World Health Organization
Somalia

Towards establishing emergency, critical and operative care services in a fragile setting

Capitalizing on the COVID-19 response

Report on the activities conducted under the Pandemic Emergency Financing Facility to improve access to health services in Somalia

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Foreword

These activities will not only improve access of Somali people to good-quality emergency and critical care services, but they also unlock opportunities to establish a systems approach for managing trauma and injuries as well as mass casualties in the country

The coronavirus disease 2019 (COVID-19) pandemic has been one of the biggest public health crises of our time. As it spread from one country to another, it revealed a number of lessons the world needed to learn – an important one being the value of investing in the health system, especially in emergency and critical care, which is a vital component of secondary and tertiary health care services.

This report presents a summary of the key activities carried out in Somalia, with financial support from the World Bank's Pandemic Emergency Financing Facility and technical support from the World Health Organization (WHO), as part of our government's comprehensive response to COVID-19. One of the many activities conducted as part of this short project was capacity-building of our health care workers to manage emergency, critical and operative care services at the secondary and tertiary levels of health facilities, an area that has received very little policy attention. These activities will not only improve access of Somali people to good-quality emergency and critical care services, but they also unlock opportunities to establish a systems approach for managing trauma and injuries as well as mass casualties in the country.

I am particularly happy to note that even though this funding came to help support our COVID-19 response, the outcomes of the activities are helping to build sustainable health care services, which will also be ready for any future public health emergency. The assessment that was done, as part of this project, to better understand the emergency, critical and operative care services in the country, and the training that was conducted to improve the basic emergency care skills of our health workforce and enhance hospital management skills for better care are a foundation for integrating emergency care into primary and secondary care as part of our continuum of care and services. The outcomes of the project have also paved the way to integrate secondary- and tertiary-level services with primary care.

It is our sincere hope that the effect of the activities conducted during this short project will leave a legacy not only of empowering our health workers with new knowledge and skills but also of instilling a systems-wide thinking to work towards establishing health services that cater for all Somalis and not just a few.

On behalf of my ministry, I would like to thank WHO for their support in implementing this project and achieving the results to our full satisfaction. I remain firmly committed to supporting our health systems based on an integrated service delivery model. Together, we can achieve this.

Dr Fawziya Abikar Nur
Minister of Health and Human Services
Federal Government of Somalia

Foreword

Over time, as our eco-system has developed, grown and become more complex and diverse, diseases that emerge at the interface of animal, human and environmental health develop their potential to cross borders, spread rapidly and become public health emergencies of national and international concern.

In recent times, Ebola virus disease, Middle East respiratory syndrome, Zika virus disease and now coronavirus disease 2019 (COVID-19) have shown us the ability of diseases to spread rapidly within and across borders, forcing country-wide lockdowns, causing thousands and even millions of deaths, and harming economies of countries. In order to prevent the spread of diseases, all countries, especially fragile ones, need funding and capacity to mitigate the impact of diseases. Unfortunately, some countries that already have limited capacity to manage disease outbreaks may also find it challenging to secure the necessary financial resources when they are needed the most.

The 2014 Ebola virus disease crisis in West Africa highlighted the difficulty in rapidly mobilizing funding from the international community to contain a pandemic outbreak. To help address this issue, the World Bank launched, in 2016, the Pandemic Emergency Financing facility to provide an additional source of financing for the world's poorest countries when they face cross-border, large-scale disease outbreaks.

On 27 April 2020, the Steering Body of the Pandemic Emergency Financing facility allocated US$ 195.84 million to 64 of the world's poorest countries with reported cases of COVID-19, with special attention given to areas with the most vulnerable populations, especially in fragile and conflict-affected countries. As of 30 September 2020, the entire US$ 195.84 million has been transferred to support COVID-19 responses in 64 countries. The funds provide additional financial support to these countries for their COVID-19 response, including essential and critical life-saving medical equipment and personal protective equipment.

I am happy to note that Somalia received this additional funding from the Pandemic Emergency Financing facility to protect communities and the economy from the effects of COVID-19. The funds were channelled through the World Health Organization (WHO), which was the implementing agency for activities in Somalia funded by the Pandemic Emergency Financing facility. Both the Federal Government of Somalia and WHO undertook a series of activities, which aimed to build capacity of the health system to operationalize emergency and critical care at secondary-level health facilities as part of efforts to minimize deaths and limit the impact of the COVID-19, especially on vulnerable populations.

