Global Health Alliance

REPORT ON PARAMEDIC SKILLING PROJECT IN INDIA ON UKIERI GRANT

PROJECT PERIOD: FEB – APRIL 2016

VENUE: DELHI, BANGALORE, PATNA

The Global Health Alliance received a grant from UKIERI in Feb 2016 of £17,800 for the ***Paramedic Skilling Project in India***. It was primarily aimed at assessing the skills level of Paramedics in India and to identify the gaps in their training through workshops and meetings. It was decided that the best way forward would be for UK experts to have meetings & workshops in India to assess in

The team was lead by:

Dr Rajay Narain

Director, Global Health Alliance & Cardiologist.

Hon. Emergency Medicine Advisor, International Development Group, NHS.

Expert Members of the Team:

Dr Atul Bansal

Consultant, Emergency Medicine, Frimley Park Hospital, London

Dr Rahul Singh

Specialist, Emergency Medicine, York Hospital

Ms Kerry Giles

Education Lead, London Ambulance Service, London

Mr Keith Bromwich

Sr. Paramedic Lecturer, Oxford Brookes University

The team of Global Health Alliance (GHA) went to India and held meetings and workshops in 3 major cities in the month of March and April 2016. The meeting & workshops were held at the following venues over 20 days:

Meetings: Delhi, Bangalore & Patna

Meeting in Delhi:

1. There were various meetings held with experts from across various fields to have a wider idea about the level of expertise of paramedics in the country. The first meeting in Delhi was held with **Prof Vijay Sheel Gautam**, National Expert, Emergency Medicine and Advisor for Min of Health, Govt. of India. He has been running training program for HGV drivers for NH10 motorway and various Govt agencies in India. The meeting discussed the level of training of paramedics in India currently. We also discussed on how the present paramedical schools are training the paramedics. It was brought to our notice that there is no standardised training at paramedic schools across India and every school is running their own training program & syllabus.
2. The second meeting was held with **Dr Shuchin Bajaj** Founder Director, Cygnus Group of Hospitals. Dr Bajaj leads a group of twelve multispecialty hospitals across north India. He has expressed the need for upgrading the skills of paramedics especially in the state of Punjab, Haryana & Delhi where he has firsthand experience of their skills. He was of the opinion that there is a need to run short courses to upskill their skills.

Meeting in Bangalore:

1 .Dr Nanda Kumar, Cardiologist, Ramakrishna Hospital, Coimbatore & lead on Emergency Medicine. Dr Kumar also echoed similar views on the level of paramedic skills in India. According to him paramedical services have not yet enjoyed the right headway as far as India is concerned, owing to many factors: lack of man power, proper training, and inaccessibility to rural areas. While the global minimum standard is 22.8 healthcare workers per 10,000 people, India has only 15.8 healthcare workers per 10,000 people, which leads to lot of gaps in the healthcare. There is lack of common training program nationally & a set standard to follow. The detailed report from the meeting is included below.

2. Dr Srinath, President, Society of Emergency Medicine, India: This meeting was extremely useful because of vast experience of Dr Srinath in this field. The most important point that came out of this meeting was that Paramedics in India who are coming out of various training colleges, need upgrading their skills as they don't have a common syllabus and there is no standardization of training.

Meetings in Patna:

1. The first meeting took place with **Prof. N R Biwas,** Director, Indira Gandhi Institute of Medical Sciences. The meeting was aimed at discussing the current level of skills and training program being run in the state. Prof Biswas emphasised the need for Upskilling the level of the paramedic's skills in the state. He also kindly offered his institute in the future to run workshops for the same.

2. The first meeting was held with **Dr Deepak Kumar,** Expert in Emergency Services, Eastern India group of Hospitals. He is leading the initiative to provide Emergency Medicine Cover to various hospitals across eastern India. He has expressed the need for training Emergency Medicine Techs and Paramedics in skills needed for proper pre hospital assessment.

