

Examples from the field 2017

# Improving Maternal, Newborn and Adolescent Health





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## ACRONYMS

ALOS	Average Length of Stay	MoH	Ministry of Health
ANC	Antenatal Care	MoHSP	Ministry of Health and Social Protection
BMGF	Bill and Melinda Gates Foundation	MoPH	Ministry of Public Health
CHX	Chlorhexidine	MPDSR	Maternal and Perinatal Death Surveillance and Response
CME	Mother and Child Center		
CRAP	Country Programme Action Plan	MPS	Myanmar Paediatric Society
ECA	Europe and Central Asia	MRRD	Ministry of Rural Rehabilitation and Development
EENC	Early Essential Newborn Care		
ENC	Essential Newborn Care	NBC	Newborn Care
EPCP	Emergency Paediatric Care Programme	NGO	Non-Government Organization
EPI	Expanded Programme on Immunization	NICU	Newborn Intensive Care Unit
ETAT+	WHO Emergency Triage Assessment & Treatment Plus protocol	NMR	Neonatal Mortality Rate
		ODCB	One-Day Care Beds
H6	Health partnership between UNAIDS, UNFPA, UNICEF, WHO, UN Women, and World Bank	ODCU	One-Day Care Unit
		ORS	Oral Rehydration Salts
HAI	Healthcare Associated Infection	PHC	Primary Health Care
HCF	Health Care Facility	PNC	Postnatal Care
HMIS	Health Management Information System	QI	Quality Improvement
IEC	Information, Education and Communication	RCHU	Reproductive and Child Health Unit
IPC	Infection Prevention and Control	RCPCCHUK	Royal College of Paediatrics and Child Health
JICA	Japan International Cooperation Agency	RMNCAH&N	Reproductive, Maternal, Neonatal, Child and Adolescent Health and Nutrition
KMC	Kangaroo Mother Care		
LBW	Low Birth Weight	RMNCH	Reproductive, Maternal, Newborn and Child Health
LQAS	Lot Quality Assurance Sampling	ROSA	Regional Office South Asia
MCH	Maternal and Child Health	SCANU	Special Care Newborn Unit
MICS	Multiple Indicator Cluster Surveys	SRH	Sexual and Reproductive Health
MNH	Maternal and Newborn Health	TN	Neonatal Tetanus
IMNCI	Integrated Management of Neonatal and Childhood Issues	TT	Tetanus Toxoid
		U5MR	Under-5 Mortality Rate
MNTE	Maternal and Neonatal Tetanus Elimination	WASH	Water, Sanitation and Hygiene

# AFGHANISTAN

## Health Centre Hygiene Program

Good hygiene conditions in health care centers are fundamental to provision of quality maternal and newborn healthcare services. According to the Health Management Information System (HMIS) of Afghanistan, approximately one quarter of health centres in the country lack safe drinking water and half of them do not have improved sanitation facilities.

Additionally, the perceptions and knowledge of basic hand hygiene among service providers is problematic. With over one hundred consultations per day, motivation for health care workers to wash hands before seeing each patient is often lacking.

Working with NGOs implementing a basic package of health services through contracting out mechanism and establishing partnership with Reproductive Health Directorate, the Health Centre Hygiene Program aims to address improved WASH in health care facilities (HCF) through intersectoral and multi-level action. Policy and governance to oversee WASH in HCF has been strengthened through the establishment of a steering committee comprising of members from government such as the Ministry of Public Health (MoPH) and Ministry of Rural Rehabilitation and Development (MRRD); WHO and UNICEF.

At the facility improvement level, WASH infrastructure has been established or renovated in a number of health centres along with capacity building and motivation of health care providers to and adopt good hygiene and sanitation behaviours.

Mechanisms for monitoring have been implemented through the formation of partnerships with NGO implementing partners to integrate WASH into daily monitoring and supervision activities. "Hygiene police" or "Inspector" have been designated and are responsible for dialogue/sensitization sessions with health facility staff. They relate unimproved hygiene to potential harm to self and others for influencing hand hygiene and infection prevention practices.

The power of peer influence on social norms was taken as an opportunity to capitalize on natural hierarchies within health facilities. 'Hygiene police' were appointed to monitor hygiene behaviors and sanitation practices, with penalties for staff.

The money raised was used to finance social events or purchase supplies. Data gathered during this process can be fed



Advocacy event at the Global Handwashing Day

into existing structures such as the HMIS to link infection prevention and control (IPC) and WASH indicators with top causes of mortality and morbidity. Where possible, education sessions on social norms should be held with participation of all facility staff including managers, doctors, nurses and cleaners as one team.

**Acknowledgement:** Dr. Nasratullah Rasa (UNICEF, Afghanistan) & Dr. Raz Mohammad-Khankhell (Ministry of Health, Afghanistan)



# ARGENTINA

## Prevention and protection of adolescents against sexual abuse by community work

The Calchaquí Valleys region, in northeast Catamarca, north-east Tucumán and southwest Salta provinces, shows high rates of adolescent pregnancy and suicide. Of particular concern is pregnancy and motherhood in early adolescence, i.e. among those aged 10-14 years, which is very often a marker of sexual abuse, coercion and/or violence. Although there are no official figures at national level, specialist organizations estimate that in Argentina, one in five children is abused by a direct relative before the age of 18,<sup>1</sup> with the average age for the start of abuse estimated to be around 8 years old.

To address these issues, a multi-sectoral project involving education, health, justice, police, social development, local governments and indigenous communities was designed, with child sexual abuse as the primary focus. Strengthening the response to sexual abuse and achieving integrated and collective approaches took place through: (a) extended training on this theme for representatives from each sector; (b) linking up with the responses generated by other components (listening centres, teaching staff, committed adults); and (c) a joint work-plan and intersectoral coordination through local and inter-regional forums (signed agreements, action protocols, distribution of responsibilities) including all key actors and committed adolescents. The project started in May 2015 and is finished in December 2017.

As a result, the Valleys region now have a general response protocol for responding to child sexual abuse. In addition, local institutions and youth networks are carrying out initiatives for abuse prevention, health promotion and protection in their schools and communities. Listening centres were established in five localities; adolescents and young people have been sensitized and trained to promote their health and rights; and 44 schools are committed to the prevention and detection of, and response to, sexual abuse against girls, boys and adolescents.

The effectiveness of adolescent health promotion interventions depends on work with adults as well as with adolescents themselves. With adults, the focus is on influencing their stereotypes and prejudices about adolescent behaviour and sexuality. With adolescents, the aim is to generate their awareness of a given problem and their commitment to take action to achieve proposed objectives. Collaboration between adults and young people in implementing activities has a

positive impact on how the young people position themselves in the world, and gives them confidence for transforming themselves, their peers and the community. Issues of adolescent health and sexual abuse are surrounded by taboos which impede effective responses. The first

step is to start talking about what has been hidden and to build the capacity of young people to grant them a voice. The possibility of naming and reflecting on hidden or taboo issues in order to be able to take action depends on creating spaces for exchange between community representatives, state authorities and young people's groups. Such spaces help to overcome the fragmentation of responses in the face of identified cases of sexual abuse, and to develop integrated approaches which include prevention, health promotion and strengthening of the protection system. Adolescent health programming thus acts as a vital entry point for targeted community social transformation and multi-sectoral action.

**Acknowledgement:** Fernando Zingman, Health Specialist, UNICEF Argentina



<sup>1</sup> FEIM. Abuso sexual en la infancia, 2015.

# BANGLADESH

## Improved WASH in health care facility doubles the users for maternity care

Bangladesh is one of the fore-runner countries for implementing quality of care for maternal and newborn health. Improving water, sanitation and hygiene services is one of the pillar for meeting the standard on creating an enabling environment. Clean running water, functional toilet for the female clients and having health care providers attentive to handwashing at five critical moments is important not only for smooth functioning of the health facility but also important aspect of providing care with respect and dignity.

Fulbari Upazila Health Complex (UHC) in Kurigram district of Rangpur Division is one of the intervention facility implementing “Mother and Baby Friendly Facility Initiative” implemented jointly by the Ministry of Health and Family Welfare and UNICEF with generous support of Bill and Melina Gates Foundation.

The baseline findings of no safe drinking water facility in the out-patient department and poor handwashing and waste management practices inspired the facility quality improvement team to prioritize forming a work team to assess the root causes and develop a plan. Along with facility managers and the nursing staff the janitorial staff was part of the team from the very beginning.

The repair, maintenance and routine cleaning of pre-existing male/female toilets was initiated and a drinking water facility for the attending patients arranged. Health education sessions on hygiene and sanitation for attending patients were organized and a checklist for routine monitoring and regular maintenance was established. The facility brought in color coded waste bins and ensured available IEC materials, and guidelines were available.

WASH became one of the integral agenda items in the quality improvement committee meetings and the quarterly Quality Improvement assessment of the facility for continuous monitoring and mentoring by district and national assessors team. A patient satisfaction survey by the Quality Improvement Committee to assess the progress of the tasks and taking necessary corrective actions was also initiated.

After two months, the Fulbari UHC more than doubled the number of cases for antenatal care, delivery and postnatal care. A



Facility staff practicing air drying after washing hands

similar model will be replicated in the other facilities with the Upazila and district quality improvement team overseeing the progress and providing support as required.

**Acknowledgement:** Upazila Health and Family Planning Officer, doctors, Nurses and all staff of Fulbari UHC; Md Ziaul Matin, Health Manager, UNICEF Bangladesh, Mahmuda Shayema Khorshed, Health Officer UNICEF Bangladesh

# BANGLADESH

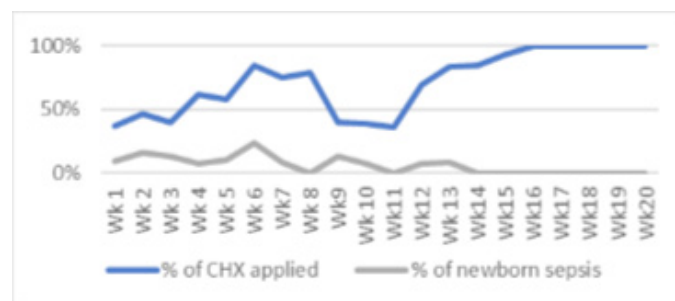
## A Quality Improvement approach to improve use of Chlorhexidine for newborn cord care

The Government of Bangladesh is committed to reduce child death to 20/1000 live births by 2035 through the national launching of A Promise Renewed. Newborn deaths are aimed to decrease to less than 10/1000 live births by 2035 by scaling-up priority interventions such as applying chlorhexidine (CHX) for cord care.

In the primary health care facility Rowmari in Kurigram District, the increased application of CHX was emphasized through a Plan-Do-Check-Act (PDCA) quality improvement approach, planned within the context of the Mother-Baby-Friendly-Facility Initiative to improve quality of care for MNH. National guidelines on CHX indicate that CHX should be applied to the umbilical cord of all newborns. However, a baseline assessment in the 31-bedded government hospital found through review of records and registers of three months that only 36% of newborns received CHX.

The QI team decided to increase the percentage of newborns receiving chlorhexidine from 36% to 100% within 4 weeks. They analyzed causes for underutilization of CHX and found the main barriers to be lack of knowledge and accountability, inconsistent supply of CHX in the labour room, and no recording column on CHX application in the service register. The team developed a flow chart for labour and early essential newborn care, conducted in-house trainings for nurses on the flowchart, and ensured regular supply of CHX in the labour room. A column for CHX application among newborns was inserted in the register, and staff engaged in CHX application. Two measurement indicators were identified and monitored: proportion of newborns who received chlorhexidine directly after cord cutting (process) and proportion of newborns with newborn sepsis (outcome).

The measurements revealed that through the QI approach, the CHX use improved from 36% to 100% of newborns within 18 weeks. Following training staff, CHX was given to 80% of delivered babies after one week. Four weeks after implementation, there was a significant increase in the number of newborns receiving CHX following regular progress meetings of the QI team. On week 9, the assigned staff responsible for applying CHX was transferred out of the facility resulting in a drop of CHX application. To combat that, the team trained all nurses and relevant staff during week 10. After this training,



a rapid increase in CHX use and reduction of newborn sepsis was seen. Newborn sepsis was reduced to 0 in 14 weeks.

The impressive results from this small-scale project highlighted the utility of using an evidence-based quality improvement approach to improve decision making, planning and ultimately, newborn survival. The study revealed that sustainability is directly related to the knowledge, capacity and responsibility of the staff working in maternity wards. Continuous capacity development of service providers and routine monitoring of the activity can bring improvement in service delivery. Based on the evidence, applying CHX to all newborns has been incorporated into routine practices. The team continues to meet regularly to discuss problems and to address them in a timely and effective manner. Continued trainings, application of CHX into all nurse job descriptions and development of a logistic plan to ensure continuous supply of CHX sustained the result till date.

