LAUNCHING THE TRAINING OF CLINICAL OFFICERS IN THE PUNTLAND STATE OF SOMALIA: A PROJECT JOINTLY EXECUTED BY THE MINISTRY OF HEALTH AND THE EAST AFRICAN UNIVERSITY

Draft Project Proposal for the kind consideration of the Stakeholders:

The Ministry of Health, Government of Puntland
East African University-Puntland
The Kuwaiti Al Manhal Charity Organization

Voluntary Consultancy

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September 2012

Contents

Acronyms

ARI	Acute Respiratory Infections
CPD	Continuing professional development
COs	Clinical Officers
CS	Cesarean Section
EAU	East African University
GHWA	Global Health Workforce Alliance
HC	Health Centre
HOs	Health officers
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MOH	Ministry of Health
PHC	Primary health Care
PHU	Primary Health Unit
PIC	Project implementation Council
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UTI	Urinary Tract Infections
WHO	World Health Organization

Preface

To provide universal health care to the population is the legitimate right of every individual, family and community, and a political and moral obligation pursued by all governments around the world. This aspiration constitutes a major challenge for Africa where the World Health Organization estimates indicate that the continent has 11% of the world's population and carries 25% of the global disease burden, with only 3% of the global health workforce and accounts for less than 1% of health expenditure worldwide. However, aspiring for better health care for the people is not really a farfetched goal as governments can always reform their human resource development prospects by promoting the mission of universal coverage, attain equity in the provision of health care services and scale up public sector resources' allocation for health. With this paradigm shift in view, the Puntland Ministry of Health has set a health policy vision substantiating the need to scale up the midlevel health workers in addition to the launching of a national community health workers' programme to maximize coverage of the health services network. A major intervention in this reform aims to resolve the shortage of medical doctors is the training of Clinical Officers (COs) who will be imparted the necessary knowledge and skills that will enable them to perform many of the diagnostic and clinical functions of medical doctors and cover a substantial part of the competencies assumed by them. These professionals are also expected to deliver a range of preventive and promotive health services and cover a major part of the rural districts assuming a leadership role in the organization and management of the district health team and health services in the catchment areas to which they will be assigned. This project will be jointly organized by the Puntland Ministry of Health and the East African University of Puntland and obtain support on the outset by the Kuwaiti Al Manhal Charity Organization. Thirty candidates will be selected for the first batch of COs, recruited to serve the districts where the shortage of physicians is already severe. The would be COs will be trained at the East African University of Puntland for a period of three years on a curriculum composed of basic, clinical and community and preventive health sciences to achieve the level of education and training required, strongly founded on community-oriented problem-based learning. This specific initiative along with the general scaling up of midlevel health professionals in Puntland needs to be offered the necessary assistance by the health sector partners as this would contribute to the envisioned universal access to quality health services and combat poverty by enhancing social harmony and improving the health of the entire population of the State.

1. Introduction

The Puntland State of Somalia has a population estimated at 2.8 million of which the majority reside in rural and nomadic areas often located beyond the reach of the comprehensive health services network. Most of the districts suffer from severe shortage in human resources and lack the leading cadre of physicians thus contributing further to the deterioration of the performance of the district health system. The infant mortality rate ranges between 81 and 100 per 1000 live births while the under-five mortality is estimated at 225 per 1000 live birth, and the maternal mortality is 1,400 per 100,000 live births reflecting the deprived health status of the population. The latter is a major impediment to the attainment of the Millennium Development Goals (MDGs). On the other hand, malnutrition is of significant public health concern, as reflected by the 2009 National Micronutrient and Anthropometric Nutrition survey, where the acute malnutrition and severe acute malnutrition rates were estimated at 10.7% and 1.3% respectively, while the underweight and stunting rates were as high as 12.8% and 16.5% respectively [1].

The Ministry of Health has made serious efforts to establish a network of district hospitals, Health Centers, Maternal and Child Health (MCH) centers and Primary Health Care Units (PHUs) and mobilized the support of a tangible number of partners in the delivery of health care services. However, at the most peripheral levels, the network is not sufficiently staffed with midlevel health professionals, and lacks the leadership role usually provided by physicians both in hospital care and health system organization and management. Moreover, the private health sector complementing the public sector is confined to larger urban centers and has insignificant role in the delivery of care to the rural and hard-to-reach population groups.

The analysis of the available Puntland health management information data of 2001 illustrate that the top morbidities registered by the health sector include: acute respiratory infections (ARI) excluding Pneumonia; Fever of Unknown Origin; Acute Watery Diarrhoea; Anaemia; Urinary Tract Infections (UTI); Skin Diseases; Eye Infections, Trauma and Burns. These health problems can effectively be addressed at the primary health care settings and district hospitals. These health problems account for over 60% of all the care seeking visits made to the public health facilities of Puntland, while the cumulative share of these health problems among the under-five children is about 70% [2]**.** Another major challenge facing the region is the insufficient health care utilization pattern, further deteriorated by the access challenges facing the distantly located rural areas and the hard-to-reach nomadic pastoralist communities.