3. The third meeting was held with **Dr Pramod Kumar** Cardiologist, PARAS HMRI Hospital, Patna who has been leading the initiative in the state to upgrade the training of junior doctors and techs of the Emergency Services. Paras hospital has been very proactive in training the staff in various skills. He also echoed the same need to train the junior staff and techs on various pre hospital emergencies education and managing them.

Workshops in Patna, Bangalore & Delhi:

There were three workshops held in Patna, Bangalore & Delhi where our team of experts lead a MERIT (Managing Emergencies by Rapid Intervention & Treatment) and ALERT (Acute Life Threatening Emergencies). The aim of these workshops was to interact with the Paramedics and Healthcare professionals at different parts of the country to assess their skills and see how best they can be trained.

The following individual report follows from our team of experts about what they felt was the best way forward to Upskill the skills of Paramedics in India.

India experience 2016

Keith Bromwich
Paramedic Science Lecturer, Oxford Brookes University

Brief To examine paramedic training and compare to UK training.
Firstly to examine training of paramedics in India there was a need to try and understand how their ambulances function. From what I experienced I discovered a two tier system

National Ambulances I did not have full opportunity to review a National ambulance. However these were operational around the areas I visited and comprised of a relatively small mini bus type vehicle with extremely basic equipment on board. Some were advertised with oxygen. There is no requirement to have a special "blue light" driving course unlike UK practice.

Training for the National ambulance is varied and I would suggest inconsistent in nature. Most have a basic life support. very few have advanced life support qualifications. It was unclear if any had undergraduate or graduate qualifications

Private Hospital Ambulances
These were attached to private hospitals. As with National ambulances there were different types. Basic and Advanced Life Support ambulances. Although there were paramedics for these ambulances they predominately operated with a doctor who took the lead role. This is very different from UK ambulance practice where the paramedic is the lead clinician and doctors do not accompany ambulances.
Private ambulances were of a better standard. However Basic life support ambulances were exactly that. basic with a bed, first aid kit, defibrillator and a stretcher bed with not much else. Advanced life support ambulances were better equipped with monitors and medications. However both were geared up to medical and predominantly cardiac care.

There was an expectation that doctors would leave areas like the emergency department to go and work upon ambulances. This obviously depleted the departments at the time of emergency calls.

Education
It was difficult to establish what level of education paramedics in India receive. Most training appears to stem from American cardiac life support courses learnt on line or as part of a private training organisation. There was some evidence of a degree level of education but this did not match anything like UK undergraduate or graduate paramedic degree courses.

Ongoing education and training appears very rare. There is no National register of paramedics and as such no requirement to maintain skills effectively. There is also no clear regulating body for paramedic again this leaves the paramedic role in a questionable state when considering professional standards of practice.

In turn I could see no evidence of any pre hospital protocols that would enable standards of practice to be maintained. Within the Uk the Joint Royal Colleges Ambulance Liaison Committee guidelines are National adopted and provide a clear standard of practice.

What is needed?
Paramedic development and practice appears to be where UK practice was some 20-30 years ago.

There needs to be a National structured training program developed and run by recognised institutions. These could be commissioned and regulated by the India Government in partnership with external well recognised organisations.

The training institutions would benefit from being a recognised University or have strong links with University establishments. This would in time, enable an undergraduate or Graduate development to occur. Initially the training of paramedics needs to broaden and strengthen into a more holistic course for example

Basic life support across lifespan
Advanced Life support across life span
Trauma life support basic and advanced across the life span
Obstetric care
Pediatrics care recognition of sick child
Cardiac care ACS/MI
Medical assessment and care
Moving and handling

This is very similar to the now defunct IHCD ambulance training program and would provide an entry level to paramedic practice in a fairly rapid way. It would provide a good foundation to move to undergraduate paramedic development in a relative short time.

