Care for Early Childhood Development, A framework for helping children to survive and thrive to transform health and human potential.
Writers: India: Mrs Preeti Sudan, Mr Manoj Jhaiani and team, Ministry of Health and Family Welfare, Government of India; Professor Art Maria and team, Ram Manohar Lohia Hospital, New Delhi; Dr Harish Kumar and the Jhpiego and Norway-India Partnership Initiative team; Professor Narendra Kumar Arora, International Clinical Epidemiology Network; and State Health Societies.
Contributors to development and review: Matthew Frey, Bettina Schwetelm. Design: PATH.
For more information, please see www.nurturing-care.org or contact NurturingCare@who.int

RESEARCH ARTICLE

Open Access

Acceptability of a family-centered newborn care model among providers and receivers of care in a Public Health Setting: a qualitative study from India



* Correspondence: artimaria@gmail.com

²Department of Neonatology, PGIMER & assoc. Dr. RML Hospital, New Delhi, India

Full list of author information is available at the end of the article



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**World Health
Organization**

Technical meeting on standards of care for small and sick newborns 10-12 April 2019 Chateau de Penthes, Geneva

Meeting Objectives

- Review and provide inputs on the work related to nurturing care for small and sick newborns
- Review and provide inputs on the work related to developing a neonatal nursing roadmap
- Review and provide inputs on the work related to the rights of the newborn and respectful newborn care
- Review and endorse the proposed WHO levels of newborn care for essential, special and intensive care with interventions and health system requirements
- Review the scope and content of draft standards and criteria (quality statements) for improving quality of care of small and sick newborns
- Propose the indicators (quality measures) for monitoring quality of small and sick newborn care
- Discuss the process of implementation to facilitate the uptake of the standards

Research Article

An Assessment of Implementation of Family Participatory Care in Special Newborn Care Units in Three States of India

HARISH KUMAR¹, ASHFAQ BHAT¹, VARUN ALWADH²I, ARTI MARIA³, RAJAT KHANNA¹,
SUTAPA B NEOGI⁴ AND AJAY KHERA⁵

From ¹Norway India Partnership Initiative; ²Departments of Pediatric, Kalawati Saran
Children Hospital; ³Department of Pediatrics, Ram Manohar Lohia Hospital; ⁴Indian