2. The Paucity of a Trained Workforce

Somalia is one of the 57 countries experiencing human resource crises at the global level as reported by the World Health Organization (WHO) [3]. Like the rest of Somalia, Puntland falls at the lower end of the scale, in view of the country's historical limited access to development programmes in general, the lack of long term plans for human resource development, the negative impact of the 22 years of conflict in the Horn of Africa and the understandable focus on humanitarian emergency response interventions. This situation has created a gap between the population's health needs and health workforce development. The table-1 below illustrates the paucity of the health workforce estimated at one health worker per 1,000 population, falling short of the minimum standards set by WHO of 2.3 per 1,000 population. The Puntland data also illustrate the presence of one physician for every 31,000 population. This shortage is further compounded by the inequitable distribution of this scarce health workforce.

Table 1. Human Resource for Health in the Puntland State of Somalia

Health Workforce	Public	Private	Total
Doctors	41	52	93
Qualified Nurses	320	200	520
Qualified Midwives	57	30	87
Auxiliaries/ Technicians	257	393	650
CHWs	500	-	500
TOTAL	**1,272**	**562**	**1,834**

Source: Ministry of Health of Puntland-2012

As a remedial intervention, the Ministry of Health has forged collaboration with its national and international partners for the development of viable human resource development solutions that competently address the enormous service delivery challenges of the health sector. From this perspective three immediate lines of action were outlined as priorities to pursue:

2.1 Training of Clinical Officers

The severe shortage of medical doctors has generated considerable concern in Puntland as in the rest of Somalia and many other countries and regions of Africa. The universal solution that many of these countries have pursued is the training of Clinical Officers (COs) who are given sufficient knowledge and skills enabling them to perform many of the diagnostic and clinical functions of medical doctors and cover a predominant part of the competencies assumed by them. Accordingly the training of COs has become a top human resource development priority for the Puntland state of Somalia with the hope to deploy these trained professionals in the rural district hospitals and major health centers to provide clinical and preventive quality health services and support the management of the district health system.

2.2 Scaling up the Training of other Midlevel Health Workers

To scale up the production of the required midlevel health professionals, the Ministry of Health will support and encourage the health professional schools operating in the Puntland State of Somalia to scale up their production and consider the expansion of their training scope, following a human resource development plan promulgated by the ministry. The plan will emphasize on the escalated production of a range of essential midlevel health workers that include nurses, midwives, and technical in the fields of laboratory, x-ray, dental care, environmental health, pharmacy, nutrition, optometry, and physiotherapy. In the training of these professionals, the concept of skill mix may be pursued as necessary, where the existing health workforce shortages and the population health needs in the facilities in which these trainees will be deployed are evaluated. Based on these realities, the required skills of staff are determined and the training needs imparted accordingly to inculcate the necessary capacities to deliver these services with the required levels of efficiency and quality.

2.3 Training of Female Community Health Workers

This nation-wide initiative will be taken seriously by the Puntland State of Somalia. Through this programme eligible women will be selected from the community and trained on PHC services with a focus on maternal, neonatal and child health to provide services to their native communities. The government will provide all the necessary support to this programme as an integral cadre of the national health system.

3. The Project Proposal: Training of Clinical Officers

The current project proposal is entirely focused on Clinical Officers' training and aims to illustrate the vision and mission of this novice initiative in Somalia and its value to the national health system and outlines the historical Somali perspective of a similar cadre called medical Assistants. The experience gained by many African countries from implementing such projects will be explored. This will enabling developing of a detailed outline of the planning and implementation process of this project by the Government of Puntland as well as the prospectus and contents of the training programme to be pursued.

3.1 The Medical Assistant in Somalia: A historical perspective

The training and deployment of Medical Assistants in Somalia has disappeared in the past four decades from the human resource development programmes of the country. However, the training and service delivery of this professional group is vividly remembered during the pre-independence period, both in the British ruled Somali Land and Italian ruled Somalia. At that period, the few expatriate physicians were assisted by a tangible group of trained national health assistants who were deputed with diagnostic and clinical functions and constituted an important cornerstone of the health service delivery network of the country. A considerable number of these professionals extended their services in the post-independence period and were highly reputed experts for their dedication and capacity in their respective fields of expertise. Many of them were labelled with the doctor's title by their communities, as they constituted the last resort for all the major health problems referred to the hospitals and health centers they were assigned to serve. When these professionals retired, many of them at a very old age, substitutes were not considered as the newly trained Somali physicians returning from overseas institutions and those later trained in the national medical school were expected to replace this old cadre in the delivery of quality health services in the country. The civil war in Somalia, however, has seriously hampered these aspirations in view of the large number of physicians migrating from the country, the closure of the Somali National University and the resultant disappearance of the sole faculty of Medicine. Although in recent years new medical schools were initiated in different parts of Somalia the number of graduates remains modest. In Puntland no medical students have yet reached their graduation final year and it could take at least two decades to have a sufficiently reasonable production. It is therefore self evident that the current paucity of medical doctors in Puntland will stay, while their evident urban preference will continue to constitute a major challenge. Reinventing the COs cadre with imparted professional training that suits the health needs of the population and in a manner similar to that pursued by many African countries is an essential health system reform for consideration.