Removal of the reliance on American based course being sold by private companies needs to be seriously considered. It is unclear as to what standard these are taught to or if they are regulated effectively with qualified trainers. Developing a Government backed and supported standard course for paramedics is key to developing the role and removing the over reliance on doctors attending emergency call which is expensive and resource intensive. Consideration to linking or partnership working with reliable and reputable organisations in the UK should be seriously considered due to the development of the paramedic role over the last 20 years.

Some of the theoretical content can be delivered on line such as anatomy and physiology followed by face to face examinations. Distance learning is cost effective and easy to establish across a large area using International providers. This approach would establish development of learning resources in a standard quality format. This is currently lacking in India.

Standard training can lead to protocol development that could be implemented nationally in India

This in turn could lead to the development of a professional register with clear standards of proficiency. In turn this would raise the professional profile India paramedics gaining respect and recognition for the role.

Other Resources / Development opportunities

Another area of concern that needs development is the standard of training resources. This needs to be addressed so as the level of actual training can improve. Significant investment into pre hospital training resources is required for example

Full size ALS manikins, simulators, Iv cannula arms, IO cannula trainers etc.

Development of care pathways to guide call takers and paramedics to appropriate care facilities

Development of early warning scores and tools to prevent pre hospital and hospital cardiac arrests rather than waiting for them to happen - like ALERt/PEWS/Trauma scoring etc

To what benefit?

Standardization of training and development builds a profession

A professional paramedic gains respect and the confidence of patients and care providers to undertake the pre hospital role to the level they expect from a doctor at a fraction of the cost.

Standard training, protocols, early warning scores and care pathways saves lives

Report from Dr Atul Bansal

Emergency Medicine Consultant

Frimley Park Hospital, London

Indian healthcare system is struggling to cope with the demands and needs of increasing population. The health care is predominantly provided by private sector but also has state run organisations.

The acute care in India has been struggling party because of fragmented health care system. The ambulances in India don't have any formally trained paramedic on it routinely. There is hardly any training pathway for paramedics in India.

In UK we have highly evolved Emergency Medicine and paramedics training pathways along with infrastructure. We have very advanced health care system and can help Indian health care in providing expertise.

We did some research and was surprised to find that most ambulances doesn't have any skilled professional accompanying them. There is lot of interest for pre-hospital and emergency care training in India. The expertise from UK can contribute significantly in this.

We did workshops in India which was very well received. The audiences were very well engaged and learnt the basic concept of paramedics. We got very good feedback. During interactions we were constantly asked to do more and more workshops for them.

In my view as an expert the following will help India to build up its pre hospital care structure:

-Paramedic training and up-skilling pathways.

- Standardized training pathways and curriculum.
- Academic and hands on assessments.
- Educational courses.
- Indo-UK cooperation and providing expertise to India.

Report from:

Dr Rahul Singh Sardar

MBBS. MRCA, FCAI (UK)

Director

ICATT

International Critical-care Air Transfer Team

Expert, Emergency Medicine, York Group of Hospitals.

Dr Shalini Nalwad

MBBS. MRCA, FCAI (UK)

Director

ICATT

International Critical-care Air Transfer Team

Paramedic Training in India:

ICATT is an organization which provides Helicopter Emergency Medical services and planned Critical care patient transfers by fixed wing Aircrafts across India and Abroad. We have trained a group of Paramedics to advanced levels to suit our clinical demands while on operations during Aeromedical patient transfers.

As part of a tie up between, ICATT and GHA (Global Health Alliance), we have been involved in the assessment and training of Paramedics in various parts of India. As part of a pilot project, we have targeted groups of personnel, from various parts of India, practicing as EMTs (Emergency Medical Technicians), assessed their present competencies and trained them not only in resuscitation of a cardiac arrest but also in diagnosing and intervening in an acutely deteriorating patient in the pre-hospital setting.

This was a structured 3-day program and it was called MERIT for Paramedics.

