

LEADING ARTICLE

Achieving Health Millennium Development Goals through Capacity Building of Health Workers-ESSEMCH Strategy

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Pakistan has the 6th largest population in world¹ and is the most populous country in the Eastern Mediterranean Region (EMR), accounting for about 30% of the Regional population. The level of socio-economic development is still low: GDP per capita is US\$ 730²; HDI is 142nd in the world¹; and, one fourth of the entire population lives below the poverty line². The country has had variable periods of economic growth since independence however for the last 2-3 years the country has shown an impressive growth trajectory but the social indicators have yet to catch up. The health profile of Pakistan is characterized by high population growth rate, high infant and child mortality rate, high maternal mortality ratio, and high burden of communicable diseases.

More than 10 million children younger than 5 years of age die every year all over the world. Half of these deaths occur in only six countries and Pakistan ranks number 4 in the list of those countries³. The infant mortality (74 per 1000)⁴ and under five mortality rates (98 per 1000)⁴ are unacceptably high and are not showing the desired improvement with passage of time. Reducing child mortality by 2015 is one of the eight Millennium Development Goals (MDGs) set forth by the international community and endorsed by the government of Pakistan, by virtue of which we are bound to reach the stated targets in next 10 years⁴. However, at the existing pace it will not be possible to achieve the required reduction in child mortality. The major causes of preventable deaths in paediatric and neonatal age groups are diarrhoea (22%), pneumonia (21%) and neonatal conditions (33%)⁵. Being underweight confers an additional risk of mortality from infectious diseases and

among neonates birth asphyxia ranks high in causing death along with long term disability. Maternal Mortality Ratio is also extremely high with an often quoted figure of 350 per 100,000 population⁴. Only 23% of the deliveries are being conducted by skilled birth attendants and major causes of mortality include haemorrhage, hypertensive diseases, sepsis and other obstetrical complications⁵. Although the health facilities are available ubiquitously but they lack proper equipments and trained personal. Health worker also lacks necessary skills and training to manage the children, newborns and mothers in emergency situations. Management in the first few hours (Golden hours)⁶ of the presentation of an emergency is a major determinant of the eventual outcome. If the vast majority of these potentially avoidable deaths and long-term or permanent morbidity are to be avoided, a continuity of care with particular emphasis on golden hours management and safe transfer has to be established starting from the communities to health care facilities.

Keeping in mind the high mortality figures it is mandatory for a developing nation like Pakistan to take concrete and cost effective steps to improve its health standards in priority areas of maternal, newborn and child health. These interventions can be in the form of training human resources in emergency care management, upgrading life saving equipment inventory in the health facilities, advocating health care providers to facilitate and apply modern tools in managing human lives and developing effective referral systems through out existing health care facilities. This integration of hospital and community based emergency health care at district level of poorly resourced

countries can be achieved at relatively low cost. This was the experience of authors in Afghan refugee camps in Pakistan⁷, stating that integration of primary (home based) health care with adequately functioning referral systems and hospital based care can make a difference.

In Pakistan much effort has been put into enhancing primary care as the most cost effective technique of improving health care standards. We argue that there has been a relative neglect of hospital-based care by both governments and the international community, and the integration of the two requires urgent evaluation and implementation. The situation is particularly true for emergency management in the Golden hours period. There is evidence that if structured life support trainings are introduced in a systematic method it helps in reducing mortality and morbidity during the emergency phase in a very cost effective manner⁵. Local public sector hospitals need to be configured to serve a community and not just to provide episodic care for the few patients who transiently pass through their doors during an acute episode. It is mandatory to upgrade the knowledge of first line health worker in managing emergency situations. It is also necessary to elevate their capacity to recognize the common emergencies and manage accordingly. By instituting accredited structured training for these skills we can dramatically decrease mortality and morbidity figures in Pakistan.

ESS-EMCH PROGRAMME

The Essential Surgical Skills and Emergency Maternal and Child Health (ESS-EMCH) is a clinical training programme used as a public health intervention strategy to reduce the mortality and morbidity of mothers and children. This programme focuses on training and upgrading the knowledge and skill of first response health workers to deal with the patient in its golden hours of sickness/injury. Ministry of Health, Government of Pakistan along with its partners, World Health Organization (WHO), Child Advocacy International (CAI) and Advanced Life Support Group (ALSG) of UK, have conducted various ESS-EMCH activities in Pakistan during the last two years and have a fully trained national and international faculty

who are donating their time for the cause. The aim is to establish an ongoing programme of training which will allow the project to be cascaded to all hospitals and community health facilities in Pakistan that provide emergency healthcare for mothers, babies and children.