**Acknowledgement:** Mahmuda Shayema Khorshed, Health officer, Shamina Sharmin, Health Specialist (newborn and child), Md Ziaul Matin, Health Manager (UNICEF Bangladesh), Sufang Guo, Health Specialist (UNICEF ROSA)



# BANGLADESH

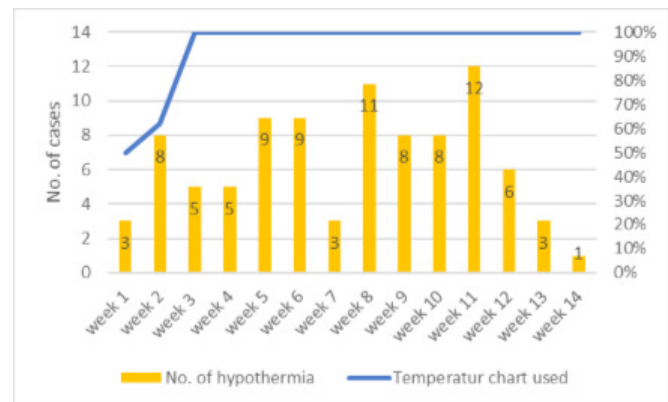
## Using a Quality Improvement (QI) approach to improve temperature monitoring for low birth weight (LBW) infants in a Special Care Newborn Unit (SCANU)

The Ministry of Health and Family Welfare, Government of Bangladesh and UNICEF with funding from BMGF, are implementing a Mother Baby Friendly Facility Initiative which focuses on improving the quality of care for maternal and newborn health care in 5 facilities of Kurigram District, Bangladesh. Low birth weight (LBW) is the leading cause of newborn death in the Kurigram District Hospital SCANU. Evidence shows that appropriate care of LBW infants, including temperature monitoring, can substantially reduce mortality. However, body temperature is not routinely monitored for LBW babies in SCANUs and temperature charts were lacking.

With technical support from MOHFW & UNICEF, the quality improvement teams at SCANU decided to increase the percentage of LBW babies receiving temperature monitoring from zero to 100 percent within 4 weeks. In an initial meeting they identified possible barriers to temperature monitoring using a fishbone diagram with four categories (process, people, place and policy) and prepared a tentative action plan comprised of four steps: develop a flow chat for temperature measurement among LBW babies, educate providers and caregivers on temperature measurement, engage medical assistants to help alleviate manpower shortages, and consult with the authority/superintendent to ensure continuous supply of temperature charts. The team used two indicators to measure the progress: proportion of LBW babies whose temperature is measured using a temperature chart (process indicator), and number of LBW babies identified as having hypothermia (outcome indicator).

After the first week, the temperature of six of the 12 LBW babies were measured and three of them identified as having hypothermia. To achieve better results, the QI team assigned a designated nurse to ensure enough temperature charts being available in the SCANU every shift. After three weeks, the temperature of all LBW babies was monitored. To sustain these results, a staff discussion about the importance of temperature measurement was held and temperature monitoring was kept as a regular agenda in their weekly/monthly meetings. The practices are now included into the standard operational procedure of LBW management.

The quality teams achieved the aim of improving temperature monitoring for LBW babies from zero to 100% in four weeks. The SCANU has sustained these results: from November 2016,



over 19 weeks, they identified 140 babies with hypothermia among 180 admissions of LBW babies and managed them properly. The impressive results have shown that QI intervention improved newborn survival through an evidence-based decision-making approach.

**Acknowledgement:** Mahmuda Shayema Khorshed, Health Officer, Md Ziaul Matin, Health Manager (UNICEF Bangladesh), Sufang Guo, Health Specialist (UNICEF ROSA), Nabila Zaka, Senior Health Advisor (UNICEF HQ)

# BANGLADESH, GHANA, TANZANIA

## Baseline assessments for maternal and newborn health and WASH services: Process in three countries

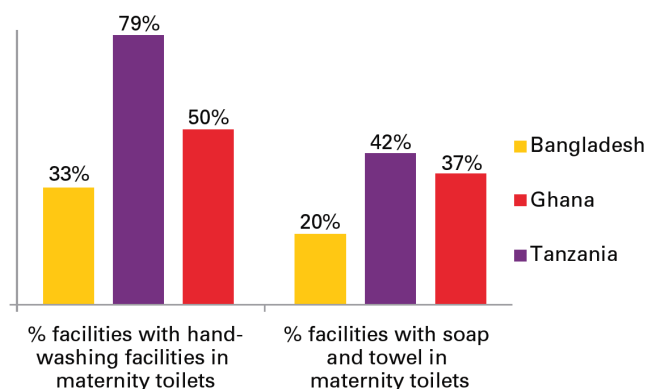


WASH services are intrinsically linked to quality improvement efforts in health care facilities. The scarcity of WASH services is still a significant contributor to maternal infections and deaths globally. WHO Standard 8 states that “water, energy, sanitation, hand hygiene and waste disposal facilities to be functioning, reliable, safe and sufficient to meet the needs of staff, women and their families” is a basic condition for provision of safe and dignified maternal and newborn care. It aims to enable environment to guide quality of care improvements by mobilizing action and resources to address gaps in WASH service provision, while also strengthening partnerships between multiple stakeholders. Thus, an initiative was designed to conduct a baseline assessment of WASH in health care facilities in line with Standard 8. The assessments were conducted in selected districts in Bangladesh, Ghana and Tanzania, with a focus on intervention facilities. The project aimed to conduct in-depth WASH bottleneck analyses in the intervention facilities and document change over a one year period.

In a first step, existing quality improvement and initiatives for WASH in health care centers were mapped. For each standard measure with the highest possible impact on lessening the burden of deaths and risk of hospital infections were identified. Indicators for the measurement included the overall cleanliness of the HCF; hand washing facilities like water, liquid soap and alcohol rub in the labor room, maternity and OT; hand washing practice of maternity health workers; water supply; the availability of functional toilets for patients in the labor room; and safe waste management including the disposal of placentas and biological waste. In partnership with the

Novrongo Research Centre in Ghana, the National Institute of Medical Research in Tanzania, and the ICDDR,B in Bangladesh, the baseline assessments were conducted in intervention and comparison facilities in all three countries.

Key lessons learned from the intervention showed that Standard 8 creates an ownership among MoH and health sector partners for WASH in health care facilities. The availability of individual data allows facility QI (Quality Improvement) teams to study their results and use it for creating a change. However, in order to cover all selected standards, the assessment tool turned out to be lengthy and needed 3-5 days in each facility to be completed.



Results demonstrate that greater awareness on standards for WASH in HCF is needed which includes policy makers and other stakeholders. Data like sepsis rates can show the link between WASH and clinical outcomes and therefore support awareness. Training for hand washing and IPC can improve hygiene standards, while HFC budgets dedicated to construction and maintenance of WASH facilities can ensure sustainability. Feedback and participation of women in communities can also be used as an important tool to design and maintain improved WASH infrastructure.

**Acknowledgement:** Dr Nabila Zaka, Fabrice Fotso, Dr Sufang Guo

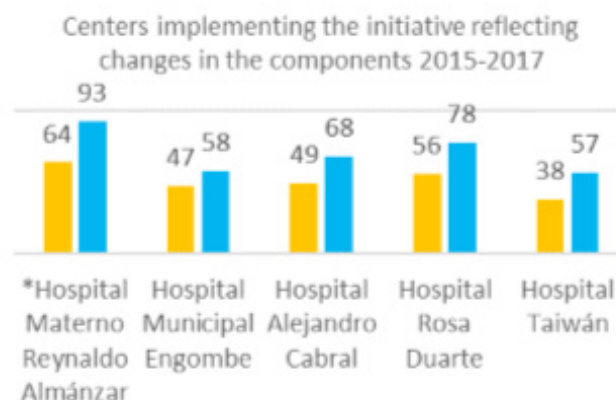
# DOMINICAN REPUBLIC

## Initiative for improving quality of hospital services: “Mothers and Babies in Good Care”

Despite very high coverage of antenatal care and institutional delivery, Dominican Republic has one of the highest maternal mortality and neonatal mortality rates in the region, pointing to poor quality of care in health services. The Ministry of Public Health and UNICEF used the Monitoring Results for Equity System (MoRES) methodology to identify and measure the bottlenecks in hospital care for pregnant women and babies. Based on the MoRES results, a joint action plan was developed to reduce maternal and neonatal mortality. Five hospitals were included in the study initially and at present the initiative is running in 12 hospitals. Bottlenecks and strategies to be identified were structured around four categories: context; service provision; service demand; and quality.

The “Mother and Babies in Good Care” initiative was designed to reduce maternal and neonatal mortality through the continuous improvement of quality and humanization of care of mothers and newborns. The components of this initiative are (i) quality antenatal care, (ii) mother-friendly care to reduce obstetric violence, (iii) clean and quality birth delivery, (iv) breastfeeding and early attachment, (v) reduction of infections during immediate newborn care, and (vi) in-house birth registry. Implementation guidelines have been developed, and tools for quality control, monitoring results and evaluation have been designed and aligned with national protocols and norms, including antenatal care, delivery, pre- and post-delivery care, and newborn care, breastfeeding and birth registration. The initiative was monitored in 2017, showing progress in the implementation of the standards of care ranging from 70% in post-birth care to 95% in antenatal care.

The specific identification of the bottlenecks that affect the quality of care facilitated the design of the initiative and the selection of quality standards that had to be worked on in each component. Having well-defined quality standards of each component is essential to establish the base line, monitoring and evaluation. Even if the challenges are known, only with a diagnosis and an improvement plan that includes participation of the hospital staff and a commitment from the managers of the hospital, improvements can be achieved. Technical support, but especially continuous monitoring, encourages and maintains the commitment of hospital staff and is key to the success of improving trends. MoH must be central in the process to ensure appropriation of the Initiative and integra-



tion in national policy for hospital services quality control. The fact that the Vice Ministry of Quality Assurance of the MOH is the one who certifies the hospitals is a key element for the sustainability and scalability of the initiative.

**Acknowledgement:** Sara Menéndez, Survival, Child Development and HIV/AIDS Officer, UNICEF Dominican Republic

## DPR KOREA

### Household doctors saving lives of children and pregnant women in DPR Korea



A provincial master trainer facilitating an IMNCI session for household doctors of Jongju City in DPR Korea

In DPR Korea the maternal mortality rate is as high as 66/100,000 live births. The infant mortality rate is estimated at 12/1,000 and U5 mortality at 17/1,000 live births (DPRK Central Bureau of Statistics 2016).

Through the participatory Situation Analysis of Children and Women (2017), UNICEF and partners analyzed determinants of the population health status and identified an untapped opportunity for reducing annual pediatric and maternal mortalities. Following existing standards, household doctors were focusing on treating a sick child with IMNCI or counsel a pregnant woman on safe pregnancy and childbirth. However, comprehensive counseling can give women the knowledge on mother and child health to keep herself safe and ensure a healthy start for her child. UNICEF decided to improve the community healthcare delivery through integration of IMNCI and emergency obstetric and neonatal care (EmONC) approaches with specific sexual and reproductive health (SRH) modules. UNICEF acted as convener of a technical team with WHO and UNFPA together with MOPH, and updated the IMNCI protocol for DPR Korea. Once the protocol was approved, household doctors from selected counties were trained through face-to-face cascade trainings.

Supported by UNICEF, the Community IMNCI+SRH programme was rolled out in 25 of targeted 50 counties for 2017-2018. A pool of 18 provincial master trainers already built capacities of 2,732 (54 %) community health providers (household doctors).

By the end of the IMNCI+SRH training, the household doctors were equipped to provide high quality basic healthcare services for all children under five years and disseminate messages on safe pregnancy and childbirth. The updated IMNCI+SRH protocol was used for trainings supported by WHO within the emergency response action plan in 25 counties affected by drought in 2017. Thus more than 500 community health providers have enhanced capacity in pneumonia and diarrhea management among children under five, as well as in counseling future mothers on danger signs of pregnancy and childbirth through IMNCI and SRH trainings.

The collaboration of three UN agencies provided 'one voice and one approach' towards meeting humanitarian needs and improving maternal and child well-being in DPRK. Using a holistic approach to the health needs of the entire family including pregnant women and children under five years has been a proven approach in many countries. Through dissemination of simple, practical and integrated clinical protocols the skills of the first line community health providers can be effectively enhanced. Preliminary assessments showed that the household doctors who have been trained had increased use of oral rehydration salts (ORS) by 50 per cent and reduced prescription of antibiotics by 30 per cent. This bespeaks the potential for rapid improvement of clinical practices and lowering the cost per treatment. In 2018, UNICEF is planning to initiate a formative evaluation of the support provided to the household doctors for further scaling and sustaining of the approach.