3.2 The African Experience

The experience of COs is not new to the African continent, as many countries have decennial long experience on the training and professional practice of this cadre in their health care services [4-8]. This is an integral part of the global efforts being made for scaling up midlevel health workers pursuing skill mix and task shifting as the strategic options forward for human resource development [9-12]. The following is a brief outline of the experience gained by several courtiers where the COs/Health Assistants are integral parts of their human resource development profile.

3.2.1 Sudan

In Sudan, the cadre holds the old name of Medical Assistants and is an official category trained by the Ministry of Health under the supervision of the Directorate General for human resources. The Medical Assistants in Sudan predominantly engage in the management of PHC services with some diagnostic and clinical management as well as public health functions. However, Medical Assistants are not licensed to perform surgical procedures, which are exclusively carried out by medical doctors.

3.2.2 Uganda

In Uganda, the role and operational scope of this cadre has evolved, where the COs assumed prime roles in the delivery of health services with specialized clinical, obstetric and surgical responsibilities. A study from Uganda revealed that the size of the communities served by the health facilities at which the COs were based ranged from 16,500 to 200,000 people and the number of beds at these centres at times approached 100. In these facilities the COs successfully managed 40– 90 of the medical patients and about 12.5% of the surgical patients and 15% of obstetric cases. In their daily outpatient contacts, the COs were able to assess or treat a median of 55 patients a day. Moreover, the COs treated a high number of trauma related morbidity [13].

3.2.3 Kenya

The programme for the training of Clinical officers was introduced in Kenya since the pre-independence days and sustained over the years constituting one of the key human resource development branches of the health sector playing a vital role in the national health care system. This training started at certificate level in 1928 until 1967 when a Diploma course was introduced. During the late seventies, specialization at Higher Diploma level was started in Otorhinolaryngology, Paediatrics, Ophthalmology and some other disciplines. COs in Kenya are responsible for preventive, promotive, and curative health care services and cover a major part of the rural and urban areas of the country [14,15]. Advance courses have also been introduced to allow a professional career development in this human resource field.

3.2.4 Ethiopia

To address the severe shortage of Medical Doctors, the Government of Ethiopia pursued two important strategies, namely the Health Extension Workers (EHWs) that are comparable to the Female Community Health workers now being under implementation in Somalia and the Health officers (HOs) equivalent to the COs who provide clinical services at the health centres and related network of health facilities [16]. An accelerated program of HOs training was launched in beginning of 2005 involving five universities and 20 hospitals. By mid 2008 more than 900 HOs have graduated, and 3,168 were under training. The programme is aimed to produce HOs capable to have the following knowledge and skills: a) assess community health needs; b)plan, implement and evaluate activities and resources of the primary health care unit; c) collect, organize and analyze health and health-related data from health institutions, communities and other relevant areas and utilize and disseminate the information to the community and other concerned bodies; d) conduct and provide continuing education on-the-job training to the staff of the primary health care unit and community health workers; e) provide comprehensive outpatient and in-patient services; perform minor operative procedures; f) refer difficult cases to the next higher level and ensure follow up; mobilize individuals, families and communities for health action; g) promote and be engaged in inter-sectoral activities; h) undertake essential and operational health research and i) document and report all primary health care unit activities.

3.2.5 Malawi

Malawi is one of the countries suffering from a severe shortage of human resources with one medical doctor covering over 40,000 population. With these meagre medical doctors, the government saw it impossible to expect that medical doctors alone would successfully deliver clinical medical care to the entire population. To overcome these challenges, two institutions were assigned to provide training for COs, offering a Diploma in Clinical Medicine [17]. Similar to most other countries, the training requires three years of education. Malawi however provides an additional year of internship to these professionals. The training of this cadre was launched in the 1980s to replace the old Medical Assistants cadre. The COs were also given the opportunity to complete an 18-month training program for orthopaedic, ophthalmology, or anaesthesia clinical officers, illustrating how their career development can effectively contribute to the national health system.

3.3 The Clinical Officers' Recruitment, Training and Licensing: the African Experiences

The eligibility criteria to the COs/medical assistants training programmes have differed in the past in different countries. However, with the advancement of the COs, both the recruitment criteria and training programmes were harmonized with minor differences related to the adaptation of the course to the health needs and health system organization of each country. In some countries the scope of performance is focused on the diagnosis and management of specific health problems in clinical settings, while others have extended the scope to include preventive health services and health system managerial roles as well as the performance of basic surgical activities. These differences primarily arise from the identified health system gaps that are not covered by other more qualified health professionals in their assigned specific geographical areas. The following table illustrates the titles, admission criteria, duration of training and scope of work of these professionals as per the specific health needs of these countries.