STRATEGY OF INTERVENTIONS

The trainings of the ESS-EMCH Programme are based on two well-tried and tested structured training methodologies of "Advanced Pediatric Life Support (APLS)" and "Management of Obstetric Emergencies and Trauma (MOET)". It uses skill stations, hands on training, workshops, and scenarios to train doctors, nurses and other healthcare workers in emergency care. These courses have been used for some years in developed countries where they are considered essential requirements for all health workers with responsibility for emergency care in these specialties. The trainings provides participants with a measurable gain in skills, appropriate to their area of practice. It particularly improves management of an emergency in the first hour or two, this being a major determinant of outcome. These structured training courses, including methodology and process, are accredited by ALSG with specific built in quality checks and evaluations. All successful participants are also issued internationally accepted certificates of achievement by MoH, WHO and ALSG, UK.

The programme also puts emphasis on effective lobbying and sensitisation of the health department to ensure that every hospital in which the activity is undertaken has sufficient emergency drugs, medical supplies as well as basic functioning low cost but appropriate equipments. The aim is to establish an ongoing program of training and hospital upgradation, which will allow the project to be cascaded to all health facilities in Pakistan that provide emergency healthcare for mothers, babies and children. Moreover the trainings should also enable community health workers to recognise, manage and safely transport these patients to the available health facilities.

DEVELOPMENT OF A TRAINING PROGRAMME

A team of internationally renowned educators designed the curriculum of these structured ESS-EMCH trainings and local experts (surgeons, anaesthetists, obstetricians and paediatricians) having vast experience in the field of emergency management, modified and adapted it according to Pakistani standards. All contents of the trainings have been scrutinized by ALSG through intense evaluation and recommendations were added to make them compatible with international guidelines. (box 1,2,3,4). WHO IMPEESC tools for primary care and referral facilities were also incorporated into the curriculum⁸.

Scenarios Box 1

- Resuscitation and stabilisation at birth
- Neonatal emergencies
- Paediatric emergencies: trauma, illnesses and resuscitation
- Maternal emergencies: massive haemorrhage, eclampsia, complications of

Short lectures and videos Box 4

- Welcome and introduction
- Putting emergencies into context
- Structured approach to emergencies
- Resuscitation of the newborn
- Neonatal emergencies
- Breathing difficulties
- Shock
- Reduced conscious level and convulsions
- Severe malnutrition
- Eclampsia
- Pregnancy related emergencies
- Trauma
- Burns
- Poisoning and envenomation

Workshops Box 3

- Emergency Triage and Treatment ETAT
- Pain control
- Basic monitoring including temperature, BP, and pulse oximetry
- Infection control
- Safe prescribing practice
- Fluid and electrolyte management
- Safe blood transfusion
- Trauma Xrays
- Child abuse
- Domestic violence

Skill stations (manikins, models, simulation etc.) Box 2

- Basic Life Support (BLS)
- Airway and ventilation
- Emergency surgical airway
- Chest drain and thoracocentesis
- IV line placement including cut down
- Umbilical vein catheter and exchange transfusion
- Intraosseous needle insertion
- Nasogastric tube placement
- Safe injection procedures
- Vaginal breech delivery
- Rush catheter placement
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- Spinal immobilisation after major trauma

TIERS OF PROGRAMME:

In Pakistan these training are aimed for the front line health workers who are dealing with the Paediatric, Trauma, gynaecological and Obstetrical emergencies ranging from specialist to generalist doctors, nurses, paramedics and community health workers. The trainings are divided into three tiers.

First tier consists of two 3-day specialized courses for the tertiary care hospital (APLS for the paediatricians & MOET for gynaecologists and obstetricians). These two courses are specifically

designed to develop a team of instructors and master trainers for ESS-EMCH Programme.

Second tier of trainings targets district level hospitals and consists of two training activities of 5-day and 3-day each. The 5-day ESS-EMCH training is designed for doctors and nurses looking after emergencies (mainly obstetrical, neonatal and paediatric) in hospitals. While 3-day training of EMNH (Emergency Maternal and Newborn Health) is meant for doctors, nurses and senior midwives dealing with very sick mothers and newborns. These two courses will equip the providers with the essential skills to save lives as well as will be crucial to pick up national and district level faculty of instructors who will be cascading this training down to the rest of the health workers.

Third tier of the Programme consists of one-day training courses for health workers in the community (skilled birth attendants, paramedics and ambulance staff) relevant to their field of

work, specifically designed for their level of understanding and adopted in local language. The faculty developed during 5-day training workshops will carry out this 1-day training in their own respective district under the supervision of national faculty.