MERIT for Paramedics:

Assessment: the first 2 hours of the 3-day program was dedicated to a structured objective assessment which highlighted their strengths of working long hours in unfamiliar surroundings with minimal technological adjuncts. The shortfalls were a plenty. The ceiling of expectation from them were a BLS level of care.

Training: The candidates were trained by a mix faculty group from GHA and ICATT. All the faculty were trained in UK. The first 2 days were dedicated to training them in Advanced Life support. They were given separate certificates as ALS Providers by GHA at the end of day 2 after successfully completing end of course assessment.

The last day was dedicated to diagnosing and providing first line management of Acute Life-threatening Emergencies at Pre-Hospital settings. This was much more challenging as their knowledge about the use of drugs for these emergencies was limited. We found them eager to learn new concepts and hands on skills which would enhance their effectiveness in the pre-hospital arena. Their dedication and motivation towards this profession was phenomenal as many of them deliberately chose this profession despite better prospects.

Recommendations*:* The EMT training program in India is unregulated and lacks structure and the quality of available EMTs can be variable. But given a 6 months structured training course being developed by GHA, the quality of the qualifying paramedics can be used in Aviation medicine by us in ICATT as well as be highly employable by other Hospitals with pre-hospital health care programs.

Developing Paramedic training in India

Kerry Giles

UK HCPC Registered Paramedic Practitioner

Education Lead, London Ambulance Service, London

Following recent trips to India to teach Advanced Life Support and MERIT (Managing emergencies by rapid intervention and treatment) courses in Coimbatore, Patna, Bengaluru and Delhi, it is very apparent that paramedic practice in India is very different to that in the UK.

Despite the diversity of these cities the lack of effective pre-hospital care and the need for vast improvement in this field was clearly evident in each. With a population of over 2 billion the existing fragmented system falls short of meeting the demand. Improving the standard of paramedic training would have a huge impact on pre-hospital survival along with improved outcomes leading to a better quality of life for patients.

In the UK paramedic training is standardised whether it be though a University or via a paramedic training provider such as a NHS Ambulance Trust. The teaching is evidence based and follows recognised guidelines such as the National Institute for Health and Care Excellence (NICE) and the Resuscitation Council (UK). In order to practice as a Paramedic you must be registered with the Health and Care Professions Council and must undertake regular CPD to maintain that registration. In India the profession is unregulated and training and guidelines vary dramatically from one hospital to another. There are generally 2 types of ambulances, a basic life support ambulance which would carry oxygen and very limited monitoring equipment and an advanced life support ambulance that would have oxygen, a defibrillator, drugs to treat various conditions, syringe pumps, diagnostic equipment such as 12 lead ECG machines. Generally if it was deemed necessary to dispatch the advanced life support ambulance this would be staffed by both a paramedic and a doctor from the emergency department. By improving paramedic training it would negate the need for a doctor to attend the majority of these patients.

A UK paramedic is trained in all aspects of emergency care, they have an in depth knowledge of anatomy and physiology which underpins the basis of their systemic assessment of the patient leading to a working diagnosis. Because of their pharmacology training they are then able to start the treatment immediately before reaching a hospital. With the level of diagnostic equipment now available it is often more suitable to bypass the Emergency Department, instead conveying a patient to the appropriate place for definitive care. A patient diagnosed as having an acute myocardial infarction for example would be

taken directly to the nearest Cath lab for coronary angioplasty. This is something that could easily be adopted in India improving the prognosis for the patient.
All UK paramedics are trained in advanced life support including advanced airway maintenance. This is practiced both through simulation and hospital placements under the supervision of an anaesthetist.
There is training in obstetrics and neonatal emergencies along with paediatric assessment and treatment.
There is also a focus on trauma training in the UK, again standardised and regulated through the UK Trauma Network. With emphasis on stabilisation, whether that be through haemorrhage control or immobilisation etc and rapid conveyance to definitive care at a specialised trauma centre.