Table 2. The experience of training Clinical Officers/Medical Assistants in different African countries

Country	**Title**	**Entrance requirement**	**Pre-service education**	**Scope of practice**
Angola	Clinical officer	secondary school	3	medicine, minor surgery, obstetrics
Burkina	Faso Clinical officer	secondary school	3	medicine, minor surgery
Cape Verde	Health officer	secondary school	3	medicine
Ethiopia,	Health officer	secondary school	3	medicine minor surgery, obstetrics
Gabon	Clinical officer	secondary school	3	medicine
Ghana	Medical assistant	secondary school	3	medicine, obstetrics
Guinea-Bissau	Clinical officer	secondary school	3	Medicine
Kenya	Clinical officer	secondary school	3	medicine, minor surgery, orthopaedics, dermatology, anaesthesia,
Liberia	Physician assistant	secondary school	3	medicine, obstetrics but no Caesarean Section (no CS)
Malawi	Clinical officer	secondary school	3	medicine, minor surgery, obstetrics, orthopaedics, dermatology, ophthalmology
Mauritius	Community health care officer	secondary school	3	medicine, obstetrics (no CS)
Mozambique	Clinical officer	secondary school	2.5	medicine, minor surgery, obstetrics, dermatology, public health
Sierra Leone	Community health officer	secondary school	2	medicine, obstetrics (no CS)
South Africa	Physician assistant	secondary school	3	medicine
Sudan	Medical Assistant/Clinical officer	secondary school	3	medicine only, but can take additional courses to train in minor surgery, obstetrics and others
Tanzania	Clinical officer	secondary school	3	medicine, obstetrics (no CS)
Uganda	Clinical officer	secondary school	3	medicine, hospice care
Zambia	Clinical officer	secondary school	3	medicine, obstetrics (no CS), anaesthesia, orthopaedics

Source: Department of Human Resources for Health-Geneva, July 2008

3.4 Other experiences

The training of midlevel professionals assuming clinical roles in the health system has also been pursued by many countries outside Africa. The Sri Lankan experience of Assistant medical practitioners is a long term strategy aimed at overcoming the shortage of medical doctors in the rural areas. On a similar note but with different admission criteria and training programmes, a cadre of Physician assistants was pioneered by the United States of America, where more than 25 universities are conducting Master's training for this category of health professionals. These professionals share many of the same responsibilities as doctors, although they work under a physician's or surgeon's supervision. A Physician Assistant can diagnose a patient and prescribe treatment [18], and this experience was also taken up by three European countries namely the United Kingdom, Germany and the Netherlands [19]. Although their programmes possessed different admission criteria and educational programmes of varying durations, they share the common objective of addressing the insufficient number of medical doctors, and the need to create a cadre having the capacity to bridge a substantial part of this gap through the knowledge and skills imparted to these professionals.

4. Launching the Clinical Officers Programme in Puntland: Project Activities

The human resource data corresponding to the number of physicians in Puntland as stated in table 1 is far short of providing the desired levels of health coverage and yearns for the development and implementation of an urgent solution. As the majority of the limited numbers of physicians choose to work in urban areas, Puntland faces a serious problem as the overwhelming majority of its population lives in rural areas. To deal with the growing populations' health needs in Puntland, a new health cadre has been envisaged through the training of COs, that has an advantage over doctors since they have demonstrated to work effectively in the rural areas in other African countries. In addition to the diagnosis and treatment of patients and minor emergency surgical procedures in the district hospitals and major primary healthcare facilities, the COs along with the health team, will be assuming a public health role in the PHC framework with strong support to health promotion and disease prevention interventions. The latter will be carried out in coordination with the local government authorities and grass root communities. COs will also undertake a leading role in the management and administration of the district hospitals and health centers to which they are assigned.

4.1 The project planning process: undertaking study tours

The Puntland Ministry of Health under the leadership of the Minister Dr Ali Abdullahi Warsame has come to the conclusion that the evident underperformance of the health system in many districts of the state cannot be rectified without rapidly scaling up the human resource development in the public health sector. This realization was clearly outlined in the Puntland health policy, substantiating the government commitment to undertake the necessary strategic and programmatic measures for action. To address this challenge, the ministry is launching the training of COs as a top human resource development priority for which all possible efforts will be explored towards its successful implementation. To realize this goal, the ministry will partnership with the Kuwaiti Al Manhal Charity Organization and with the UN health development supporting organizations such as WHO, UNICEF and UNFPA to realize this initiative. The ministry will initially design a project blue print and subsequently organize a study tour to one or two countries with long term experience in the training of COs/medical assistants to gain familiarity with the project related planning and implementation processes. The ministry will also seek collaborative ventures with these countries to transfer the relevant practices in the execution of this initiative.