Generic Instructor Course (GIC) is offered to all the candidates who have an instructor potential judged during the above-mentioned 5-day trainings. It is a 3-day course on modern teaching methodologies utilized in hands on trainings such as ESS-EMCH.

These trainings also address and highlight the important social issues of domestic violence, child abuse and child rights. These issues are present in our society but lack proper awareness and response. The trainings of ESS-EMCH provide excellent platform to sensitise our health workers in identifying and managing these issues.

TABLE 1 :- Accredited and Structured trainings under the Programme of Essential Surgical Skills with emphasis on Emergency Maternal and Child Health.

Name:	Duration:	Target Audience:	Number of Participants:
APLS: (Advanced Pediatric Life Support)	03 days	Specialized Paediatrician.	18
MOET: (Management of Obstetric Emergencies and Trauma)	03 days	Specialized Gynaecologist and Obstetricians.	18
ESS-EMCH: (Essential Surgical Skills with Emergency Maternal and Child Health)	05 days	Non-Specialized Doctors & Nurses working in Emergency Dept.	24
GIC: (Generic Instructors Course)	03 days	Trainers course for ESSEMCH activities.	12
EMNH: (Emergency Maternal and Newborn Health)	03 days	Non-specialized doctors, Nurses & Midwifery working with Mothers and Newborn.	24
One-day Basic Life Support (BLS) Course for Ambulance Personal.	01 day	Ambulance Personal.	24
One-day Basic Life Support (BLS) course for paramedics.	01 day	Paramedics.	24
One-day Basic Life Support (BLS) course for skilled birth attendants.	01 day	Skilled birth Attendants.	24

ESS-EMCH DEVELOPED TRAINING MATERIAL:

1. 5-day ESS-EMCH Providers Module (English)⁹
2. ESS-EMCH Instructors Module (English)
3. 1-day Providers Module for Lady Health Workers (Urdu)
4. 1-day Providers Module for Paramedics (Urdu)
5. 1-day Providers Module for Ambulance Personal (Urdu)
6. 3-day EMNH Providers Module (English).
7. Lectures.
8. Skill Stations.
9. Workshops.
10. Scenarios.
11. Presentations.
12. Evaluation Questionnaire (pre and post).
13. 5-day ESS-EMCH CD Rom.
14. 3-day EMNH CD Rom.
15. Instructors CD Rom.

QUALITY ASSURANCE

Only way to ensure this very crucial aspect is to let third party evaluators to continuously monitor and evaluate the training regularly and remain involved with the whole program on a sustainable basis. ALSG, UK will maintain a strict quality control on the trainings and all activities would be randomly supervised by one of their representative who comes from ALSG to observe the trainings. This exercise would help ensure international standards in the training program.

MONITORING AND EVALUATION

The system has an inbuilt evaluation mechanism, for short term and long-term impact of the trainings. Using pre and post activities evaluation tools (IMPEESC Tool of WHO) the impact of the trainings will be evaluated. Post activities tools include 6-month and 12-month evaluations of the facilities for which trainings were conducted.

For a very first time, a new system of logging the skills has been introduced by ESS-EMCH

Programme in Pakistan. This system uses especially designed and easy to fill up logbooks to keep track of ESS-EMCH techniques employed in managing emergencies and its outcome. The programme will evaluate these logbooks after specific time period to modify its curriculum