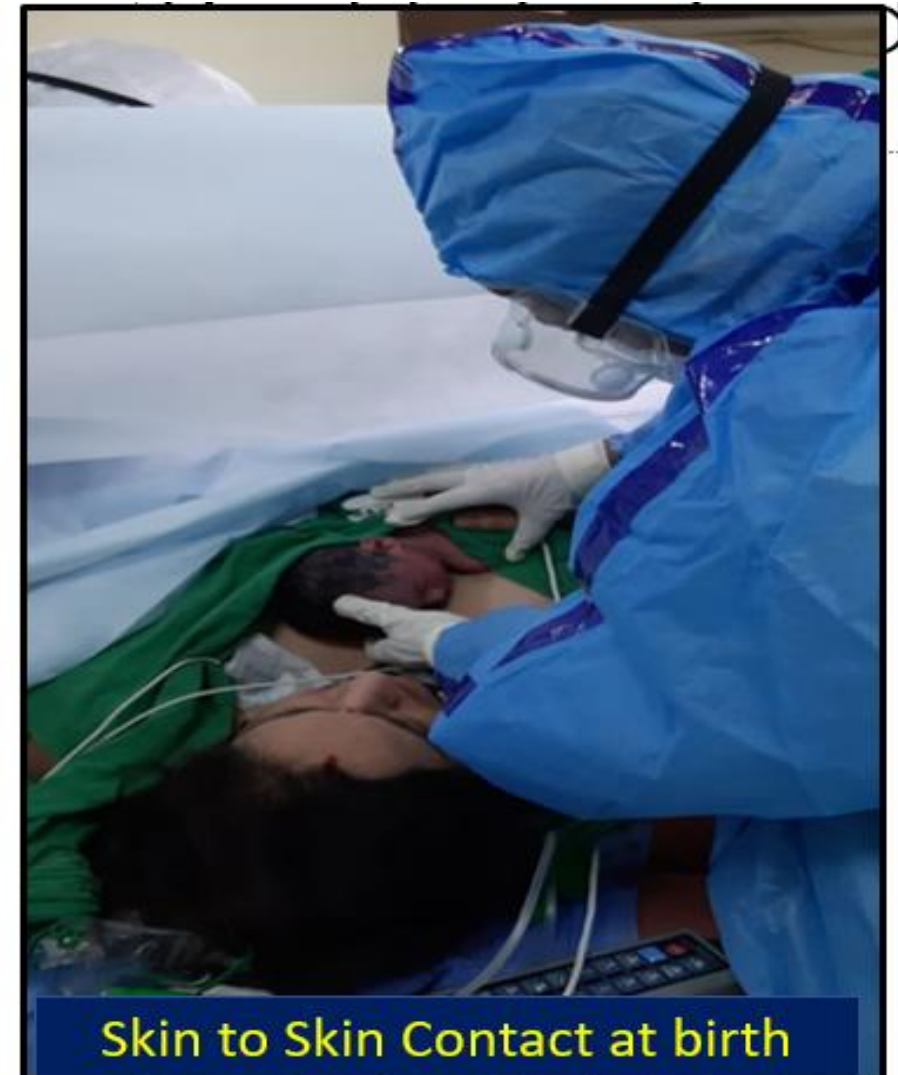
ABSTRACT

Objective: To study Special Newborn Care Units in terms of Family Participatory Care quality initiative as per Government of India guidelines in select public health facilities, and to document the perspectives of the doctors and mothers. **Design:** Cross-sectional. **Settings:** Special New-born Care units with functional Family Participatory Care units in the states of Odisha, Madhya Pradesh and Rajasthan. **Participants:** 38 Special New-born Care units with functional Family Participatory

- **Title**
- Assessment of feasibility and acceptability of a family centered care framework implemented at a neonatal intensive care unit in New Delhi, India.
-
- **Authors**
- Arti Maria, MD, DM¹; James A. Litch, MD, DTMH²; Maria Stepanchak, MPH²; Harish Kumar, MD³
-
- **Author affiliations**
- ¹Ram Manohar Lohia Hospital (RML) Hospital, New Delhi, India (A.M.)
- ²Global Alliance to Prevent Prematurity and Stillbirth (GAPPS), Lynnwood, WA, USA (J.A.L and M.S.)

Delivering FCC for Small & Sick Newborn care
in
COVID times

Skin to Skin Care at Birth in COVID +ve Moms



Rooming-In & Lactation Support in Mat. COVID Isolation Ward



Lactation support to COVID mom



Practice respiratory hygiene and wear a mask



Wash hands before and after touching the baby



Routinely clean and disinfect surfaces



Bedside sanitisers in COVID wd



Maternity COVID isolation ward promoting Rooming In

Lactation support in Post natal ward





Family Centred Care





Developmentally supportive Care, KMC and Family Participatory Care Using adequate IPC measures

MOM with CRF on Dialysis Maintaining Continuous Supply of EBM with support of Grand Mother.