4.2 Vision, Mission and Goals

4.2.1 Vision

The training has the vision of producing competent clinical officers who are able to contribute to the improvement of provision of health care services to the rural populace of Puntland by scaling up the district level promotive, preventive, curative and rehabilitative services and advancing its organization and management.

4.2.2 Mission

The mission is to train clinical officers who after completing their training course will be deployed to serve in their native rural districts, offering unimpeded access to clinical diagnosis, testing and case management of all the common diseases faced by the different age groups of the population.

4.2.3 Goals

The key goals of this initiative include:

i) Recruiting qualified candidates for the course who have the interest and motivation for the subject of learning and have committed to serve in their native localities for a minimum period of five years.
ii) Providing a didactic curriculum comprising of preclinical phase for the teaching of basic sciences and a clinical phase in which the graduates will have a strong clinical and community health knowledge in order to provide care that will integrate curative and preventive health care aspects and pursue a community based, community oriented and problem based learning approach, exhibiting advanced critical thinking and problem solving skills that qualify students for the challenges of the duties assigned.
iii) Producing professionals that exhibit respect and compassion for the target population they will serve and to the patients seeking care in the health facilities and responsive to the ethical norms set for the profession.
iv) Inculcating the needs of the underserved populations residing in their assigned catchment areas by improving communication and raising trust, understanding and partnerships with the local communities and comprehending the major social determinants of morbidity and mortality and introducing relevant actions.
v) Maintaining a high level of professional performance and responding to the continuing professional development (CPD) obligations set for their career advancement and effective performance.

4.3 Project Feasibility and Implementation

The COs' project is being promoted to fill the operational gaps in the health services delivery system for the larger rural community. For many district hospitals and larger health centers, the MOH is unable to locate doctors to recruit and deploy in order to provide the direly required essential services to the population. The COs, once trained, will promptly provide promotive, preventive and qualified diagnostic and clinical care services to the population and effectively contribute to the attainment of the MDGs. There is no doubt that the successful launching of this project will have a significant influence on the rest of the country and provide the required lessons for its replication.

The implementation of the project will be feasible in view of the presence of the following opportunities on the ground:

- **Availability of qualified candidates for the course:** The candidates will be the high school graduates and hundreds of these are readily available as the absorption capacity of the university seats in the country are limited and the offered foreign scholarships cover a very small number of the high school graduates in Puntland. Moreover, a large number of these students cannot afford to pay for expensive overseas studies, hence the high expected demand for this professional training course.
- **Linking the programme to an existing capacity:** The East African University (EAU) in Bosaso, Puntland has accepted to sponsor the course and provide both the physical premises and necessary academic support. The EAU Medical College will also gain experience through the training of these health professionals and strengthen its human resource development capacity.
- **Commitment of the health sector:** The Ministry of Health has initiated this initiative and committed to its implementation encouraging partnerships with international teaching institutions and health development partners to extend their support for the programme implementation.
- **Committed support of an international Charity Organization**: The Kuwaiti Al Manhal Charity Organization that has a history of supporting many development projects in Somalia including the establishment of the EAU, is also committing its full support to this initiative and assisting its implementation.
- **Responding to a felt need:** The capacity of COs to actively participate in the management and implementation of district health services that constitute the weakest link in the national health system is a welcome initiative. This cadre will transform the Puntland public health sector by offering the leadership that other midlevel health workers and community health workers direly need to build an effective district health team and improve cost-effectively the health status of the population.
- **Support of the Local Government authorities:** The selection of the candidates will be carried out in close coordination with the would-be target districts for the deployment of these COs. The concerned district authorities will be encouraged to support the programme and facilitate its implementation through their visible contribution to the health system strengthening in their administrative jurisdictions.

The implementation of this project will undergo a planning process during which the necessary steps for launching the programme will be organized. These steps will include policy decisions to be taken by the government of Puntland, the development of the project operational plan, the undertaking of study tours to consolidate the academic and managerial steps necessary, while concurrently mobilizing the resources necessary for programme implementation. The following table illustrates a sequence of activities to be carried from the pre-launching of the course, its planning and implementation to the graduation date of the first batch of COs.

Table 3. Series of activities that will be carried during the planning and implementation phases of the project