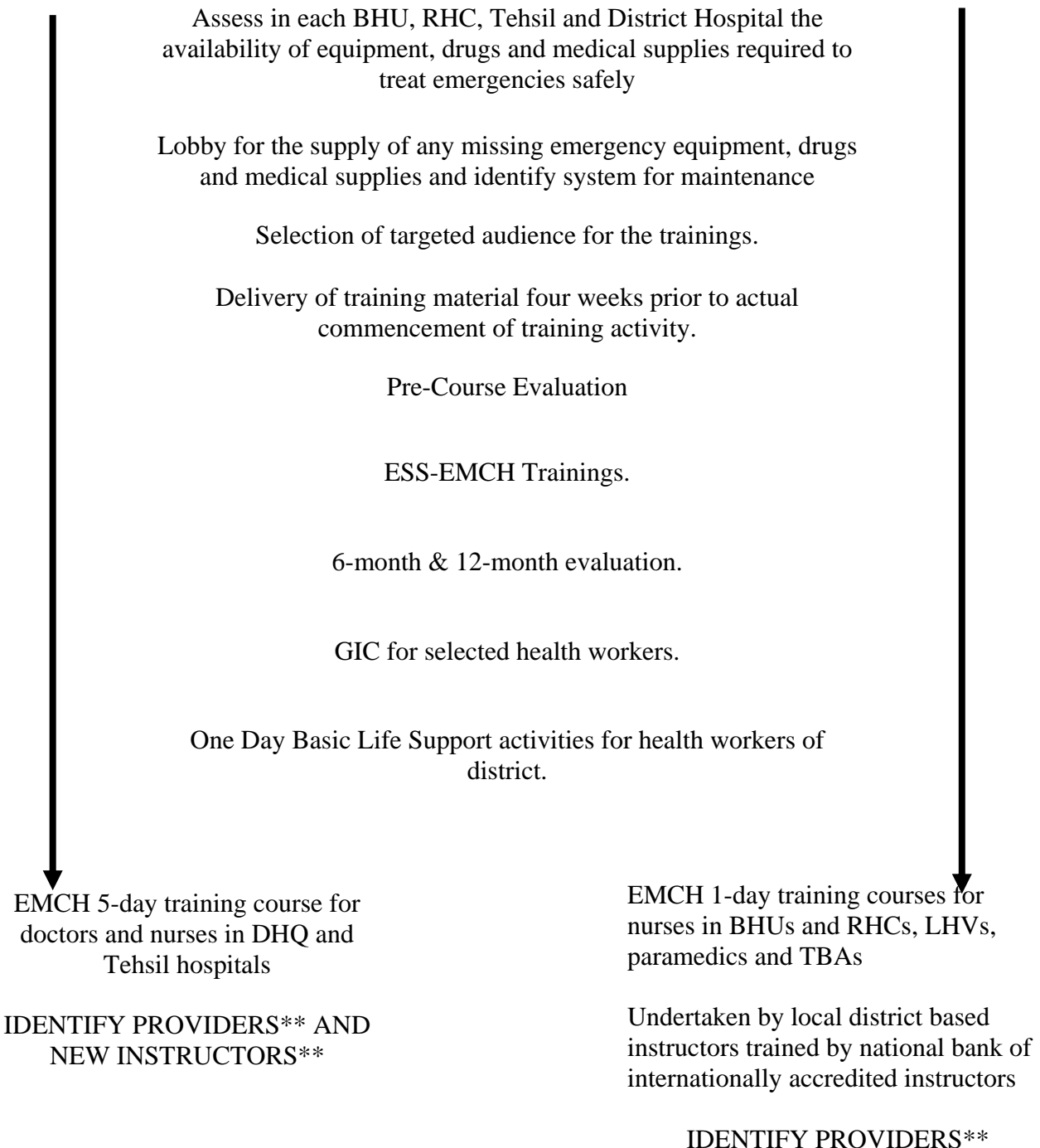
SUSTAINABILITY

These activities will be conducted in collaboration with Ministry of Health, Provincial Health Departments and District Health departments. Pre-Course Sensitization of the districts should have a significant effect on the health planners to provide appropriate funds / grants to their DHDC's to conduct ESS-EMCH activities in their particular districts, using their own district faculty and national faculty, thus achieving self-sustainability. ALSG will maintain the quality of training through frequent visits.

BENEFITS & CONCLUSION

This programme is not another vertical programme but supplement and complement the ongoing activities of Government aimed at achieving MDG's (Millennium Development Goals)⁴ in particular the target to reduce Infant Mortality by two-thirds and Maternal Mortality by three-quarters by 2015. It will also help establishing the emergency response mechanism in the existing healthcare delivery system rather than creating a parallel work force, thus avoiding duplication and utilizing minimum resources. The program also will introduce a culture of skill based accredited trainings for the health workers and lead to increased self esteem and commitment to profession in the medical staff. The programme will strengthen the continuity of care from the community to the health facility and quality of such care will be assured on a sustainable basis. Moreover sensitive but vital issues like child rights and women rights will find inroads into the very basic level of health care and community workers.

IMPLEMENTATION STRATEGY ESS-EMCH PROGRAMME, PAKISTAN.



** **Providers** are those who pass at a level indicating that they are safe to provide emergency care. In principle, **instructors** are additionally suitable for training others but first have to attend specially designed instructor courses (and are not fully registered as instructors until they have also satisfactorily been assessed in their training on 1 further EMCH course). In principle there will be 2 levels of instructor course: the first is internationally accredited, 3 days long and organised by ALSG utilising international educationalists (the GIC course). Resulting instructors will be able to teach on a full 5-day EMCH course and be responsible for training new district instructors identified following a full 5-day EMCH course. The second is 2 days long and organised at district level for instructors who will only undertake training within their district.

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