FCC at
its
Best



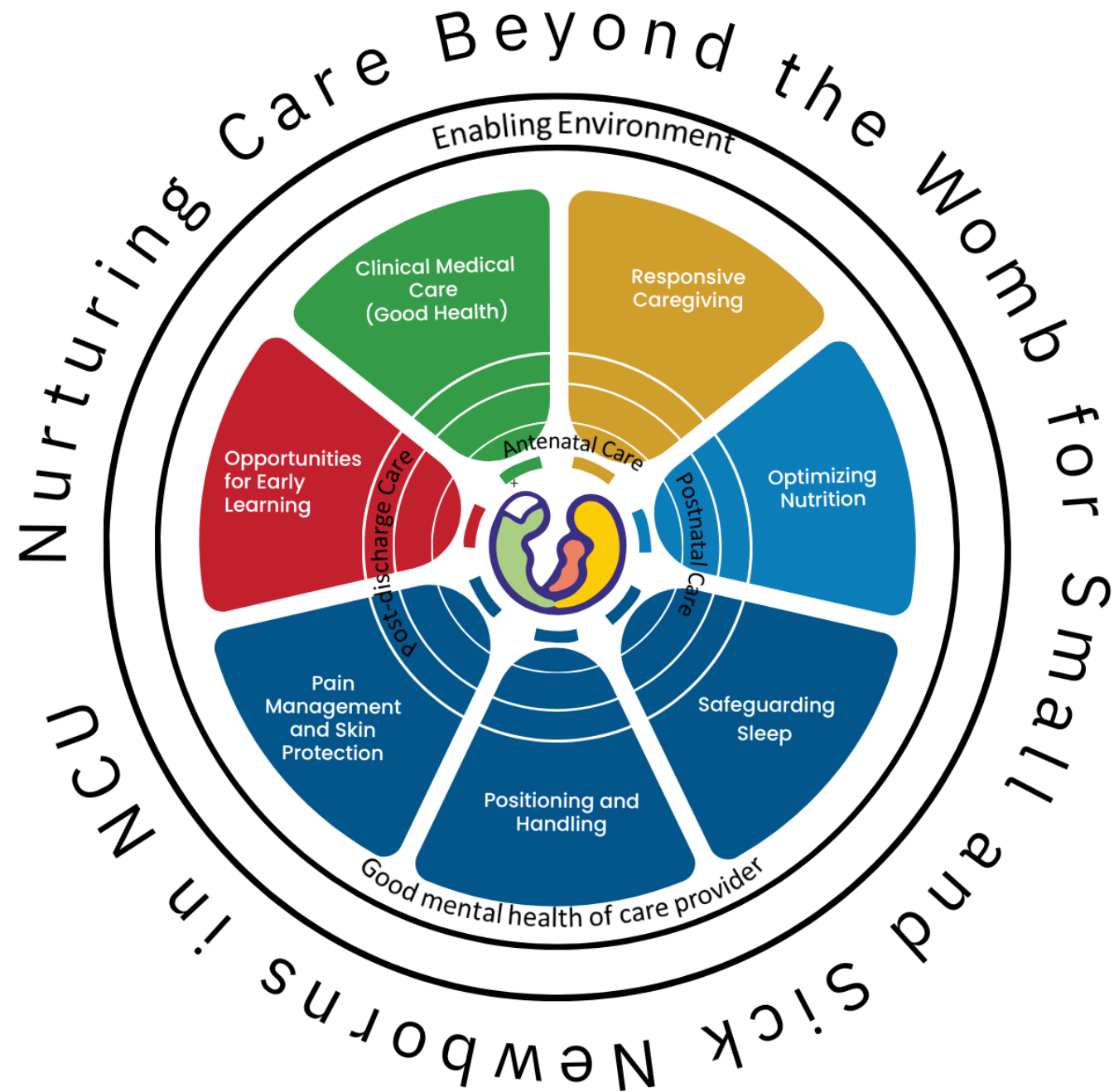
Father providing KMC

Family Centred Care is.....

- A humane way to care: A Gateway to Nurturing Small & Sick NBs
- Is a paradigm of Quality.
- Zero Separation Creates opportunity for lifelong bonding.
- A family's right to a respectful care : Need to protect, support & promote!
- Community Empowerment holds the key for developing social accountability of health .
- Operational feasibility & acceptability in Indian health care setting has been promising.