Activities	Planning Phase 2012	Academic Year I 2013		Academic II 2014		Academic Year III 2015		Responsibility
Development of the first draft of the project implementation plan	⇨							MOH
Planning and implementation of the study tours to countries implementing the COs/Medical Assistant cadre as an integral part of the human resource development programme and development of collaborative memoranda of understanding	⇨							MOH & Al Manhal
Consolidation of the project plan for final consideration and execution	⇨							MOH & EAU
Organization of a national workshop to launch the initiative and build consensus among stakeholders	⇨							MOH & EAU
Preparation of the EAU Institutional capacity organization and management arrangements for the course implementation (teaching premises, tutors, leadership, supplies & equipments, text books, student hostels etc)	⇨							EAU
Recruitment of the first batch and launching the course	⇨							MOH & EAU
Formation of a Project implementation Council (PIC) to overview the project implementation and ensure the prompt mobilization of the technical, academic, managerial and financial resources required for the course and conducting two rapid appraisals during the first semester of the course	⇨							MOH
Appraisal of the academic and other facilities envisaged for the COs' course and completing the identified gaps as necessary	⇨							EAU & MOH
Launching and implementation of the first academic year of the COs training programme as per the stipulated curriculum and course outline and completing it successfully		⇨	⇨					EAU & MOH & Al Manhal
Appraisal of the first academic year of the course with the development of technical and operational recommendations aimed to improve the training programme to match the set professional objectives for this cadre			⇨					MOH & EAU
Launching the second academic year of the COs training programme as per the stipulated curriculum and course outline and completing it successfully				⇨	⇨			EAU
Launching the selection of and recruitment of the second batch of candidates for the COs training				⇨	⇨			

programme								
Launching the third academic year of the COs training programme as per the stipulated curriculum and course outline and completing it successfully						→		EAU
Launching the selection of and recruitment of the third batch of candidates for the COs training programme						→		
Graduation Ceremony for the First batch of COs							☆	EAU & MOH

Al Manhal will sustain its financial support for the first three years of the course, while the PIC will have a continuous oversight role on the programme

4.4 Recruiting Candidates

The candidates applying for the CO's course shall have to meet the minimum university entry requirements as applicable in the Puntland Sate of Somalia. The MOH in coordination with the medical college of the East African University of Bosaso will identify the 15 districts of Puntland with the most underprivileged delivery of health services, where insufficient or no medical doctors are effectively deployed. At least one candidate will be selected for each of these districts. Following their graduation, the candidates need to be willing to work in these districts. Accordingly, every selected candidate will have to sign an affidavit/surety bond to serve in his or her respective district for a minimum period of three years, which will need to be implemented as well at the appropriate time. Selections will also be made from other districts of Puntland as relevant to their prevailing needs for qualified COs. A total of 30 candidates will be selected for the first academic year, and the course will be tentatively launched in the first half of 2013. On the outset of new each academic year a new batch of candidates will be recruited with the above set criteria modalities to respond to the identified enormous gaps in the Puntland district health services

4.5 Premises for the Training Programme

The medical college of the East African University will host the course by assigning a full floor of its new building (see annex) to the COs' training. In addition to the provided teaching premises, the trainees will also benefit from the basic science laboratories of the medical college as well as from its teaching hospital.

4.6 Course duration

The COs' training course will have the duration of three years consisting of a year of predominantly preclinical training and two years of clinical training that include community health and promotive and preventive health training.

4.7 The COs' Training Curriculum

The training curriculum of the COs is aimed to prepare these professionals to effectively engage in clinical and community health and disease prevention functions. Through this training programme, the COs will provide a range of health care services, traditionally provided by physicians and predominantly practiced in the district hospitals and health centers that are lacking qualified medical doctors or where because of the severe shortage of physicians, there is inability to deliver the required essential services. The curriculum will cover the basic pre-clinical sciences such as anatomy, physiology, biochemistry, pharmacology, therapeutics, pathology and microbiology to build the required knowledge and skills that are necessary to successfully proceed to the clinical and community health subjects of the course. The students will also have laboratory based learning experience. The clinical subjects of the course will include: internal medicine, surgery, paediatrics, obstetrics and gynaecology, emergency medicine and community medicine. The clinical training will cover the attainment of skills relevant to the physical examination of patients, interpretation of clinical and laboratory tests and a range of diagnostic, treatment and preventative health care subjects, predominantly focusing on the locally prevailing health problems and needs of the population. This curriculum will give the COs the competence to counsel patients, advise on preventive care and write prescriptions relevant to the specific therapeutic needs of their patients. The performance of these professionals will be supported and closely supervised by senior physicians assigned to this function under the leadership and coordination of the Ministry of Health and the medical college of the EAU in Bosaso for which a detailed supportive supervisory programme and evaluation log book comprehensive plan will be designed.

Table 4. A summary outline of the academic curriculum for the three years of COs' training

First Academic Year	Second Academic Year	Third Academic Year
❖ Human Physiology ❖ Human Anatomy ❖ Clinical Methods ❖ Communication Skills ❖ Introduction to Computers ❖ General Pathology ❖ Pharmacology and Therapeutics I ❖ Medical Parasitology ❖ Medical Biochemistry ❖ Medical Microbiology ❖ Human Nutrition ❖ Behavioural Sciences ❖ Primary Health Care principles and the district health system ❖ Community Health I-needs, challenges and social determinants of health ❖ Computer skills and internet based active learning	❖ Medicine I ❖ Paediatrics- child health I ❖ Surgery I ❖ Obstetrics and Gynaecology including reproductive health I ❖ Community Health II-preventive health programmes & school health services ❖ Health services' Management ❖ Clinical Pathology ❖ Pharmacology and Therapeutics II- Essential Package of Health Services (EPHS) ❖ Epidemiology, Demography and Biostatistics ❖ Research Methodology ❖ Dermatology and sexually transmitted diseases ❖ Mental health care ❖ Laboratory techniques ❖ Hospital internship	❖ Medicine II ❖ Paediatrics- child health II ❖ Surgery II ❖ Obstetrics and Gynaecology including reproductive health II ❖ Community Health III-community action for health ❖ Health service Management ❖ Senior clinical attachments in medicine, surgery, obstetrics & gynaecology at hospital level and community internship at a health center under close supervision and planned competence based training