**Acknowledgement:** Dr. Bakhodir Rahimov (health specialist), Dr. Elena Velilla Cerdan (chief of health), Dr. Muhammad Tariq Iqbal (EPI specialist), Silas Rapold (M&E Specialist) UNICEF DPR Korea, Dr. Pushpa Ranjan Wijesinghe (medical officer) WHO DPR Korea, Dr. Stenly Sajow (reproductive health specialist) UNFPA DPR Korea



# Egypt

## Integrated service delivery by Health, Nutrition, Education and Protection sections help to start an Early Childhood Development agenda



Following the request of the Egypt Minister of Social Solidarity to the UNICEF Executive Director in 2016, UNICEF Egypt is supporting the Government of Egypt to design and establish an inter-ministerial approach to Early Childhood Development (ECD).

In August 2016, first Inter-Ministerial consultations have been held on discussing the importance of a holistic ECD approach with key government stakeholders, followed by a second round of Inter-Ministerial consultations introducing an ECD-Model for Co-Responsibility in April 2017.

Key partners in improving inter-ministerial and cross-sectoral Early Childhood Development are the National Council for Childhood and Motherhood (NCCM) with specific focus on overall quality assurance, the Ministry of Health and Population (MOHP) with focus on early childhood health and nutrition, the Ministry of Social Solidarity (MOSS) with focus on early childhood care (nurseries for children aged 2-3) and related social protection measures, and the Ministry of Education and Technical Education (MOETE) with focus on early childhood education (kindergarten for children aged 4-5) and the early grades of primary education.

In the UNICEF Egypt Country Programme 2018-2022, ECD is positioned as a key means by which multiple threats to children may be addressed, and as a strategic mechanism for ensuring strong cross-sectoral linkages within the country programme. It

is reflected in the 'Survival and Early Development' programme component, ensuring that 'by 2022, more vulnerable children aged 0-6 years have improved survival, and are nurtured and stimulated for improved early childhood development'.

Specific indicators are the percentage of children aged 3-5 years who are on track in at least three of four development domains covering learning, literacy-numeracy, physical, social-emotional (ECD Index), the Neonatal Mortality Rate, percentage of children aged 3-5 years currently attending organized early childhood education, and percentage of children aged 0-5 month who are exclusively breastfed.

Interventions in Early Childhood Development will focus on the following four output areas:

- (1) Strengthened ECD policy and system framework
- (2) Strengthened ECD health and nutrition services
- (3) Strengthened ECD care and education services
- (4) Enhanced positive parenting.

Based on the global alliance between the World Bank and UNICEF on ECD, the UNICEF Egypt office and the World Bank established a partnership at the country level for the implementation of the System Approach to Better Education Results (SABER). In 2018, UNICEF will deliver the SABER assessment on ECD in Egypt to provide an in-depth analysis of the system level status of ECD that will inform policy dialogue and action for scaling up of ECD services in the country. In partnership with the National Population Council, a health and nutrition training package was developed targeting university youth, 350 trainers were selected to ensure sustainable transfer of skills, and 1,500 pioneers are now skilled in peer to peer education. UNICEF has also supported the operationalization in two lower Egypt marginalized districts of the 'first 1000 days' model, integrating ECD within primary health-care.

**Acknowledgement:** UNICEF Child Survival and Development Team



# ERITREA

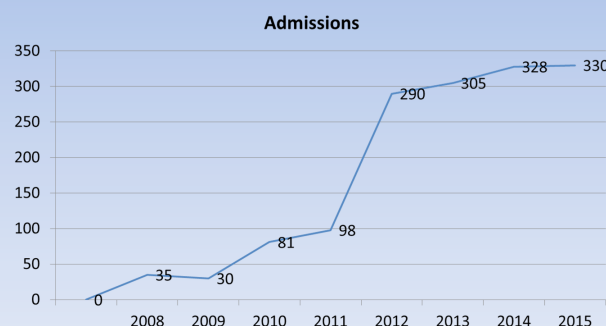
## Pediatric and neonatal care in Mendefera Regional Referral Hospital, Southern Region Eritrea. A five-year experience

The Southern region, one of the six administrative regions of the state of Eritrea is the most populated and second largest region of the country with over 800,000 inhabitants. More than 90% live in rural areas. The region has about 65 health facilities, among these, five hospitals, including Mendefera, five community hospitals, six Health centers and the rest are health stations and health posts. 3% of the population are infants under 1 year old, while 15 % are under five years of age. On average, there are about 47,000 pregnant mothers with an expected 33,000 deliveries annually.

In 2011 with support of UNICEF and other partners such as ARCHIMED, the Mendefera hospital established a neonatal intensive care unit to provide care for sick term and preterm neonates with a 15-20-bed capacity to curb the high neonatal mortality in the region. Before 2011, neonatal services were not available in the hospital and only 3% of the pediatric admissions of the hospital were neonates. After the opening of the NICU, a marked increment of neonatal admission was seen and continued yearly from 35 in 2008 to 330 in 2015. Early transfer of high risk and premature neonates from the hospital maternity increased markedly. The community became aware of the service and health facilities started transferring neonates on time to the NICU. Currently 42 % of total pediatric admissions of the hospital are neonates. 57% of neonates come from the hospital's maternity ward, 23% are referrals from the surrounding health facilities and 20% were directly from home. Over 60% are from rural areas, many living hours away. These numbers show the need of NICE services for local health facilities and communities. The leading causes of death among pre-terms are hyaline membrane disease, prematurity, and perinatal asphyxia. Kangaroo mother care has been found to be the mainstay of premature babies' way of survival when assessed after follow up. Compared to the first year after opening the neonatal intensive care unit neonatal mortality markedly decreased.

To scale up the results of reduced mortality to the region, UNICEF provides trainings on a regular basis where participants are spending 1-2 days at health facilities observing health care workers managing and supplement them on case management. An afternoon long training on actual patients with gastroenteritis, shock, sepsis, pneumonia, and acute severe malnutrition along with neonatal resuscitation sessions

**Mendefera hospital NICU: Neonatal Admissions by year(2008-2015)**



were taking place. Laminated protocols on the management of common childhood illness to be posted in the emergency rooms were distributed. The results showed decreased in-facility stay of patients, decreased morbidity and mortality, marked decrease referrals to Mendefera hospital, staff with improved skill of management in using CPAP, intraosseous lines in children with shock and severe dehydration and timely referral to higher levels of care.

To compound their care, Oxygen concentrators were made available in almost all of the facilities, and treatment of children with lower respiratory tract illness was improved with 24 hour electric power sources in all facilities through a direct electric power or solar panels. The overall referral trend from the local clinics to the hospital decreased to fewer than 113 in 2015 compared to 614 children who were being referred in 2009. Thus a whole district approach is required for reducing NMR.

**Acknowledgement:** Yodit Hiruy (UNICEF), Dr. Samsom Abay (Mendefera Regional Hospital)

# ETHIOPIA

## Rapid assessment on functionality of NBC and NICU in health centres and hospitals



Ethiopia has the Neonatal Mortality Rate of 28 deaths per 1,000 live births and 44% of all under-five deaths in occur within the first 28 days of birth.

UNICEF supported a nation-wide assessment to inform public sector strategy, and guide planning for improved newborn services in the country. The assessment focused on the availability of trained providers and services on Essential Newborn Care (ENC), as well as neonatal resuscitation and Newborn Intensive Care Units (NICU), and the availability and functionality of equipment, drugs, and supplies necessary for these services. With this data health facilities with gaps could be identified and tailored solutions proposed. The data now can also serve as baseline to measure improvements in availability and functionality of NICUs and ENC.

A cross-sectional health facility assessment was conducted from December 2016 to February 2017. Health centres (HC) and hospitals in all nine regions of Ethiopia and the two administrative cities of Addis Ababa and Dire Dawa were selected. NICU availability and functionality in 120 out of the 137 hospitals (88%) were assessed. Key findings for ENC showed that while NBC was established in 91% HC, only 74% had at least one midwife or nurse trained in ENC and newborn resuscitation. 84% HCs had radiant warmers and oxygen cylinders but only 29% were using oxygen due to lacking technical skills. Find-

ings for NICU showed that nearly all hospitals had at least one nurse trained in NICU services but just 65% of these nurses were working in the NICU unit where it matters most. All radiant warmers, oxygen cylinders and phototherapy machines were assembled and in use. Only 50% of hospitals had trained biomedical technicians on preventive and corrective maintenance available. No separate rooms for preterm and septic babies, or KMC and Step down rooms were found.

Specific recommendations included review of the findings by individual facilities to develop a tailored action plan, as well as to track their performance. To improve ENC, coverage of staff-training and positioning in the delivery room, mentoring, and supervision were recommended. Documentation and analyses of mechanisms to improve decision making and quality of service were further seen as priorities. NICU-specific recommendations included the finalization and support of the dissemination of the national NICU standard guidelines. Gaps in clinical competencies of nurses need to be identified and clinical trainings in neonatal intensive care planned. With support of MoH access to electrical equipment could be improved. Comprehensive biomedical maintenance programs that include staff, training, tools, analyzers and communication are further suggested.

A key lesson in the Newborn Healthcare Program is the necessity of government ownership and leadership for a harmonized, coordinated and sustainable program implementation. HWs can deliver quality NBC service if they are well trained, supported and supervised. It is important to provide NBC supplies at the end of the training. Post training follow-up, supervision and review meetings are important for improving quality of services. NICU space standardization is critical to improve quality of service for sick newborns.

**Acknowledgement:** Dr. Endale Endiga, Dr. Marime Sylla, Dr. Macoura Oulare (UNICEF Ethiopia), Dr. Abrham Tariku, Dr. Ephrem T. Lemango (Ministry of Health)

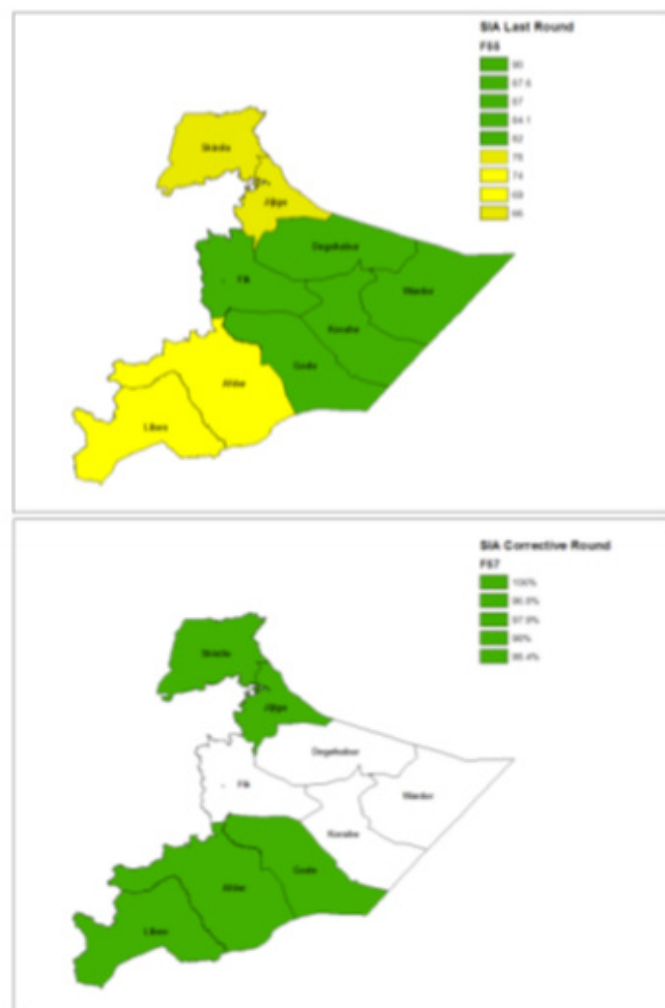
# ETHIOPIA

## Validation assessment of Maternal and Neonatal Tetanus Elimination (MNTE) in Somali Region

Ethiopia began accelerated MNTE efforts in 1999. Over 14 million women of reproductive age (WRA) in 59 high-risk zones were immunized during 3 rounds of tetanus toxoid (TT) Supplementary Immunization Activities (SIAs) between 1999 and 2009. In April 2011, the validation survey concluded that the whole country except the Ethiopia Somali region has been validated for MNTE. The mission recommended additional activities for Somali region. To date over 15 million WRA have been vaccinated against tetanus during TT SIAs in the high-risk zones for MNT.

The Ethiopia Somali region completed implementation of a recommended corrective round of TT supplementary immunization activities in 2016 followed by a post campaign assessment survey. With data showing 85% coverage in each zone, the Federal Ministry of Health requested WHO to conduct a validation assessment. The objectives were focused on the MNTE status in Somali Region, the implementation and performance of the 2015 recommendations on specific strategic activities of MNT elimination in Somali Region, and the readiness of the country in sustaining MNTE. The assessment team conducted an in-depth review of reported data for routine immunization and reproductive health indicators and achievements of recommended corrective TT SIAs including the results of post corrective TT SIAs survey conducted by the Jigjiga University. Additional guidance was also obtained by reviewing a set of documents and through key informants' interviews conducted jointly with the Ministry of Health, WHO and UNICEF country teams.