Experience of care- for Small & Sick Newborn





Nurturing beyond the womb :

Early intervention for small and sick newborn









Optimising Early Childhood Development

At Community : Empowerment: Linkage
for Continuum of Care

At Facility : Nurturing Care

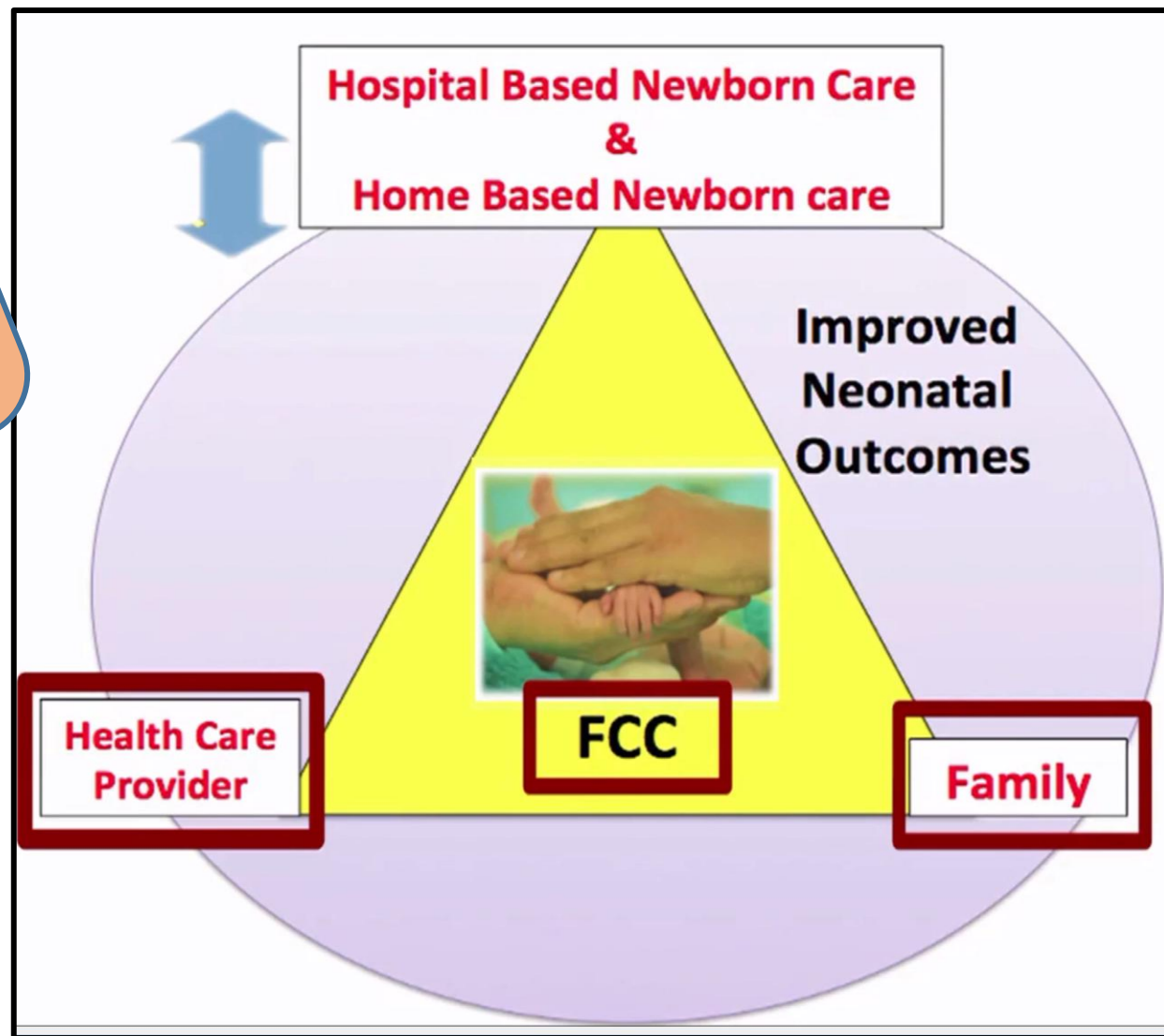
*Through learnt competencies:
Involvement in Processes of Care*

Family Centred Care

Small or Sick Newborn
at Facility

LINKAGE BETWEEN
FCC & ECD

**Transformative
Participation**



Family Centred Newborn Care holds the key for developing social accountability of health & may help achieve Sustainable Development Goals.