4.8 Monitoring and Evaluation

While monitoring the training programme, the EAU and the PIC will undertake regular periodic project appraisals to ensure its implementation quality. The appraisal reports will be shared with the local district authorities that the COs will serve after their graduation. The course will be appraised at the end of each semester to ensure that all the required support has been provided and the educational performance was pursued successfully with the satisfaction of the tutors and their students. Key monitoring indicators will include:

- The teachers' academic skills are assessed as appropriate for the implementation of the different courses outlined in the training curriculum
- The university organizes regular professional skills development workshops for the faculty team to raise their teaching capacity
- There is a complete harmony and cooperation among the teaching staff to successfully and smoothly deliver their assigned academic responsibilities
- The students' attendance of the course is highly satisfactory and are they successfully achieving the educational goals envisaged in the curriculum

- The teaching environment in terms of teaching aid, internet learning facilities and availability of laboratories and opportunities for clinical practices are being successfully carried out
- The living conditions in the students' hostel are conducive to the expected learning environment
- Other aspects relevant and critical to the project implementation

4.9 Project funding and internal control of financial processes

The project implementation will be partially financed through student tuitions, with support from the EAU and partially through financial assistance of the Kuwaiti Al Manhal Charity Organization and the Puntland Ministry of health. The technical support of international UN and other health partners as well as collaborative academic institutions will also be welcomed.

The EAU will open a separate account for the project funds in Bosaso and all transactions and money transfers will be executed electronically for easy monitoring and tracking. Receipts of all local purchases and small expenditures will be kept by the project management office and periodic comprehensive financial reports will be submitted on semester basis by the Dean of the COs' course. The PIC will organize an internal audit at the end of each academic year and an external governmental and Almanhal joint audit will be organized at the end of the third year of the project.

Table 5. Tentative Cost estimates for the project for the project implementation*

Items	Description	Year I (US$)	Year II (US$)	Year III (US$)	Total
Management and administration	Assigning a full time Dean for the COs' programme with secretarial support	60,000	60,000	60,000	180,000
National teaching staff	Two full time academic teachers for the course	60,000	60,000	60,000	180,000
	Three part-time teachers from the EAU	36,000	36,000	36,000	108,000
Expatriate visiting academic staff	Visiting and rotating senior teaching staff from collaborating institutions (one and half man-years for each of the three years of the course) to be replaced in subsequent batches with national teaching staff	30,000	30,000	30,000	90,000
Equipment including training tools	Technologies to upgrade local educational capacities to accommodate the ensuing COs' learning needs	40,000	10,000	10,000	60,000
transport	Two 4WD and small bus for field trip and community level training activities	50,000	-	-	50,000
computers	Computers and internet teaching facilities	30,000	-	10,000	40,000
Subtotal		306,000	196,000	206,000	708,000
Incremental Cost for the additional recruited two batches			80,000	160,000	240,000
Contingency cost (5%)		15,300	9,800	10,300	35,400

Total cost		321,300	285,800	376,300	983,400

* The above outline estimates will be finalized following a joint and more rigorous cost analysis by the engaged stakeholders

4.10 Programme Sustainability

The production of COs will constitute a major reform intervention in the human resource development of the health sector. The initiative is fully in line with the WHO and the Global Health Workforce Alliance (GHWA) focus on scaling up midlevel health professionals. It also responds to the global shortage of medical doctors in most developing countries especially in Sub-Saharan Africa and responds to the MOH need to improve the access and quality of health care services in the remote districts of the state of Puntland. The course will raise the human resource development scope of the EAU and constitute a model programme for the rest of the country. The sustainability of the programme is therefore a national necessity and the capacity for its implementation can prospectively be managed by the university through the sustained support of the health sector.

4.11 Potential Challenges and Solutions

As the COs will actively participate in the diagnosis and management of patients, we may witness an initial resistance from the medical professional groups who will show their reservation about the capacity of these professionals to perform the tasks assigned. To mitigate this problem, the Puntland medical association must be fully informed about the specific and critical roles that the COs will undertake and organize briefing workshops that will enable the medical association to comprehend the complementary role of this new cadre. The training of the COs should also be given the due attention to ensure that the transferred pre-service knowledge, skills and attitudes are comparable to the role they will assume in the health system. Moreover, a programme of continuing professional development (CPD) may be established to enhance the clinical and public health problem solving capacities and effectively address the health challenges they encounter during their field performance.