Even though skilled birth attendance has more than doubled in 2016, it is below the recommended 70% threshold in 6 of the 9 zones of Somali Region. Missed immunization opportunities are seen at ANC. TT SIAs coverage of 3 rounds conducted between 2010 and 2015 is above 80% in all zones, except the third dose in Siti, Afdher, Fafan, Shabale and Liban. As a recommendation of the 2015 assessment mission, the corrective round conducted in 5 zones during 2016 had more than 95% coverage in every zone, dually verified through independent LQAS surveys. Opportunities exist for establishing school health services to reach adolescent population, to digitalize the already established family-wide record of vital information to gain real-time data and to continue strengthening RMNCH,



for example with mobile health and nutrition teams to reach inaccessible areas and deliver referral linkage services, immunization activities, ANC, nutrition screening and outpatient therapeutic programme (OTP) with referral and health education and curative service for any emergency health problems.

**Acknowledgement:** Almaz Merdekios, Dr. Tersit Assefa and Dr. Marisa Ricardo, Tariku Berhanu, Asli Hassan (UNICEF Ethiopia), Dr. Ephrem Tekle, Liya woldegiorgis (FMOH, Ethiopia), Hassan Ismael (Somali Regional Health Bureau)

# GAMBIA

## Small babies need big plans to survive and thrive



The Gambia has 11,500 babies born premature (before 37 weeks of pregnancy) every year. A 14.9% of all under-five deaths in the country are attributed to complications of prematurity. Till 2017, there was no formal KMC programme for preterm babies. A couple of hospitals are practicing intermittent KMC but many workers are unsure of its benefits and resist the notion that mothers should be in control of their preterm infants. There were no ward protocols, guidelines, or a national policy in place to guide health workers in the practice of KMC.

The Reproductive and Child Health Unit (RCHU) resolved to implement a KMC programme in the Gambia and developed a KMC participant and facilitator training manual. The manual consists of three modules including important aspects of care for small babies, the practice of KMC, and the implementation process of KMC. A 4-day 'training of trainers' workshop was conducted in August 2017 where the manuals were launched and KMC training was provided.

An international UNICEF consultant provided technical support to the RCHU and coached twenty-five participants including

nurses and medical officers from eight hospitals, as well as members of the RCHU. Selected participants were chosen as trainers and all facilities completed KMC implementation action plans. Following the workshop, RCHU is now rolling out an improved curriculum and manuals for a country-wide KMC training program. A draft ward protocol and guidelines have been developed for the opening of an EFSTH KMC ward. Supportive visits to all the hospitals are planned at 6 monthly intervals. Benefits of KMC will be presented to the National Assembly members after an year of the implementation for development of a national policy to ensure sustainable KMC practice. The sensitization of parliamentarians will also be important to mobilise funds.

The public support of such projects by the different role-players is important in order to inform the general public of the Gambia. Any new intervention and especially a low-tech intervention such as KMC may cause concern that it is not safe or less effective than high-tech incubator care. With the roll-out and scale-up of KMC in the Gambia, the RCHU is committed to save all pre-term and small newborns.

**Acknowledgement:** Elise van Rooyen (UNICEF), Famera Fatty, Fatou Camara (RCHU), Dr Helen Brotherton, Dr Fatoumata Dibajalo (Bundung Hospital), Bourama Badjie (Bansang Hospital), Dr Khalifa Kassama (Serekunda General Hospital).



# GHANA

## Initiating the DHMIS2 e-tracker: an electronic integrated information system that helps to ensure continuum of care

### BENEFITS OF THE TRACKER



No more multiple registers when well established

Client's details available at all levels

Loss of clients during multiple visits of ANC, PNC or immunization is like in many countries a common issue in Ghana. The current Health Management Information System (HMIS) formats do not allow tracking an individual mother or child.

Paper-based data recording and reporting tools also have a tremendous burden on health staffs' time. Every month, trained staff in all health facilities manually tally and summarize Child and Maternal Health registries (ANC, deliveries, PNC, family planning and child health) into the monthly reporting forms (midwife returns, EPI, child health returns, and forms for nutrition, tuberculosis and HIV). On average it takes five days to tally all the reports and complete a facility report for submission to district health management.

UNICEF Ghana has supported the Upper East Region for the roll out of an DHMIS2 e-tracker system as part of its ongoing UNICEF-BMGF partnership on quality improvement in four selected districts.

With the e-tracker deployment, all facility Child and Maternal Health service reports are automatically populated in DHMIS2 in their respective data sets reports. Copies can be generated and no additional days to compile and match the reports are required.

It has additional benefits of capability for defaulter tracing. With the capability of individualized recording follow-ups can

### TRACKs PREGNANT MOTHERS AND CHILDREN



- Register Mothers – unique IDs
- Track ANC attendance and refer mothers with danger signs
- Appointment reminders to VHTs, health workers and mothers
- Register births
- Track immunizations and enable growth monitoring
- Feed into district and national aggregate data tools

be monitored more efficiently. It also helps identifying clients due for services regarding the child's health or immunization, family planning follow-up or others. Aggregate report generation is possible, and the system provides reliable facility service data on clients. Detailed analysis of data by client, facility, district and region level can be seen with a single click. Trends can be monitored easily with automatic graph generation for review by health managers.

Key milestones for the e-tracker deployment included procurement of laptops and tablets, training of district staff, client registration in all health facilities, monthly feedback to facilities, and continued supportive supervision.

Lessons learnt include the consideration of possible challenges in the application of the software, installing the hardware and using a temporary solution for unique IDs until the national ID system is in place.

**Acknowledgement:** Priscilla Wobil, Peter Baffoe and Imran Ravji



# INDONESIA

## Improving maternal and newborn health services in Eastern Indonesia



Preventable maternal and newborn deaths in Eastern Indonesia are considerably higher than in other parts of the country. Geographic access barriers, inequitable distribution of health personnel, infectious diseases like malaria and basic resource limitations have been identified as contributing factors.

In 2017 three inter-related initiatives attempting to address these gaps were evaluated through in-depth interviews with key stakeholders and program implementers, a document synthesis and secondary analysis of quantitative health management data. The findings indicate that the three programs contributed towards important maternal and neonatal health gains in target districts. Key features of these interventions were:

1. **Malaria screening** was performed among more than half a million pregnant women attending ANC services, with nearly 24,000 malaria-in pregnancy cases treated.

2. The **Cluster Islands Approach** addressed issues of access to maternal newborn care by establishing clear hub-and-spoke referral systems in remote areas. A 2 to 4-fold increase in the number of appropriately managed obstetric and newborn complications has been observed, with concurrent evidence of shorter delays in accessing safe delivery services.

3. The **Perinatology Mentorship Initiative** improved clinical skills and critical infrastructure for enhanced maternal newborn care in district hospitals. The initiative paired specialist pediatricians and pediatric nurses from better developed parts of Indonesia with more poorly developed hospitals in remote areas. Enhanced capacity of health professionals in targeted perinatology units was observed to effectively manage the three major causes of neonatal deaths.

Several key strengths were observed. Applying a bottom-up approach and designing the program with local providers and health managers, ensured the method was appropriate to the local context. Promoting stakeholder engagement early on resulted in strong national and local ownership and enhanced effective implementation and facilitated program sustainability. The programs succeeded in improving public awareness on critical health issues. There is encouraging evidence that enhanced community participation has substantially contributed to program achievements. Sustainability has been ensured through their influence on local and national policy guidelines for MNH, and the leverage of local, national and global resources to support replication and financing at scale.

Investing in data generation and continuous monitoring and evaluation have been important not merely to measure program achievements, but also to inform planning and guide implementation. Strengthening of health stewardship across all levels is critical to maintain program sustainability and strategic direction.

**Acknowledgement:** Paul Pronyk and Karina Widowati, UNICEF

# INDONESIA

## Building capacity on Quality Improvement (QI)



In Indonesia, Quality Improvement is embedded into the new standard accreditation system, under the umbrella of patient safety. The accreditation seeks to improve the quality of health services offered to the community, as mandated by Law Number 12/2012, and as such, every hospital should go through the accreditation process at least every three years.

Indonesia has an enormous network of health care facilities – nearly 2614 public and private hospitals and around 9000 primary health care facilities – of which only 33 hospitals are controlled under the Ministry of Health, the rest are catered by either local government or private providers. Besides the centrally located accreditation systems, Indonesia does not have any distinctive programs for improvement of quality of care at the health facility level.

Therefore, as a flagship initiative by the regional H6 partners with a strong collaboration between WHO and UNICEF, a regional quality improvement model has been developed in partnership with the All India Institute for Medical Sciences (AIIMS) New Delhi and the United States Agency for International Development Applying Science to Strengthen and Improve Systems (USAID ASSIST) project. This model is aimed to be implemented at the contact point of care in health facilities by teams of health care workers to improve the quality of care for mothers and newborns.

Hence, a three-day workshop was held in January 2017 to teach the principles and a simple step-wise approach for quality improvement at the point of contact in health facilities. The focus remained on care of mothers and newborns around the

time of childbirth to build the skills of front-line health workers in identifying and solving problems at their level, without seeking significant additional interventions or resources. It specifically aimed to analyse and measure quality of care in maternal and newborn health units, identify problems within the quality of care, develop and test strategies, and embed and sustain successful changes in the hospital system.

About 63 participants from the Ministry of Health, staff from four hospitals, representatives from district hospitals, representatives from provincial hospitals, Harapan Kita Hospital, UNICEF and WHO attended the workshop, shared experience and developed projects together.

Specific follow-up activities have included a virtual follow-up by the national trainers (fortnightly), in-person mentoring hospital visits by the trainers (monthly) and a meeting with all the invited hospitals to share progress and challenges on a quarterly basis.

A lesson learnt was the need for translation services as not all participants were conversant with the English language. Future trainings should also request facility staff to bring their data for useful discussions.

**Acknowledgements:** Dr. Karina Widowati (UNICEF Indonesia), Kyoko Shimamoto (UNICEF EAPRO) and Fatima Gohar (consultant HQ)

# IRAQ

## Launching the Newborn Action Plan



Iraq's under-five mortality rate was high as 31 per 1,000 live births in 2016 with newborn deaths contributing to 56% of those rates. Improvement to reduce under-five mortality has been slow (from 54 deaths per 1,000 live births in 1990) but for neonatal mortality even slower. According to MICS 4 estimates, Iraq's neonatal mortality rate is 20 per 1,000 live births, while the post-neonatal mortality is 12 per 1,000 livebirths. The recent report by the UN Interagency Group for Child Mortality Estimation shows that neonatal mortality decreased from 26 per 1,000 live births in 1990 to 18 per 1,000 live births in 2016. Newborn mortality rates are higher among males than females, particularly during the first 28 days. Broad disparities exist across the different governorates with the highest rates in Kirkuk governorate (32 per 1,000 live births) and the lowest in Missan (13 per 1,000 live births).

In response to this data, UNICEF Iraq supported a desk review, a rapid survey of sample health facilities for assessment of

quality of care and conducted a bottleneck analysis workshop in 2016 followed by a series of consultations to develop and finalize the Iraq Every Newborn Action Plan in 2017.

The Iraq Every Newborn Action Plan (IENAP) is aligned with the global Every Newborn Action Plan. The MoH developed this action plan to address the challenges in order to provide to all Iraqi children the best possible start in life and to cope with actual needs. It is a major step towards ensuring accessibility and availability of high quality maternal and newborn services.

Iraq aims to achieve the global ENAP targets by 2035. The IENAP is expected to serve as a roadmap that redefines and focuses on national and sub-national strategies and activities until 2020, when IRAQ will review the progress achieved and revise its plan accordingly.

In May 2015, a national consultation meeting on neonatal mortality reduction was conducted by the MoH and other key stakeholders and soon after, a bottle neck analysis workshop organized in collaboration with UNICEF to identify barriers and find solutions on neonatal healthcare in Iraq.

Eight Directorates of Health (DOHs) were selected for the first phase of the action plan based on high levels of neonatal mortality to implement maternal and neonatal initial assessment as part of the quality improvement initiative. Initial maternal and neonatal assessment was conducted by MoH and UNICEF in February 2016 and the results used to establish a baseline MNH situation analysis as part of the ENAP narrative. In May 2016 the English version of the IENAP was endorsed by the MoH, followed by the translation into Arabic language.