- Future of neonatology depends on this survival-to-thrival shift.
 - *Maria A. The future of neonatology: bridging gaps, shaping realities. Lancet Child Adolesc Health. 2025; 9:521-522. doi:10.1016/S2352-4642(25)00167-1.*
 - *Maria A. Priority neonatal interventions are powerful - when rooted in nurturing care. Neonatology. 2025 Sep 18:1-5. doi: 10.1159/000548459. Epub ahead of print. PMID: 40966162.*

Maria A on behalf of Nurturing Care Study Group: *WHO Country Office funded*

1. Nurturing Care Beyond the womb for Small and Sick Newborns: **Development of a human Centred Audio-Visual Package**
 2. Nurturing Care Beyond the womb for Small and Sick Newborns: A **Scoping Review** of Implementation Approaches
 3. Nurturing Care Beyond the womb for Small and Sick Newborns: **An Implementation Model** across 4 diverse Indian neonatal unit settings
 4. Nurturing Care Beyond the womb for Small and Sick Newborns: **Acceptability-Feasibility Mixed methods study** across 4 diverse Indian neonatal unit settings
5. Effect of **Multimodal Intervention on Cognitive Outcome** Assessed At 4 months corrected age among < 34 Weeks Neonates Admitted in Neonatal Intensive Care Unit: An Open Label **Randomised Controlled Trial**
6. Gupta R, Maria A: **Effect of Early Intervention Package** On Short Term Neurological Outcome Among < 34 Week Neonates Admitted In Neonatal Intensive Care Unit: A Quasi Experimental Study

- Arti Maria Publications and work on Family centred care and Nurturing Care
- Family Centred Care and Nurturing Care Related
- **A (i) Peer Reviewed Journal Papers**
- Maria A. The future of neonatology: bridging gaps, shaping realities. Lancet Child Adolesc Health. 2025 Aug;9(8):521-522. doi: 10.1016/S2352-4642(25)00167-1. Epub 2025 Jun 25. PMID: 40580971.
- [Verma A¹](#), [Maria A](#), [Pandey RM](#), [Hans C](#), [Verma A](#), [Sherwani F](#). Family- Centered Care to Complement Care of Sick Newborns: A Randomized Controlled Trial [Indian Pediatr](#). 2017Jun 15;54(6):455-459
- Maria A, Sooden A, Wadhwa R, Kaur R, Gaur I, Lhamo K, Nagaratna V. Improving handwashing among parent-attendants visiting a newborn unit practising family participatory care. BMJ Open Qual. 2022 Oct;11(Suppl 1):e001811. doi: 10.1136/bmjoq-2022-001811. PMID: 36270651; PMCID: PMC9594575.
- Maria A, Agrawal D. Family-Centered Care for Newborns: From Pilot Implementation to National Scale-up in India. Indian Pediatr. 2021 Nov 15;58 Suppl 1:S60-S63. PMID: 34687191.
- Maria A, Litch JA, Stepanchak M, Sarin E, Wadhwa R, Kumar H. Assessment of feasibility and acceptability of family-centered care implemented at a neonatal intensive care unit in India. BMC Pediatr. 2021 Apr 13;21(1):171. doi: 10.1186/s12887-021-02644-w. PMID: 33849477; PMCID
- Kumar H, Bhat A, Alwadhi V, Maria A, Khanna R, Neogi SB, Khera A. An Assessment of Implementation of Family Participatory Care in Special Newborn Care Units in Three States of India. Indian Pediatr. 2021 Apr 15;58(4):349-353. Epub 2021 Jan 2. PMID: 33408278.
- Sarin E, Maria A. Acceptability of a family-centered newborn care model among providers and receivers of care in a Public Health Setting: a qualitative study from India. BMC Health Serv Res. 2019;19 (1):184. Published 2019 Mar 21. doi:10.1186/s12913-019-4017-1 [Maria A; India case study on Family Participatory care: A gateway to nurturing care for small & sick newborn included for launch of Nurturing Care framework Launch for Early Childhood Development at 71st World Health Assembly May 2018 at Geneva. Link-<http://nurturing-care.org/wp-content/uploads/2018/05/nurturing-care-case-study-india.pdf>](#)
- Maria A, Verma A. Family-Centered Care: Beginning of a New Era in India Authors' Reply. Indian pediatr 2017; 54:788-9
- Maria A, Dasgupta R. Family-centered Care for Sick Newborns: A Thumbnail View. Indian J Community Med. 2016 Jan-Mar;41(1):11-5. doi: 10.4103/0970-0218.170957. PMID: 26917867; PMCID: PMC4746947.
- Arti Maria, Rashmi Wadhwa, Nagaratna Vallamkonda, Ravleen Kaur, Kalsang, Indu Sharma. “Parents as partner in care for the sick newborn: A model for implementation of Family Centered Care”. Pediatric Academic Society conference (PAS). Available at https://registration.pas-meeting.org/2017/reports/rptPAS17_Abstracts.asp