Whilst working in India trauma was cited as the most common call that their paramedics attended. By improving their training to a UK Pre-Hospital Trauma Life Support standard, introducing basic equipment such as splints and extrication devices for example and suitable consumables such as blast dressings their pre-hospital survival to discharge rate would increase substantially.

In the UK there is as much an emphasis on clinical placements and objective structured and clinical exams as there is on written exams, because ambulance services are hospital based in India paramedics could have direct access to specialist departments for placements reducing the financial implication of using other training facilities.

Because of the differing regulations and guidelines in Indian hospitals standardising paramedic training would be difficult to achieve but the principle of pre-hospital care is the same the world over.

Improving the standard of pre-hospital care will without a doubt improve pre-hospital survival so by introducing a standardised course based on UK guidelines once these statistics start to become apparent it may even lead to greater regulation throughout emergency medicine.

Report from Dr Nanda Kumar

Emergency Medicine Lead and Cardiologist, Ramakrishna Hospital, Coimbatore

This is to highlight the importance and the need for good paramedic service in India. The country needs better emergency medical service to match the ever growing number of emergencies. With the current system, the service is largely fragmented and falls short of meeting requirement.

It is terms like 'The Golden Hour' and the 'Platinum Ten Minutes' that typify the importance of Emergency Medical Services (EMS) all over the world. It is a well-accepted fact that a patient who receives basic care from trained professionals and is transported to the nearest healthcare facility within 15-20 minutes of an emergency has the greatest chance of survival.

It's this recognition that has led to research and development in EMS, to create services that provide medical assistance to patients at the earliest. However, the state of EMS varies drastically from developed to developing countries like India. India is yet to create a single, comprehensive EMS that can be accessed throughout the country.

Emergencies typically occur in cases like road accidents, cardiac problems, convulsions and so on. Trained technicians or paramedics provide first aid to the patient i.e. pre-hospital care and shift the patient to an appropriate facility. EMS can be provided in two forms—treatment to in-patients and pre-hospital services. Pre-hospital medical services include ambulatory services, transportation of the patients to or from places of treatment and acute medical care

The prearranged emergency services currently operate via an emergency services contact system with dedicated telephone numbers. Even the emergency helicopter services are slowly concentrating on the rural areas and are existent in the metros.

Indian scenario

There is no single system which could play a major role in managing emergency medical services in India.

EMRI was founded in 2005. To begin with, its operations were limited to Hyderabad and Andhra Pradesh with a vision of responding to 30 million emergencies and saving 1 million lives a year. It also comprises a research institute, which does medical research, systems research and operations research. Through this, EMRI provides research papers for prevention and management of emergencies. EMRI's other services includes free medical advice on phone on another toll free number 104 with access to more than 200 medical doctors and several more paramedics. It has entered into a partnership with Stanford Hospital, the School of Medicine for training 150 paramedics and 30 paramedic instructors over a two-year period in India. Though a positive, this is unlikely to meet the demand for paramedics in the country. "So far neither of these two services in Mumbai (AAPI) nor Hyderabad (EMRI) have the kind of human resources and massive training programme needed", concurs Dr N Bhaskara Rao, Chairman, Centre for Media Studies, New Delhi.

In 2007, with the extension of Ambulance Access for All (AAA)'s services, American Association of Physicians of Indian Origin (AAPI) founded Emergency Medical Service (EMS) for Mumbai. AAPI has collaborated with the Confederation of Indian Industries (CII) and

signed an MoU to endorse the growth of the healthcare sector in India, especially in rural areas. This agreement is to provide knowledge and technology transfer and provide EMSs to develop healthcare facilities in India.
Another such facility, Life Support Ambulance Service (LSAS) operating in Mumbai for three years in association with London Ambulance Service, UK, has now made inroads into Kerala and has 500 ambulances that can be reached on a toll free number 1298.