Dr. Adela Humod Hussain, Minister for Health and Environment endorsed the Iraq's first Every Newborn Action Plan and appreciated UNICEF's technical and financial support in this regard: "It is about time that newborns are given a paramount place in the national agenda. I thank UNICEF for this tremendous support and urge all partners to come forward to cover the gaps." The plan sets clear national milestones up to 2020.

**Acknowledgement:** Dr.SM Moazzem Hossein (Chief H&N) and Dr. Shaimaa Ibrahim (Health Specialist)



# KENYA

## County Mortality Forums as a key step to strengthening Maternal and Perinatal Death Surveillance and Response (MPDSR)



The County Executive Member for Health in a discussion with health care workers during a maternal mortality forum in Kakamega County

In Kenya, progress towards reduction of maternal mortality remains slow, with maternal mortality still high at 360 maternal deaths per 100,000 live births. One measure taken by the Government to reverse this trend is strengthening the implementation of facility-based MPDSR in health facilities. Comprehensive national MPDSR guidelines were developed in 2016, building upon a 2004 declaration of maternal deaths as a notifiable event.

UNICEF, under its DFID-funded MNH program, supported the MoH in its efforts at institutionalizing MPDSR geared towards confidentially auditing and reporting all maternal and perinatal deaths. One strategy UNICEF has successfully implemented is the use of county (district) maternal and perinatal mortality forums. This approach was undertaken in Kakamega County in Western Kenya, one of the districts in Kenya with a high burden of maternal deaths. County mortality forums bring together the county leadership, health managers, healthcare workers and development partners to synthesize evidence on deaths and to generate actions to stop them.

The forum had four sessions: First, a 'pre-conference' entailed health managers and health workers at Sub-County level reviewing maternal death data in the District Health Information System (DHIS2). This was then followed by open-dialogue and participatory forums with key stakeholders based on the reviewed data. Using a mix of quantitative and qualitative methods (reflexive discussions), the participants addressed issues around who is dying, where, why, and when, and what can be done to prevent these deaths. Third, participants de-

veloped key advocacy messages which, in the fourth and last session, were used to lobby county leaders (county governor, county executive for health, and county assembly) to address identified priority causes of maternal and perinatal deaths. Leaders then gave focused, actionable commitments. Leading contributors to maternal deaths in Kakamega were identified as inadequate human resources, unhealthy household & community practices resulting in home deliveries, sub-optimal referral pathways, and insufficient blood and operating theatre facilities. Based on these, the County leadership focused on hiring more health workers, strengthening demand, establishing a blood transfusion center, and adequate ambulances. Progress has been noted: hiring 700 additional staff, allocating more money to health facility infrastructure, and purchasing equipment for a blood transfusion center have already been done. In addition, auditing and reporting of maternal deaths on DHIS2 has improved from 60% to 100% within one year, while perinatal deaths auditing and reporting has increased from 0% to 60%.

The participatory county mortality forum is a promising strategy to institutionalize MPDSR at county level. Such forums empower health workers to demand action on persistent health system gaps, while at the same time giving leaders and policy makers a chance to better understand the key drivers of maternal deaths and priority actions to address them. Such forums should be embraced.

**Acknowledgement:** Valerie Omondi (UNICEF), Dr. Khadija Abdalla (UNICEF), Dr. Lutomia Mangala (UNICEF), Camlus Odhus (UNICEF) Ralpher Mwenesi (Reproductive Health Coordinator, Kakamega County)

## KENYA

### Harnessing the power of green energy for MNH: Sustainable energy solutions for health facilities in Homa Bay County

Access to efficient modern energy is a critical enabler for vital essential maternal and newborn health care services, especially during maternal and childbirth emergencies. Yet anecdotal examples in Kenya indicate unavailability of a reliable source of energy in the majority of health facilities, including lighting during delivery, as well as for basic but essential medical equipment like incubators. A WHO-led review comprising 11 countries in sub-Saharan Africa found only 28% of health facilities and 34% of hospitals had reliable access to electricity.

In line with the High-Impact Opportunity (HIO) on Energy for Women's and Children's Health by the Sustainable Energy for All (SE4All) initiative, UNICEF Kenya supported the Ministry of Health to roll out renewable energy technologies at high-volume health facilities as backup energy sources in Counties with a high burden of maternal and newborn deaths. In Homa Bay County, UNICEF helped the Department of Health to equip 11 health facilities with solar energy for lighting and essential equipment at the maternity and newborn units. Solar suitcases and photovoltaic (PV) solar power panels charging back-up in case of power outages have been installed and the health facilities have been fitted with energy-saving LED lighting bulbs.

The implementation process started off with a mapping and planning phase that involved a detailed assessment of high-volume health facilities in the County based on electricity access, reliability, and major sources of existing supply (e.g. grid, generators, solar). Based on these parameters, 11 priority facilities were selected and essential energy needs in all aspects of essential health service delivery in the maternity and newborn units defined. Upon installation, health care workers at the facilities were taken through a basic training of the power system as a means to enhance local technical capacity to troubleshoot and perform equipment maintenance.

The benefits of the solar power have been instant. An example is Lambwe Dispensary which had no source of power and deliveries could only be conducted during the day. After installing solar power, deliveries can now also be conducted at night. This has improved access to safe delivery by a majority of women in the community who previously would have needed to deliver their babies at nighttime at home.

A key lesson from this initiative is that despite their potential



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A solar suitcase at the delivery room of one of the hospitals in Homa Bay County

long-term benefits, green energy systems still require greater capital investments by health facilities than conventional generators or connection to the grid. For instance, the costs for the works at the 11 health facilities were approximately USD 200,000. This poses a significant barrier to change. Innovative financial solutions are therefore needed to overcome capital cost barriers to the deployment of clean, energy-efficient systems in health facilities that harness renewable energy capacities.

**Acknowledgement:** Dr. Lutomia Mangala, Wangui Karanja



## KENYA

### Kangaroo Mother Care and the drastic reduction in new-born deaths in Kakamega County



Prematurity is one of the leading causes of neonatal mortality in Kenya. Approximately 188,000 babies in Kenya are born too soon. There is limited capacity to optimally manage preterm babies mainly due to health worker shortage, limited skills and lack of infrastructure including appropriate equipment, commodities and space. Where equipment is available, they are often inadequate and poorly maintained. Due to lack of a reliable power source in most health facilities, the equipment's functionality is compromised, hence less effective.

With funding from the UK government, UNICEF has supported the Ministry of Health in Kenya in rolling out Kangaroo Mother Care (KMC) in high-burden Counties. In the district Kakamega County, the intervention has been implemented in 20 high-volume health facilities. KMC involves prolonged continuous skin-to-skin contact between a mother or her surrogate and her preterm or low birthweight infant. This low-cost, high-impact intervention has been shown to be at least equivalent to conventional care (incubators) in terms of safety and thermal protection.

In Kakamega, UNICEF supported the Department of Health in early 2016 to train 40 midwives in a 3-day skills-based workshop. The training included theoretical components of KMC like the establishment of KMC at health facilities, KMC nutrition, physical and emotional support, monitoring & evaluation, and essentials for scale-up; and was followed up by practical sessions in a new-born unit at one of the referral hospitals in the region. UNICEF and the Department of Health subsequently supported the mid-wives in rolling out KMC at their respective health facilities including provision of KMC beds, digital weighing scales, guidelines, and supportive supervision.

KMC is now being practiced in 20 health facilities in the County with significant results achieved. 300 preterms have benefitted from the intervention so far with newborn deaths reduced by as much as 67% at one of the facilities, and with average reduction of 52% across the 20 facilities. Some of the benefits of KMC have gone beyond the newborns, like a monthly mother support group meeting formed by mothers in one of the health facilities to discuss issues affecting their and their children's health including family planning, breastfeeding, and immunization.

The introduction of KMC in Kakamega has offered a number of key learning areas. Implementation of KMC will need to be facilitated by supportive health authorities at County level and in all health facilities. Also, KMC does not require additional staff at the health facility, neither does it require significant resources to start. Many of the 20 health facilities in Kakamega started off in a small room with a single improvised KMC bed, and managed the service as part of the newborn unit. Continued supervision and mentorship from UNICEF field staff have ensured motivation and continued knowledge-building of the health workers to a point where they can support other health facilities to introduce the intervention.

**Acknowledgement:** Dr. Lutomia Mangala, Khadija Abdalla, Camlus Odhus (Health Officer - Public Health, UNICEF Kisumu Field Office), Valerie Omondi (Health Officer - M & E, UNICEF Kisumu Field Office), Ralpher Mwenesi (Reproductive Health Coordinator, Department of Health, Kakamega County)

## KENYA

## Uterine Balloon Tamponade Technique to prevent maternal mortality from PPH



Postpartum hemorrhage (PPH), or excessive vaginal bleeding, is the leading cause of maternal deaths worldwide. It contributes to 115,000 maternal deaths a year, with 99% of these deaths occurring in low-resource settings, including sub-Saharan Africa<sup>1</sup>. In Kenya, more than 30% of maternal deaths occur due to PPH.

Although there are conventional protocols on how to manage post-partum hemorrhage,

sometimes the bleeding cannot be stopped. In cases where bleeding persists, women are at grave risk of dying unless a health facility equipped with obstetric surgical care is accessible. Obstetric surgical capabilities and emergency transportation are limited in low-resource settings, highlighting the need for effective treatments at the point of care. In 2012, the WHO recommended use of the uterine balloon tamponade (UBT) for treatment of uterine atony when uterotonic drugs are unavailable or ineffective. UBT is a low-cost medical device (< \$10) comprised of a balloon inserted into the uterus and filled with clean water through a syringe and one-way valve that can be used by trained health care workers. Effective tamponade occurs rapidly to stop hemorrhage. Published case series and systematic reviews have shown that UBT devices are safe and effective, with a success rate of 85% to 95% for treating PPH unresponsive to medical management.<sup>1</sup> Although UBT is one of the recommended interventions for managing PPH by the WHO, not too many health workers have been trained in its use.

UNICEF has been working in partnership with the Massachusetts General Hospital and the Kisumu Medical and Education Trust (KMET) to train health workers in the use of low-cost UBT devices and to provide UBT kits. The implementation targeted facilities at all levels of the health care system where deliver-

ies regularly take place. The project targets women in areas where resources are limited and access to skilled birth attendants is rare. In the last eight months, more than 65 mothers have been saved by the emergency use of the UBT in Garissa, Homabay, Kisumu, Nairobi, Siaya, and Turkana Counties. Over 200 UBT kits have been inserted in various health facilities with over 98% survival rates. Data from the first-ever large-scale implementation of UBT in a resource-limited setting including Kenya, suggests that the ESM-UBT package is safe and effective in saving lives even among the most critically ill patients. 26 out of the 30 physicians interviewed said if they had not been trained on UBT they would have performed hysterectomies (surgical procedure to remove the uterus) in such cases of uncontrolled PPH. The intervention has now been included in the national policies and guidelines but more efforts and commitments will be required to ensure all women who need the low cost, high impact intervention get it.

Health care providers at every level of health care delivery can place the UBT while continuing to properly follow appropriate pre-UBT PPH management. Experience shows that training and timely insertion of the UBT kit are important to avert preventable mortality. Mentorship, Continuous Medical Education (CMEs) and on the job training are necessary to address high staff turnover and ensure continuity. Preassembled UBT kits, as a component of the PPH box, are more efficient in saving lives versus use of improvised unassembled components. Initial buy-in by the obstetricians, senior medical officers, facility in-charges and county managers accelerates roll out of the intervention faster than direct engagement with primary health care providers. as well is identifying UBT champions. Monitoring its use, support supervision and maternal deaths audit are important to inform planning.

**Acknowledgement:** County RH coordinators, health workers and pregnant women who participated in the project. Khadija Abdallah, Health Specialist (MNH), Nairobi Kenya; Rory Nefdt, Chief of Health UNICEF Kenya; Abdullahi Abagira, Health Specialist, Garissa Zonal Office

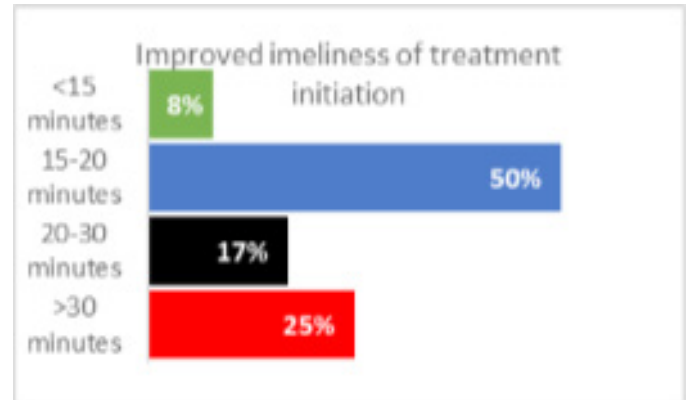
<sup>1</sup> Herrick et al. BMC Pregnancy and Childbirth (2017) A low-cost uterine balloon tamponade for management of postpartum hemorrhage: modeling the potential impact on maternal mortality and morbidity in sub-Saharan Africa. 17:374

# KYRGYZSTAN

## Within 24-hour pediatric hospitalization practice

Kyrgyzstan has reached the goal on decreasing child mortality by more than two thirds since 1990. U5MR has decreased from 44/1,000 live births in 2006 to 21/1,000 live births in 2015, and Infant Mortality Rate declined from 54/1,000 live births in 1990 to 19 in 2015. Yet, these rates remain twice as high as the CEE/CIS average mortality rate. An WHO assessment of the quality of hospital pediatric care in 2012 revealed important gaps in several areas of care quality such as admission of every second child to the hospital without referral from the primary health care, absence of adequate care of sick children at the admission department, and half of cases being unjustified hospitalizations. Every second child admitted to the hospital was not diagnosed correctly and in 85% of cases prescribed treatment was not in compliance with clinical protocols.