- **A(ii): Author/Reviewer contributor for Family Centered Care and Nurturing Care Related:**
- **National Resources (Ministry of Health (MoH), Government of India (GoI) resource materials)**
- Operational guidelines on Family Participatory Care for Improving New-born Health [http://nhm.gov.in/images/pdf/programmes/child-health/guidelines/Family Participatory Care for Improving Newborn Health-Operational guideline.pdf](http://nhm.gov.in/images/pdf/programmes/child-health/guidelines/Family%20Participatory%20Care%20for%20Improving%20Newborn%20Health-Operational%20guideline.pdf)
- An author contributor for national Training guide for Family Centered Care for implementation and scale up as one of the country's National health program of MOHFW GOI.2016
- **Numerous international Webinars/Podcast/ thesis PG, PG, DM, PhD**
- **Numerous projects with WHO, UNDP , USAID**

- **International resource materials Family Centered Care:**
- <http://www.healthynewbornnetwork.org/blog/family-centered-care-sick-newborns-paradigm-social-collaboration-improve-maternal-newborn-health-outcomes/>
- India case study on Family Participatory care: A gateway to nurturing care for small & sick newborn included for launch of Nurturing Care frame work Launch for Early Childhood Development at 71st World Health Assembly May 2018 at Geneva. URL: <http://nurturing-care.org/wp-content/uploads/2018/05/nurturing-care-case-study-india.pdf>
- WHO (Geneva) assignment to Co-author Chapter 22: in “Person Centered Neonatal Health Care” Ornella Lincetto, Saverio Bellizzi, Silke Mader, Arti Maria, John Cox, and Nathalie Charpak. published in book: *Person Centered Medicinebook by Springer* DOI: [10.1007/978-3-031-17650-0_22](https://doi.org/10.1007/978-3-031-17650-0_22) April 2023
- *World Health Organization and the United Nations Children's Fund* <https://www.unicef.org/serbia/media/19021/file/BFHI%20Trainer's%20Guide.pdf> 7. *Patient Centered Care (PCC) book in collaboration with WHO.*
- INVITED reviewer for the *WHO Companion for implementation of respectful maternal and newborn care*, which aims to facilitate the translation of evidence into practical implementation for program managers, as the primary audience.
- *Contributor Standards for improving the quality of care for small and sick newborns in health facilities 2nd September 2020*
file:///C:/Users/Arti%20Maria/Desktop/WHO%20standards%20of%20newborn%20care%20