Paramedical Sciences has served as a lateral aid to the medical science, in terms of diagnosis and treatment of diseases. Their primary role is to provide advanced pre-hospital medical care to the patients.. They are specially trained medical technicians certified to provide a wide range of emergency medical services. With the advent of technological development of medical sciences, several invasive and non-invasive tools were designed, that reported a sudden upsurge of trained paramedical manpower for the operation of these technical inventions in medical sciences.

Roles of a paramedic:

- Assisting the Physician
- Responding to Emergency calls
- Trauma Assessment

Emergencies typically occur in cases like road accidents, cardiac problems, convulsions and so on. Trained technicians or paramedics provide first aid to the patient i.e. pre-hospital care and shift the patient to an appropriate facility. Pre-hospital medical services include ambulatory services, transportation of the patients to or from places of treatment and acute medical care (first aid). They deal with ACLS, spinal injury management, bleeding control, fracture management, obstetrics, management of burns, triaging of patients in mass casualty, etc.

Picture in India

In a trauma setting, patients who receive first aid from trained professionals at the site of accident, and immediate transportation to the nearest healthcare facility in the shortest time has greater chance of survival. However, there has been poor progress in the on-site emergency services in India. In spite of the development in the healthcare sector over the past decade, India is yet to create a single, comprehensive EMS that can be accessed throughout the country.

Paramedical services have not yet enjoyed the stage as far as India is concerned, owing to many factors: lack of man power, proper training, and inaccessibility to rural areas. While the global minimum standard is 22.8 healthcare workers per 10,000 people, India has only 15.8 healthcare workers per 10,000 people.

In a developing country as India, the rural section is still left unattended in terms of quality health-care system, due to the acute shortage of skilled health-care personnel. This dearth of paramedics has to be compensated with increased world-class training and education in paramedical sciences to the youths for catering a quality health-care service to this needy section of the society.

A recent World Health Organization report, titled A Universal Truth: No Health without a Workforce, says India is one of the 83 countries which do not meet the minimum requirement of having a healthcare workforce of 22.8 per 10,000 people. The country has 15.8 skilled health professionals per 10,000 people, making it worse than Sri Lanka (24.5), Thailand (17.4) and South Africa (43.4). Cuba is ranked first in the report with 159.1 healthcare workers per 10,000 people.

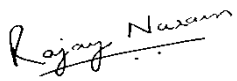
The shortage is so acute that India has more physicians than nurses. Against the globally accepted standard of 2.8 nurses per physician, India has only 0.1 nurse per physician, or one nurse per 10 physicians, says the report. A survey by health ministry's National Initiative for Allied Health Sciences and the Public Health Foundation of India in December 2012 also highlighted the acute shortage of qualified paramedic staff in the country. It said India is short by 850,000 anaesthetists and technicians for operation theatres. The story of radiographers and other medical staff is the same.

Summary

After the above meetings and workshops and reports from experts in field of Emergency Medicine the project can be summarised as below.

India is the second most populous country in the world with a population of 1.2 million with more than 65% of its population below 40years of age and more than 50% staying in villages. There is an urgent need to strengthen the Emergency Services in India which remains fragmented and scattered at the moment. The following are some of the possible ways the skilling of the Paramedic works force in India can be achieved:

1. A standardized national syllabus for Paramedics so that everybody gets trained on the same module and have similar skills.
2. The present Paramedics need to be upgraded in a big way as they lack basic skills for managing and treating emergencies in the community. The best way forward will be through short courses as we did during our mission in March/ April.
3. The expertise from UK will prove to be a big boon for delivering these Upskilling courses as we experienced by our team during this short project.
4. Train the Trainers initiative will be the way forward to train such a big fleet of paramedics in one of the biggest country in the world.
5. Better equipped ambulances are needed in every city with a centralized number like 999 in the UK to priorities the emergency and dispatch the correct ambulance with appropriate skills.



Dr Rajay Narain

Director, Global Health Alliance

Pictures from the Workshops in India lead by GHA Team of Experts