A technical working group represented by MoH, Mandatory Health Insurance Fund, service providers, individual experts and UNICEF developed an approach of change aimed at decreasing U5MR through improvement of the quality of pediatric in-patient care and reduction of excess mortality due to practitioner errors. A situation analysis revealed that improvement of quality of care was possible through minimizing cases of late hospitalization; reducing medically unjustified hospitalizations; improving timeliness of service provision; shortening ALOS; ensuring compliance with clinical protocols; and improving mother/caregiver satisfaction. In a participatory process, a pilot project was implemented in five hospitals through establishment of within one-day care units (ODCUs). In addition, to ensure quality of services, hospitals advanced the establishment of Continuous Quality Improvement (CQI) system and practices. UNICEF provided technical support, supported staff training and participated in joint monitoring and evaluation. Due to its effectiveness, the project was scaled up after a year, with currently 74 ODCUs established in 74 hospitals in all regions of the country with 720 ODCBs available. In August 2017, the MHIF and MoH with technical support of UNICEF and under the guidance of International independent expert assessed the activities of the ODCUs in 18 selected hospitals in the country: The hospitals managed to fully staff the ODCUs by internal rationalization of personnel without increasing the number of posts. The project ensured improved access to medicines and laboratory services and increased admissions with referral from PHC to up to 27%. Albeit this is encouraging, yet about 70% of patients, particularly children under age 2, are



Originally, 40% of hospitalized children with the diagnosis of DD and ARI received medical care after admission. Since project introduction, 75% of patients are seen by physician and treatment initiated within first 30 minutes.

admitted at the hospital without referral from the PHC which shows that the linkage of primary and secondary care levels remains yet unresolved. Institutionalization of within 24-hour hospitalization practices resulted in a gradual decline of U5MR due to reduction of excess mortality due to practitioner errors. The project also minimized unjustified hospitalizations. Timeliness of the treatment initiation improved as well as service quality through higher compliance with guidelines. The high satisfaction of caregivers with the services received at ODCU resulted in drastic decrease of early discharges on caregiver's request.

The initiative produced many lessons that will greatly contribute to global understanding of improving quality of care. It showed that success depended on the political will, ownership and commitment of the MoH, the integration of actions into existing systems, and full involvement of the hospital administrative and medical staff. Implementation required the establishment of quality improvement teams at hospitals, targeted training of health workers, mentoring and supportive supervision. The initiative is a demonstration of locally generated initiatives with strong ownership of Government that has provided a model that all countries can follow.

**Acknowledgement:** Author of the document: Tamar Got-sadze, Manager: Cholpon Imanaliev



# MALAWI

## Establishing special newborn care units run by mid-level health professionals

Malawi has made remarkable progress in reducing under five mortality. The neonatal mortality, however, is decreasing at a much slower rate (3.5% per year, compared to 7.1% for post neonatal mortality). More than 90% of women deliver in health facilities, meaning a high number of babies that died had contact with the health system, at least at the time of delivery. The common causes of death remain to be birth complications, prematurity and sepsis.

In line with the Every Newborn Action Plan (ENAP), UNICEF worked with the Paediatric and Child Health Association of Malawi on establishing the first Special Newborn Care Units in 10 hospitals that are primarily run by nurses with support from clinical officers. Only a couple of these hospitals can get support from medical doctors (GPs) in the care of sick children and none have pediatricians.

This initiative was designed and implemented to address four critical gaps in the care of sick newborns namely the absence of dedicated space, staff and protocol and poor data capture.

The intervention started in 2015 by working with district hospitals to identify rooms and staff specifically dedicated for sick newborns, renovating the new units and equipping them with key equipment. A training package (Care of the Infant and Newborn (COIN) manual) for capacity building of mid-level health workers (nurses and clinical officers) in the care of sick babies was developed along with neonatal admission forms and other supporting tools (adapted from real time monitoring tools courtesy UNICEF India). Training was provided to 350 health workers. In addition, 43 preservice lecturers from all but two health training institutions have been trained, nurse and midwife curriculum reviews facilitated, and mentoring and supervision provided. Working with the Central Monitoring and Evaluation Department (CMED) at MOH, a newborn care register was developed, printed, tested and initially used in these 10 hospitals. A data base was also developed and used capturing the information from the neonatal admission forms.

The 10 SNBCUs are now fully operational and provided care for 14,509 sick newborns in a year, reducing the need for referral and saving the lives of thousands of babies. A case fatality rate of 12% was noted in first year. Death audits were undertaken for 56% of the deaths with response actions, contributing to



improving the care provided. The mortality rate for newborns in these hospitals have shown a one-third reduction in the one year period, twice as fast as envisioned in project design.

A key lesson learnt from this initiative is that tailored capacity building interventions were successful in enabling mid-level health care workers to independently provide a comprehensive package of intensive care for sick newborns. It addressed the capacity and the confidence gaps that were prevalent among these cadre in handling sick newborns. The power of proper data collection is demonstrated. Due to its visibility for facility managers, for the first time the number of newborns developing complications were calling for closer attention in pregnancy, delivery and immediate postpartum care. The newborn care register is now being scaled up to all district hospitals. Fast reduction of institutional newborn mortality is achievable, even in resource constrained setups, with a little closer attention provided to the quality of sick newborn care.

**Acknowledgement:** Atnafu Getachew Asfaw, Tiyese Chimuna (UNICEF), Norman Lufesi (MoH), Emmie Mbale, Bernadette O'Hare (PACHA)

## MIDDLE EAST AND NORTH AFRICA

### KMC Workshop brings hope for the smallest babies in Middle East and North Africa Region



War, massive population displacement and violence have been the common news from Middle East and North Africa. However, the region had good news for the small and pre-term babies in the last week of September 2017, as the first ever regional workshop on Kangaroo Mother Care was organized by UNICEF for the teams from Syria, Iran, Iraq, Sudan and Gambia in Beirut, Lebanon.

Annually, an estimated 454,000 babies die in first month of their life in the region. Prematurity is the single largest cause of newborn deaths in this area. Some countries have reversed positive gains in child survival due to the ongoing humanitarian crises, destruction of existing hospitals and exodus of trained and skilled providers. UNICEF Middle East and North Africa (MENA) Regional Office (RO) in close collaboration with other H6 partners has identified newborn mortality reduction as one of the main health priorities in the region.

The workshop on Kangaroo Mother Care was organized as part of the regional efforts by H6 partners to reduce preventable newborn deaths. Participants included paediatricians, neonatologists, obstetricians and gynaecologists, general practitioners and nurses, largely from public health institutions. Participants from Syria largely belonged to the private sector and hospitals run by different charities.

In this competency-based training health workers learned clinical skills of managing preterm and low birth weight babies

and ensure standards of quality care. Learning resources included relevant WHO guidelines and resource materials from the 'Every Preemie Project', Kalafong Hospital South Africa and global health videos. The country teams developed specific action plans for collecting facility level baseline data, mobilising local support and resources, translating training materials to local language and initiating KMC in their respective hospitals. Participants also formed a social network group to exchange experiences and foster collaboration.

A participant remarked, "I loved the video sessions and skill-building by demonstrations and practice on manikins. Learning breast milk expression with Mama breasts was very interesting though I felt a bit embarrassed in the beginning. Thank you, UNICEF for this learning opportunity. It reminds us that the world has not forgotten to care about our mothers and babies".

So far, all participating hospital teams have begun the implementation of intermittent KMC and used the World Prematurity Day to raise awareness about the KMC practice. Participants requested UNICEF MENA to help translate the training materials to Arabic for wider replication of KMC trainings.

**Acknowledgement:** Saja Abdullah, Ndeye Fatou, Vilma Tyler, Anirban Chatterjee and Tedbabe Hailegebriel



# MEXICO

## Caring for the mother and newborn at home



In Mexico, 60% of infant deaths occur during the neonatal period (14,312 deaths in 2015). The country has improved child mortality indicators dramatically. However, the prevalence of breastfeeding during the first 6 months of life is among the lowest in the region, with only 30.8% of babies receiving exclusive breastfeeding during that period. Just over one third of children are breastfed during their first hour of life. WHO guidelines recommend initiating breastfeeding within the first hour of life, exclusive breastfeeding during the first 6 months of life and continued breastfeeding until the age of 2 or beyond. UNICEF and WHO recommend home visits by health workers during the first week of life, based on results of studies showing that home-based care can prevent between 30% and 60% of neonatal deaths and improve key practices in breastfeeding-related neonatal care.

UNICEF and World Vision Mexico collaborated to implement a pilot project in three municipalities in the State of Veracruz to improve the health and life chances of mothers and newborns

through home visits during pregnancy and the first week after birth. The visits are aimed to help women to have a healthy pregnancy and to prepare for the birth through promotion and support of breastfeeding, skin to skin contact, hygienic practices, recognition of mother and newborn danger signs, promotion of birth registration and vaccination, and detection of newborns with needs for complementary care. Two home visits take place for pregnant women in the communities and three home visits during the first week after birth. Two additional home visits can take place after birth in case babies have low weight or another health condition. A baseline study of knowledge, attitudes and practices in relation to breastfeeding, pregnancy, birth and newborn care in control and intervention communities has been completed in intervention and control communities. The exercise has validated the need to consider poor weather conditions for planning the home visits program. Additional transport and per diem costs were incurred due to uncertainty of distances and transportation time between communities in rural areas with poor infrastructure. The involvement of men in the project remains a challenge. It was not possible to include any male community worker in the project since most community workers are women. Community health workers were instructed to request the father's presence during home visits but this was not always achieved.

By end of 2017, the activities completed include the elaboration and printing of manuals for the standardization of home visits; training of community health workers in home visiting methodology; and home visits to 350 women during pregnancy and post-partum. The ultimate aim is a larger scale-up if the intervention proves effective. So far, 200 manuals for home visits were developed and printed (10 for facilitators, 40 for community health workers and 40 sets of orientation cards to be used during visits). 35 community health workers were trained in the methodology for home visits.

The early implementation of home visits by trained community health workers has shown anecdotal evidence for increased women's capacity for self and newborn care, both during pregnancy and post-partum.

**Acknowledgement:** Matthias Sachse Aguilera, Health and Nutrition Officer, UNICEF México

# MONGOLIA

## Adolescent mental health- an emerging priority



Nineteen teens participate in the 'Hacking for Youth Health' hackathon

Mongolia is a young country with 46% of the population under the age of 24 years and 15% being adolescents. Unfortunately, many issues related to adolescent health, education, safety and well-being are not sufficiently addressed. Injuries, poisoning and other external factors have become the first leading cause of mortality in 15-19 year age bracket. In 2013, about 21% of students between the age of 13 and 15 had seriously considered attempting suicide during the past 12 months. In addition to "traditional" causes of mental health problems such as alcoholism, poverty, violence in the family and bullying at school, newly issues, such as online bullying, grooming and sexual abuse or gaming related mental disorders and drug abuse are emerging.

UNICEF Mongolia helped to put adolescent mental health on the policy agenda, supporting the first ever National conference in 2016. Key bottlenecks for accessing mental health and ASRH services were identified, and young participants contributed to the development of possible adolescent-centered solutions. This has led to initiation of programmes improving school extracurricular activities and development of life skills. UNICEF Mongolia implemented new practices of primary level mental health counselling in schools of geographically focused areas (GFAs) and trained school doctors and social workers to provide mental health counselling. In collaboration with government and NGOs, it supported the schools to manage Child Development Centres with programmes for adolescent personal development and their participation in school life.

In 2016, the 'Youth Innovation Challenge for Adolescents' Health in Mongolia' was launched in collaboration with the

private sector, including the Youth Forum, where more than 50 adolescents and young people came together to discuss mental and sexual health, bullying, peer pressure, parents' neglect, lack of confidence, and physical violence. A 'Hacking for Youth Health' hackathon encouraged young people to come up with their own innovative technological solutions and awarded teams for developing various apps addressing questions and inquiries of adolescents on mental and SRH in interesting and attractive ways. It has drawn bigger crowds than any other event of its kind.