- <https://www.healthynewbornnetwork.org/hnn-content/uploads/Final-Country-Progress-Report-v9-low-res.pdf> page 38 India FCC case study in 2018 Progress Report Reaching Every Newborn 2020 Milestone A WHO UNICEF Report published March 2018.
- Nurturing Care for Small and Sick Newborns: Synthesis of The Evidence: Part Two: Country Case Studies last updated June 3, 2019
- Technical Brief: Nurturing Care for Small and Sick Newborns: Evidence Review and Country Case Studies: https://www.google.com/search?q=Nurturing+Care+for+Small+and+Sick+Newborns%3A+Evidence+Review+and+Country+Case+Studies&rlz=1C1CHBF_enIN750IN750&oq=Nurturing+Care+for+Small+and+Sick+Newborns%3A+Evidence+Review+and+Country+Case+Studies&aqs=chrome..69i57j69i60l2.13766j0j15&sourceid=chrome&ie=UTF-8 12.
- Reviewer: WHO UNICEF document Survive and Thrive Transforming care for every small and sick newborn—https://www.unicef.org/every-child-alive/Survive-and-Thrive_KEY_FINDINGS_FINAL.pdf A global document on small and sick newborn care launched on World Prematurity Day 2018 as well as during PMNCH partners forum meeting in India in December 2018. <https://apps.who.int/iris/bitstream/handle/10665/276655/WHO-FWC-MCA-18.11-eng.pdf?ua=1>
- Family Participation in the Care of the inpatient Newborn. Do No Harm Technical Brief. https://www.everypreemie.org/wp-content/uploads/2018/11/DNH_TechBrief_FamilyParticipation_11.17.18Final.pdf
- WHO UNICEF report. Reaching Every Newborn 2020 Milestone (India FCC case study in 2018 Progress Report) Available from: <https://www.healthynewbornnetwork.org/hnn-content/uploads/Final-Country-Progress-Report-v9-low-res.pdf> page 40.
- As an expert reviewer for the quality improvement workbook, ‘Improving Care of Mothers and Babies’, a new resource developed by Dr. Carl Bose and Dr. Jackie Patterson (a group of international clinicians) and quality experts October 2016.
- An author contributor in the book:” Delivered Too Soon” 1st action report on preterm birth in India IFPB (Indian Foundation for Premature Babies) released on world prematurity day on Nov 16, 2013. <http://www.thehealthsite.com/news/delivered-too-soon-india's-first-action-report-on-preterm-births-world-prematurity-day-2013/>
- Khadka, Neena, Caitlyn Bradburn, and Arti Maria. 2024. Infant- and Family-Centered Developmental Care: Hospital-to-Home: *Participant's Manual*. Washington, DC: USAID MOMENTUM.
- Khadka, Neena, Caitlyn Bradburn, and Arti Maria. 2024. Infant- and Family-Centered Developmental Care: From Hospital-to-Home: *Facilitator's Manual*. Washington, DC: USAID MOMENTUM