Another challenging risk may constitute the shortage of academic teaching staff for the course at the EAU as the faculty of medicine itself is already suffering from a shortage of faculty members. Serious efforts need to be made to improve the quantity and quality of the academic cadre of the EAU medical college and build collaborative partnerships with other faculties of the same university to share the teaching staff where appropriate, as well as building linkages with other medical colleges operating in the country.

4.12 Regulation of the COs' Professional Engagement

A Clinical Officer is a professional that has successfully completed the prescribed course of training and granted a Clinical Officers' Diploma issued by the EAU. The qualification of the COs may be enhanced to a Bachelor degree following an examination conducted by the university after completing two years of practice. These qualifications need to be registered under the Ministry of Health regulation and related act.

The MOH will prepare a regulation for the training, registration and licensing of COs and to regulate their practice with the ratification of this action by the Parliament as deemed necessary. The MOH will establish a Project implementation Council (PIC) that will oversee the programme planning and implementation throughout the three years of the course implementation. The PIC will also support the improvement of the COs' standards of practice, the issuance of their practicing licenses and build a collaborative partnership between this cadre and medical professionals operating in Puntland. The PIC could also assist the MOH in the development of other fields of midlevel health professionals' training to strengthen the performance of health system.

4.13 Supervising the Performance of the COs

The post-deployment performance supervision of health professionals in general is considered to be a vital managerial strategy and a tool for monitoring and capacity building. The latter is also critical and necessary for the COs, who will document their performed interventions in log-books provided for this purpose by the MOH. Qualified physicians will be officially assigned under the leadership of the MOH to periodically visit the facilities that these professionals operate and assess the tasks carried out as recorded in their log-books, as well as the quality of their implementation following the set standard clinical guidelines and expected relevant best practices. These supervisory visits need to be regularly planned and the physicians assigned to this function made known to their target COs. They should also be able to provide the required on-the-job continuing professional development through feedback discussions with the COs about the key performance interventions carried out and guide them on the problem solving modalities to be pursued in the future. Moreover, the supervising physicians will identify the continuing training needs of these professionals and design a teaching programme through periodic workshops or distance learning. The COs will be provided feedback about their clinical practices and preventive medical activities once every six months to institutionalize the culture of continuous learning.

5. Conclusion

The Puntland State of Somalia is suffering from a severe shortage of medical doctors who could produce the desired access to diagnostic, curative and preventive health services. The decision of the government to launch the training of COs is a farsighted strategy aiming to develop a lead cadre of midlevel health professionals, successfully institutionalized in a large number of African countries. The COs' acquired knowledge and skills have enabled them to lead the district health system in the framework of primary healthcare. The COs have proven to perform 60-80% of doctors' tasks and to be successfully be retained to operate in the rural areas. The conditions prevailing in Puntland make it possible to successfully launch this initiative at the EAU faculty of medicine with substantive public health support and assistance from a reliable international organization and promise the support of other health partners interested in human resource development. The COs' experience will generate lessons that will help the replication of this project in other parts of the country.

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7. Annex I

BOSASSO: FACULTY OF MEDICINE- THE EAST AFRICAN UNIVERSITY: THE PREMISES THAT WILL HOST THE CLINICAL OFFICERS' TRAINING PROGRAMME

Revised Tentative Cost estimates for the project for the project implementation**

Items	Description	Year I (US$)	Year II (US$)	Year III (US$)	Total
Management and administration	Assigning a full time Dean for the COs' programme with secretarial support	60,000	60,000	60,000	180,000
National teaching staff	Two full time academic teachers for the course	60,000	60,000	60,000	180,000
	Three part-time teachers from the EAU	36,000	36,000	36,000	108,000
	Additional teaching staff and personnel	36,000	36,000	36,000	108,000
Expatriate visiting academic staff	Visiting and rotating senior teaching staff from collaborating institutions (one and half man-years for each of the three years of the course) to be replaced in subsequent batches with national teaching staff	72,000	72,000	72,000	216,000
Equipment including training tools	Technologies to upgrade local educational capacities to accommodate the ensuing COs' learning needs	40,000	10,000	10,000	60,000
transport	Two 4WD and small bus for field trip and community level training activities	50,000	-	-	50,000
computers	Computers and internet teaching facilities	30,000	-	10,000	40,000
Subtotal		384,000	274,000	284,000	942,000
Incremental Cost for the additional recruited two batches			160,000	320,000	480,000
Total		384,000	434,000	604,000	1,422,000
Contingency cost (5%)		19,200	21,700	30,200	71,100
Grand Total		403,200	455,700	634,200	1,493,100

**The cost estimates were revised as expected final revision by the Ministry of Health (MOH) was not yet carried out. Until these estimates are approved both by Almanhal and MOH, they remain to be a draft. However, they can be accepted within this early ongoing planning phase of the project