In 2017, a guideline for primary level health professionals on adolescent mental health was developed as well as various high level policy documents such as a government approved draft national plan of action for promoting adolescent mental health. A Country Case Study for Assessment on Gender Responsive Adolescent Health was conducted. This assessment further attracted attention of national level institutions to address adolescent health issues and sharpened demand for capacity development to address adolescent health in gender responsive ways.

Policy development on adolescent health and development in Mongolia was successful and further capacity building efforts are required for holistic and comprehensive multi-sectoral programme. UNICEF Mongolia will continue constant promotion of ICT innovations through youth networks using a special communication and monitoring strategies for effective implementation.

**Acknowledgement:** Bolorchimeg Dagva, Bolorchimeg Bor, Zoya Baduan, Judith Bruno, Surechimeg Vanchinkhuu

# MONGOLIA

## Early Essential Newborn Care: implementation and challenges

Newborn deaths represent 37% of all U5 deaths in Mongolia with majority of these lives lost in the first 24 hours after birth. Although 99% of all deliveries occur in the health facilities, available data suggests that the quality of early newborn care needs improvement.

In 2014, the MoH approved a national action plan on Early Essential Newborn Care (EENC) with the support of WHO and UNICEF. Following national training on EENC, it was introduced in 48 health facilities with initial coaching support by a dedicated UNICEF national consultant. In 2015 and 2016, EENC coaching expanded to provincial hospitals, and 5 Regional Diagnostic and Treatment Centers with joint UNICEF and WHO support. The UNICEF CO supported behavior change communication measures for the general public and health workers, and provided continuous quality improvement support and monitoring for continuous quality improvement. Monitoring was followed by re-training of health workers to address long standing malpractices of separating newborns from mothers for bathing or admission to the nursery. Harmful traditional care practices were addressed with published brochures, pamphlets, and videos explaining EENC and its benefits. UNICEF supported the dissemination of EENC messages to almost 540,000 people via facebook sites of the UNICEF National Goodwill Ambassador, singer Tumur Ariuna and UNICEF CO. The singer starred in two public service announcements and 3 posters. The MoH also included EENC in antenatal care education in health facilities nationwide.

Currently, 90–95% of all newborn babies in Mongolia are benefiting from improved early newborn care practices. EENC teams have been established in 23 of the 25 hospitals. 72% of the hospitals conducted at least two EENC assessments to assess quality of care. The last EENC review shows that skin to skin contact as well as breastfeeding has improved. Some challenges remain. 55% of deliveries had completed partograph, harmful midwifery practices such as fundal pressure were practiced at every fourth delivery, skin to skin contact is not consistently practiced in Caesarean section deliveries, 30% of term babies are being separated from mothers too early for unnecessary reasons, and there is still a low adoption of EENC and KMC for preterm babies. Early newborn mortality is on the side of steady decrease since 2013. The plan of action for 2017 will address these challenges.



Key achievements are obtained thanks to MoH leadership, National MCH Center's technical support, coordinated support of WHO and UNICEF, routine monitoring and annual reviews, and synchronized communication activities for public awareness.

**Acknowledgement:** Dr Bolormaa Norov, Buyanjargal Yadamsuren, the MOH, Mongolia, Delgermaa Vanya, WHO officer and Surechimeg Vanchinkhuu, Judith Bruno, Kyoko Shimamoto, Chris Kunihiro Hirabayashi, UNICEF



## MYANMAR

### Kangaroo Mother Care practice and an uphill battle against traditional beliefs and prevalent medical bias for reliance on high-tech solutions



Kangaroo Mother Care is practiced in many countries but it is a relatively new and unfamiliar concept in Myanmar. It is a simple intervention that improves mother and baby bonding, provides a consistent heat source, improves lactation, reduces cross infection and reduces apnoea in premature babies. In collaboration with UNICEF, RCPCH and the hospital team trained on Emergency Paediatric Care, the practice of KMC was introduced slowly and gradually in a 200-bed district hospital in Ayeyarwadi Region.

Mothers tend to be excluded in the neonatal care of low birth weight and premature babies in Myanmar. Neonatal units are often small and overcrowding is common. There is often a lack of space for mothers to visit their baby. There is a deep-seated belief that mothers are dirty - with most neonatal wards having a policy that mothers are not allowed inside. This has a very negative impact on the wellbeing of mother and baby. The lack of contact leads to poor bonding between mother and baby and consequently a reduction in the production of breast milk. If the baby is unable to establish breast feeding in a timely manner,

they will have a prolonged stay in the neonatal unit which leaves them susceptible to nosocomial infection.

Since the neonatal unit was too small in the district hospital to accommodate mothers, an area for KMC was created. The senior consultant participated in planning which was important for implementing change due to the existing strong hierarchical culture. Posters showing the steps of KMC and local Myanmar woman practicing KMC were displayed. The nursing staff, who's buy-in was as well key for the implementation, were trained in performing KMC and its benefits, and can now train mothers. KMC babies are identified by doctors and all KMC episodes are documented. KMC will be provided as soon as the neonate (<2kg) is stable. If they are still on IV fluids, the time is limited but still induced for bonding. As soon as the baby is weaned off IV fluids, they can start to increase the amount of KMC to 3 or 4 times per day. 4 beds beside the neonatal unit are allocated to mothers with LBW babies who can practice continuous KMC. As this is a recent change in practice, only qualitative data is available to show results. Anecdotal evidence shows that the mothers enjoy having regular contact with their babies and feel that it improves breast feeding. The nurses also report benefits as they work in a busy unit with a high workload and can make space in the unit for other babies, where cot sharing is still common.

The concept of KMC was a new one to doctors, nurses and mothers. To implement this change we needed to convince healthcare workers that mothers and babies (where possible) should be kept together and that maternal hygiene is not a barrier for KMC. Another challenge is the lack of nursing staff and therefore a lack of skilled monitoring of the baby. After incidences of absconding parents, the healthcare professionals now counsel mothers about the dangers of leaving the hospital against medical advice. One important lesson learned is that change in practice of health care providers and care givers is possible if strong local leadership, buy-in of senior pediatric consultant, support of senior management and continued education of care givers go hand in hand.

**Acknowledgement:** Dr. Sarah Burnett, global health volunteer, RCPCH and Dr Sarabibi Thuzarwin, Health Specialist-MNCH, UNICEF Myanmar



# MYANMAR

## Improving quality of emergency paediatric care in Myanmar district hospitals

Health systems in many low- and middle-income settings underperform seriously on the dimension of care quality; and efforts to improve quality in many instances show low levels of effectiveness (Kruk, Pate & Mullan, 2016).

The 'Emergency Paediatric Care Programme' (EPCP) is a collaboration of the Myanmar Paediatric Society (MPS), the UK Royal College of Paediatrics and Child Health (RCPCH), UNICEF and the Myanmar Ministry of Health and Sports. The programme aims to improve the quality of facility-based emergency paediatric care at 21 District Hospitals across three regions – Ayeyarwady, Magway and Sagaing. EPCP is an adaptation of the WHO Emergency Triage Assessment & Treatment Plus (ETAT+) protocol, combined with existing Myanmar implementation of facility-based IMNCI. The programme incorporates formal training sessions with both, doctors and nurses, in key skills including neonatal and paediatric resuscitation, and identification and management of critical childhood illnesses. The training is combined with sustained mentoring over 6 months as newly-acquired knowledge and skills are put into daily practice. Also, it includes facility improvement planning to identify and address latent errors and enable an environment supportive of better clinical practice.

Using a 5-point Likert scale, based on predefined performance criteria, sentinel clinical practices (e.g. triage, neonatal resuscitation, paediatric resuscitation, treatment of neonatal sepsis and infection prevention, childhood pneumonia and instigation of kangaroo mother care) were assessed at the first group of participating facilities by independent observers at baseline and after six months. Quality of performance was assessed in each area of clinical action in five domains in each facility, including: 'uptake of training'; 'supportive system'; 'clinicians' skills in simulation', clinician skills in real-time' and 'documentation'. Preliminary findings showed evidence of positive progress in the first six months. Aggregating all five domains, paediatric resuscitation, neonatal sepsis treatment and childhood pneumonia treatment saw significant improvement in performance. Areas such as KMC and triage saw less progress. However, areas of practice more amenable to the direct influence of training and mentoring showed stronger improvement than those reliant on systemic change within the facility as a whole (e.g. supportive system, documentation, use of job aids). These findings point to the crucial role of



Skill session on intra osseous infusion during the EPCP 5-day course in the Yangon Children Hospital

senior hospital management in supporting the intervention and investing time and leadership in creating an environment for clinicians to apply their newly-acquired skills. Slower progress was also observed in monitoring functions (e.g. regular new-born checks) and in adoption of a more parent-led model of care (e.g. KMC) points to the need for attention to a wider institutional, attitudinal and ultimately cultural change. The analysis illustrates progress in improving quality of emergency paediatric care in secondary facilities in Myanmar under EPCP, but also provides rich material to support programme learning about positive impact of EPCP as well as its challenges and strengthening needs.

**Acknowledgement:** Ministry of Health and Sports, Myanmar Pediatric Society, participating hospitals across 3 prioritized regions; Ayeyarwadi, Magway and Sagaing, RCPCH, and UNICEF Myanmar

# PAKISTAN

## Promoting quality of hospital care for mothers and newborns



The pace of decrease in IMR, MMR and NMR in Pakistan and Punjab has been slow, with NMR at the slowest rate. Major contributors to neonatal deaths and infant deaths in Pakistan are birth asphyxia (40%), sepsis (20%) and prematurity (17%). MICS 2011, 2014 and PHS 2016 analysis show that immunization, delivery by SBA and antenatal care and therefore coverage of services has increased. This shows that the focus needs to be on quality of services to improve health indicators.

The Government of Punjab (GoP) has been making significant investment in the health care delivery system of the province to provide quality and timely services to the population and improve their health status indicators. Although improving, the overall pace of progress in the achievement of the province's health goals is far from desirable. There are multiple reasons attributable to it such as lack of planning capacity, weak coordination amongst sectors, departments, development partners and donors, poor implementation mechanisms, paucity of resources and duplication of efforts.

Pakistan contributed to the in-depth ENAP bottleneck analysis in 2013-14 with support of UNICEF Pakistan which fed into the development of Global ENAP. Ongoing support is being provided for implementing various interventions highlighted in the ENAP such as Essential Newborn Care, Helping Babies Breathe, Kangaroo Mother Care, introduction of chlorhexidine for umbilical cord care, and establishment of Sick Newborn Care Units.

To increase quality of care further, PSPU (Policy and Strategic Planning Unit), Health Department and UNICEF organized a five-day Quality Improvement workshop in December 2016 to accelerate progress towards an improved health status of mothers and newborns and a strengthened health system in Punjab and Pakistan.

The workshop was divided in two parts, with the first three days particularly being set up for healthcare practitioners. Nurses, doctors and administrators from the districts Multan and Bahawalnagar participated, along with similar representatives from three leading tertiary care hospitals in Lahore (Services Hospital, Mayo Hospital, Sir Ganga Ram Hospital). The second workshop comprised of representatives from PSPU, IRMNCH & Nutrition Program, Punjab Health Care Commission, Pediatricians and Gynecologists.

The workshop helped to share and learn from global and regional experience on quality improvement care initiatives and to provide orientation on QI processes in hospital care. Actions for initiating hospital quality improvement at provincial and country level within the national QI framework were identified. Progress will be monitored and follow-ups for additional facilitation are planned.

**Acknowledgement:** Dr Tahir Manzoor (Health and Nutrition Specialist,), Dr. Nabila Zaka (Senior Health Adviser), Dr Samia Rizwan, (Health Specialist), Dr. Sufan Guo (Health Specialist)

# SOUTH SUDAN

## Testing the Newborn Humanitarian Guide

To address the gap in newborn health programming in humanitarian settings, UNICEF developed a Field Guide<sup>1</sup> through an inter-agency collaboration in 2015. The guide prioritizes the most critical health services and supplies to prevent and manage the three main causes of newborn death at each level of care. It gives guidance for implementing interventions; supervision, monitoring and evaluation; and contents of newborn kits, including essential medicines and supplies by level.

A pilot test of the Field guide began in Somalia and South Sudan in 2016 in order to assess three major areas: (1) health worker knowledge and attitudes toward the adaption of newborn care practices; (2) change in maternal knowledge of danger signs and newborn care practices among facility-based deliveries; (3) factors that influence implementation in the community and health facilities. The study addresses service delivery by increasing newborn-specific medicines and equipment, and improving supervision and monitoring for newborn care.