- **A (iii): Audio-Visual Resources developed with International Collaboration**
- **Developed 7 modules of Nurturing Care package for sick and small newborns** (with support from WHO country office)
- <http://www.healthynewbornnetwork.org/blog/family-centered-care-sick-newborns-paradigm-social-collaboration-improve-maternal-newborn-health-outcomes/>
- **Family Centered Care Training videos** structured into 4 sessions 1to 4 (available on Govt of India National Health Mission (NHM) website) (with support from UNDP & Norway India Partnership Initiative (NIPI))
- A video on operationalizing Skin to Skin Care SSC among Cesarean born babies to implement early initiation among cesareans so that breast feeding may be sustained even in this subset of babies. English: <https://youtu.be/3M9bIQpS5Sw>, Hindi - <https://youtu.be/3M9bIQpS5Sw>
- Other Advocacy videos related to FCC
- FCC genesis and Journey: <https://youtu.be/yOEwCRlcl0>
- Scaling up of FCC across the communities <https://youtu.be/28OrApCzE0U> (A Norway India Partnership Initiative production)
- Family Centered Care (FCC): At A Glance- <https://youtu.be/ui7YcfTMd74>
- FCC: Parents' experiences- <https://youtu.be/BVaikd1nFaQ>
- Videos on early intervention
- Video 1 - Sensitization to the NICU environment with recognition of stress behaviours - <https://youtu.be/mgkCyFU-Yss>
- Video 2 – Appropriate positioning of the baby - <https://youtu.be/G5K7Hq3v0II>
- Video 3 – On appropriate sensory stimulation of the baby in the NICU- <https://youtu.be/BTHGHqx7ykA>
- Video 4 – PIOMI and NNS - <https://youtu.be/lCbb6LdHMqg>
- Video 5 – cluster care and pain management - <https://youtu.be/BTHGHqx7ykA>
- Video 6 – on post discharged continuing activities of early intervention till 3 months <https://youtu.be/OInNPzQAeS0>
- **Videos on breastfeeding**
- Plus videos on Breast Feeding IN COVID times
 - Videos on Establishment of Skin-to-Skin Care in Caesarean,
 - Breast Feeding during covid times
 - Re-lactation.
 - Making breast milk available to baby separated from COVID positive mother
- Also, many Breastfeeding Posters (English + Hindi)

- **Collaborative Research projects with**
- **WHO India Country Office**
 - APW2024 under process- Proposal for developing a Nurturing Care training package for small and sick newborns, piloting and testing acceptability and feasibility of this package for implementation in SNCUs
 - APW Reg# 2022/1277072; PO# 202960031 PGIMER-RML, New Delhi - Developing AV resources on Nurturing Care for Newborns with focus on EI in new-born care units, 26 Sep 2022 to 25 Sep 2023
 - APW Reg# 2022/1303877; PO# 203030568 PGIMER-RML, New Delhi - Assessment of factors influencing EIBF practice among mothers delivering through caesarean section, 12 Dec 2022 to 11 Oct 2023
 - APW Reg# 2021/1145796 PO# 202713897 PGIMER Dr RMLH, New Delhi - Awareness Campaign for WBW 2021: Ensuring early initiation of breastfeeding in both normal and C-section deliveries, 1 Aug to 30 Sep 2021
 - APW Reg.#2020/1040431-3; PO#202571647-3: PGIMER Dr Ram Manohar Lohia Hospital, New Delhi - Supporting Breastfeeding Among COVID-19 Mothers, 29 July to 31 December 2020
- **Extramural Research projects with USAID**
 - Partnership with SAMVEG (IPE Global) and taking forward the vision for establishing a National Resource Center (NRC) for Convergent action against Lead toxicity (special focus Maternal-Newborn) at RML Hospital. 2024
 - Within this project undertaking research on evaluating impact of lead toxicity on perinatal health outcomes

- **Numerous international Webinars/Podcast/ thesis PG, PG, DM, PhD**
- “Family participatory care in India - Partnering with families to care for small and sick newborns” with WHO QED Network on 24th September at Mon Sep 24, 2018 3:30pm – 4:30pm (IST). Register link at <https://who-meeting.webex.com/who-meeting/onstage/g.php?MTID=e03e7f9982460c2c3c43d547a6bc3d7c6>
- A Podcast on Family Participatory Care was done with WHO QED network in August 2018.
- <http://www.healthynewbornnetwork.org/blog/family-centered-care-sick-newborns-paradigm-social-collaboration-improve-maternal-newborn-health-outcomes/>
- [https://isqua.org/docs/default-source/education-/isqua-webinar artimaria february-2018.pdf](https://isqua.org/docs/default-source/education-/isqua-webinar_artimaria_february-2018.pdf)

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Thank You