Health facilities were selected if they had a delivery unit, at least 30 deliveries per month, were an implementing partner supported facility, and planned to maintain operations for at least 6 months. Different study designs were developed to meet the assessment on the three areas, with in-depth interviews, focus group discussions, observations of mothers and newborns, or the assessment of existing documents were conducted. The studies showed results before and after training and discovered training adoption burdens on multiple levels. Equipment, time-intensity or missing supplies could hinder newborn care in facilities while for example trust-building and the education of the community were seen as burdens to successfully identify pregnant women.

The study led to several recommendations such as training packages for pharmacists on stock management of supplies and practical reporting tools; stronger guidance for community-level interventions; standards for physical infrastructure for facilities for MNH services; supplemental material for 'low adoption' practices that require social and behavioral interventions; stronger coordination and oversight monitoring, an advocacy strategy to address health workers, program managers and donors; and advocacy towards national policies and guidelines to link humanitarian and development activities.

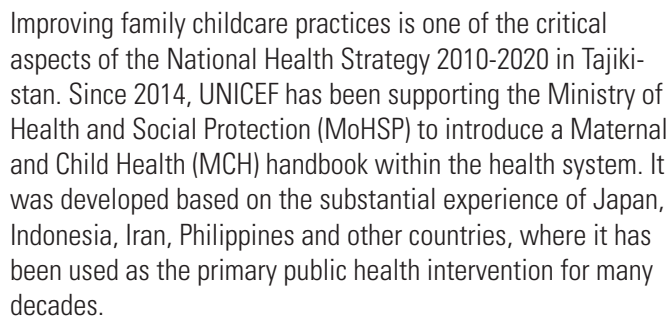


UNICEF and Save the Children have partnered to review and finalize the revised version of the guideline and a partner group has been formed at global level to guide implementation in countries.

**Acknowledgement:** Samira Sami (Johns Hopkins University), Kate Kerber (Save the Children), Heather Papowitz (UNICEF), Debra Jackson (UNICEF)



## Introduction of the MCH Handbook paves the way to introduce Early child hood Development in Tajkistan



The initial trial showed high acceptance from mothers and community members as well as the feasibility of its implementation within the existing PHC system. Updated with minor changes, and approved by MoHSP for a full-scale implementation, it was translated into Russian and Uzbek languages and starting from February 2017, a pilot implementation of the MCH Handbook initiated in 12 remote and most vulnerable districts. By letting families possess their health records and encouraging their involvement in all stages, the handbook is an

For sustainability, a monitoring and reporting mechanism for health workers has been introduced. It is important to consider operational modality, including implementation and management capacity of the agencies involved as well as keeping a balance between technical accuracy and practicability for mothers and families. Therefore, UNICEF established a technical cooperation with JICA (Japan International Cooperation Agency), which globally promotes the introduction of the MCH handbook to countries' health systems. Participation of senior MoHSP officials at the MCH handbook international conference, funded by JICA, helped create momentum to accelerate the process of finalizing the content and operational modality. The results of the field-testing and several discussions increased an interest of other partners (WB, USAID, JICA, Aga-Khan Foundation, etc.) and the MCH Handbook has been included as part of the MCH project in their targeted districts. Currently, the MCH Handbook is being introduced in more than 30 districts of the country. In 2017, a baseline assessment of childcare practices at family level using the LQAS methodology was conducted in 12 UNICEF-supported project districts. While the key regional and national health officials recognized the importance of the MCH handbook, the pilot implementation and the results of the end-line assessment in 2019 will serve as solid evidence to convince high-level policymakers and further expansion. Once covering the whole country, it will annually benefit around 280,000 pregnant women and 300,000 children and their families.

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## TANZANIA

### Operationalizing the Nine Standards of Quality Improvement for the “Every Mother, Every New Born” strategy in Health Facilities

The United Republic of Tanzania with support from UNICEF is implementing the Every Mother Every New-born (EMEN) initiative that focuses on the area of quality improvement in order to reduce, preventable maternal and newborn death as well as stillbirths.

The initiative is simultaneously working at national level to influence policy environment and in selected districts at sub-national level to demonstrate a model of mother and baby friendly facilities implementing standards of care.

At national level, the MNCH performance standards and criteria into the MNCH assessment tools have helped to ‘institutionalize’ the MNCH quality improvement approach. At sub-national level, the initiative is focusing on the Njombe region. UNICEF is collaborating with the Ministry of Health, Development, and Gender, Elderly and Children and Regional Health Management Team for improving the quality of care provided by health care workers in Ludewa and Wanging’ombe districts.

Operationalization of mother and baby friendly facility standards was done within the overall framework of national quality improvement efforts around ‘Big Results Now’. A baseline assessment was conducted in April to June 2016. The implementation of the initiative commenced with the orientation of regional and district reproductive and child health coordinators, and training of health care worker on the principles of Quality Improvement. Facility QI teams were formed with clear roles and responsibilities assigned to each member. A record was kept for QI monthly meetings to aid follow-up and facilitative supervision. QI job aids were put in place and national guidelines and SOPs were made available on site.

Facilities received the missing supplies and commodities to provide round the clock services for basic and comprehensive emergency obstetric and newborn care services. This included setting up KMC and sick newborn units and ensuring caesarean deliveries in hospitals and timely referral with support of additional ambulances. Quarterly supportive supervision and mentorship visits helped identify and address the bottlenecks.

During the first year of the implementation, the focus of quality improvement efforts have been to improve practice of hand washing, ensuring completeness and quality of documentation



Providers have formed a WhatsApp group to share successes

of maternal and new born records including use of partographs, and improving clinical management of maternal and newborns complications.

A third party monitoring has shown significant improvements in implementation of standardized maternal and newborn care in the intervention facilities since the initiation of the implementation. All health facilities have functional QI teams. Availability of handwashing facilities has increased from 53% to 100% and hand washing practice among health care workers also in-

creased from 50% to 100%. Improved infection prevention and control and handwashing has led to reduction of nosocomial infection among newborns from 20% to 8% in Illembula Mission Hospital and Ludewa district hospital. In all intervention facilities, completeness of records has improved from 40 to 90%. The use of partograph to monitor progress of labour has increased from 40% to 80%. Health care workers perceptions and attitude has shown positive change by improvements in inter-personal communication and conscious efforts to ensure privacy and empathetic care. With provision of respectful care for mothers and newborns, client satisfaction on quality of facility care has also shown significant improvement. The proportion of maternal and perinatal death reviews has increased. Case fatality rates have improved for maternal complications and a positive trend is expected after the full operationalization of sick newborn care units and KMC services.

It is important to invest at policy and governance levels for providing the enabling environment and financing support in addition to facility led quality improvement efforts.

**Acknowledgements:** Agnes Kosia, Asia Hussein, Kyaw Aung, Nabila Zaka

# UGANDA

## Improving Birth Registration

Counting every birth and death is one of the strategic objectives of Every Newborn Action Plan. A higher percentage of facility births is an opportunity to register births, still births and early neonatal deaths.

70% of Uganda's children under five years (about 4.8 million) have not had their birth registered in 2011 and were therefore lacking official proof of their identity such as name, age, nationality and parentage. Such children are more vulnerable to abuse, exploitation, trafficking, child marriage, or enrolment into armed forces, and are at higher risk of being denied access to education, inheritance rights or social protection. Additionally, lack of clarity of identities of persons including children, has not only led to gaps in the current data for effective government planning and spending, it has also contributed to loss of public resources spent to deliver services to non-existent persons such as ghost pupils in free education schools, ghost teachers, health workers, pensioners and voters.

In 2015 the 'Registration of Person Act 2015' was assented into law, creating the National Identification and Registration Authority (NIRA) with the mandate to register persons in Uganda. With the goal to increase the percentage of children under five years whose births are registered from 21% to 80% by the end of 2014, bottlenecks (time, distance and storage as well as outdated technology) were identified. Under a public private partnership between the Uganda Registration Services Bureau (URSB) the government agency responsible for civil registration then, and the Uganda Telecom (UTL), with support from UNICEF, an information management system to support the birth and death registration was developed. The Mobile Vital Records System (Mobile VRS) is a simple and flexible online system that was developed and used to streamline, simplify and decentralize the delivery of and access to birth and death registration services in Uganda. Its on-line and off-line platforms are used to register births in hospitals and district local governments, while births in communities are notified in real time into a central server at NIRA using mobile phones (USSD).

As of end of September 2017, birth and death registration services including use of Mobile VRS were in 135 hospitals and in 85 of the 123 district local governments. Mobile VRS contributed to an estimated 30% increase in registered births, from 30% in 2011, to 68% at the end of 2016 and is currently



Mobile VRS used on mobile phones

in custody of over 5 million<sup>1</sup> birth records with 60% being birth records of children. Mobile VRS provides real-time transmission of birth records from sub-national level, including remote and hard to reach areas, to NIRA's central database and therefore allows real time monitoring.

While some challenges regarding internet connectivity, the centralized issuance of birth and death certificates or a missing integration with other health sector tools that are already capturing data, still remain, Mobile VRS brings registration services closer to the public, minimizes forgeries, and creates transparency on the status of service delivery with public online access to real time data.

**Acknowledgement:** Augustine Wassago (Child Protection Specialist, UNICEF) Diclerk Asimwe (Child Protection Officer, UNICEF) and Birgithe Lund-Henriksen (Chief of Child Protection, UNICEF)

<sup>1</sup> [http://www.mobilevrs.co.ug/summary\\_statistics.php](http://www.mobilevrs.co.ug/summary_statistics.php)

# ZAMBIA

## Scaling up an Evidence-Based Package for WASH in HCF in Zambia



Chlorine production room in Makeni Health Center in Chilanga District (the health center produces in average 30l of chlorine solution daily for water treatment and decontamination purposes).

Existing evidence from studies globally suggests that maintaining clean environments within health facilities reduces the risk related to HAI. A recent study in low and middle-income countries showed that with better water and sanitation services, the volume of antibiotics used to treat WASH-related diarrhoea could be significantly reduced<sup>1</sup>. The EU-funded Millennium Development Goal initiative (MDGi) seeks specifically to improve maternal and child health in Copperbelt and Lusaka Provinces, under government leadership. The MDGi infection prevention and control (IPC) centered WASH-component (focusing on re-activation of the infection prevention committees, on-site chlorine production and utilisation, waste management, promotion of hand washing with soap and decontamination practices of surfaces and “hand-touch sites”) was piloted by UNICEF in 2015 in four selected public urban HCFs.

The baseline and end line surveys included microbiological assessments, of specimen from water points and from surfaces frequently touched by both HCF staff and patients. Poor hand hygiene was observed amongst HCF staff<sup>2</sup>. Drug sensitivity tests were performed on identified HAI indicator bacterial pathogens. The percentage of surfaces meeting the “good hygiene” criteria was higher post-implementation compared to baseline<sup>3</sup>. The quality of water generally increased across all four facilities. HCF personnel alluded to the lack of water, soap and the absence of hand hygiene monitoring for the low rates of hand washing recorded. These findings were critical to

identifying the specific elements which informed the development of IPC-WASH standards, guidelines, standard operation procedures (SOPs) and training manuals. Behavior change triggers were used to encourage better hand hygiene practices. The pilot implementation provided the necessary evidence for the scaling-up of the IPC-WASH package to a total of 55 HCFs.

The establishment of an inter-sectoral technical working group for coordinating activities between government agencies and implementing partners has been essential in effectively defining and endorsing the IPC-WASH package before scaling it up to the 55 HCFs. The introduction of a pilot phase has allowed for the generation of evidence required for advocacy purposes and to formulate and review minimum standards and guidelines. Defining the appropriate enabling environment has also been a condition for success<sup>4</sup>. Through advocacy it has been possible to rally the government at central and decentralised levels behind the IPC-WASH interventions.

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<sup>1</sup> O'Neill J. Infection prevention, control and surveillance: limiting the development and spread of drug resistance. *Rev Antimicrob Resist.* 2016;(March).  
<sup>2</sup> Of the 780 hand hygiene opportunities observed across all four health facilities, HCWs washed their hands with soap only 8 times (1%).  
<sup>3</sup> The percentage of samples of hand-touch sites that passed the defined hygiene criteria went from an average of 27% at baseline to an average of 49% at end-line in the 4 HCFs. At least 50% of the contaminated hand-touch sites samples at baseline contained bacteria resistant to selected antibiotic treatments commonly used in the HCF. The baseline findings are in line with findings of a research study conducted at the Zambian University Teaching Hospital where more than 70% of white coats were found contaminated with bacteria, including *S. aureus* and *K. pneumoniae*, both which exhibit high resistance to antibiotics, demonstrating the existence of high nosocomial HAI risk.  
<sup>4</sup> The Ministry of Health has reviewed the National Infection Prevention