Among all the important lessons learnt since the COVID-19 pandemic spread across the globe, one stands out: empowering the health workforce in a country can create the right tools and environment to better respond to an emergency, now and in the future. This Pandemic Emergency Financing project has done just that. By introducing basic emergency

Among all the important lessons learnt since the COVID-19 pandemic spread across the globe, one stands out: empowering the health workforce in a country can create the right tools and environment to better respond to an emergency, now and in the future

care, infection prevention and control and critical care in health services delivery, we see that the foundation of a strong and resilient health system has been built whereby health workers at secondary- and tertiary-level health facilities are more equipped today to face the ongoing COVID-19 pandemic and any future public health emergencies.

I am pleased to see this report published and note with great interest and attention that the report lays a roadmap for further strengthening the emergency care services around the primary health care system, which should be the way forward for a country like Somalia where people rely mostly on primary health care services to access health care. The World Bank will be glad to follow up on the implementation of this roadmap together with the Federal Government of Somalia, WHO and other partners.

I also congratulate WHO for implementing this project in a timely and efficient manner.

Kristina Svensson
Country Manager, Somalia
The World Bank

Preface

This project has helped Somalia make a big step towards achieving health for all, while simultaneously helping to keep a fragile part of the world safe by serving the vulnerable

The World Health Organization (WHO) works closely with every government to promote health, keep the world safe from disease and serve the vulnerable, with the overall aim of ensuring all individuals and communities receive the health services they need without suffering financial hardship. The coronavirus disease 2019 (COVID-19) pandemic, more than ever, has revealed the fact that protecting the vulnerable is one of the important ways to keep countries safe, economies open and livelihoods of the people safeguarded.

When COVID-19 spread to Somalia, the Federal Government and WHO's country office in Somalia followed a response strategy to support effective containment and mitigation measures to limit transmission, while also ensuring recovery of the health system with the view to making sustainable and measurable progress on establishing integrated health service delivery in the country. With critical financial support from the World Bank through the Pandemic Emergency Financing facility, the Government and WHO were able to achieve these goals: we undertook to work on developing the capacity of health professionals for managing emergency and critical care services at the secondary- and tertiary-level health facilities in Somalia as a means of strengthening the continuum of care across all levels of the health services.

As this report outlines, the project provided a series of activities aimed at: updating the skills and knowledge of health professionals; organizing their responses to emergencies, such as mass casualty events; reducing the spread of infections, particularly within health-facility settings; enhancing leadership and management at hospitals; and improving the capacity of critical care services offered in health facilities. By using digital technology, these activities have ensured sustainable systems of skills transfer at national and subnational levels.

In addition, this report presents preliminary findings of a rapid hospital assessment designed to evaluate the capacity of existing health facilities and identify gaps in service delivery. The assessment was conducted in 142 hospitals across all regions of Somalia. Once the analysis is finalized, the findings will direct future decision-making and investment on improving emergency, critical and operative care services in the country built around robust primary and secondary level care.

In line with WHO's thirteenth General Programme of Work, 2019–2023, a main focus of the Pandemic Emergency Financing project was to improve equitable access to health care. This project has therefore laid the foundation for establishing emergency care as part of integrated service delivery in the country, an important step to achieving WHO's main aspirational goal of health for all. For Somalia, as a country with a fragile health system, this is the beginning of its broader transformation agenda to reform the health system in order to improve health service delivery so that it caters to everyone's needs, everywhere in this country.

WHO is happy to be a part of this transformation in Somalia and is committed to helping establish emergency, critical and operative care services as part of the continuum of care as the country aspires to achieve universal health coverage.

I thank all our partners and agencies who have actively engaged and participated with us in the implementation of this project in record time.

Dr Mamunur Rahman Malik
WHO Representative to Somalia

Introduction

The 2014 Ebola virus disease crisis in West Africa highlighted the difficulty in rapidly mobilizing funding from the international community to contain an epidemic or pandemic. To tackle this issue, the Pandemic Emergency Financing Facility – housed at the World Bank – was launched in 2016 to offer another source of financing for the world's poorest countries when faced with large-scale, cross-border disease outbreaks.

Owing to the protracted nature of the conflict in Somalia, little investment has been made in the country's health system, especially in emergency, critical and operative care services. In the absence of any long-term sustainable strategy for establishing and strengthening emergency medical care services as part of the continuum of care linking primary and secondary health care, services for patients who require timely access to acute and advanced treatment have been suboptimal, leading to an overreliance on emergency and critical care services in the private sector.

During the coronavirus disease 2019 (COVID-19) pandemic, the spotlight again focused on the need for critical care services for several reasons: about a quarter of patients with COVID-19 across all countries became critically ill and required critical care support in health facilities; the hospital services in resource-poor settings became even more overstretched because their health facilities were not well equipped to provide acute critical care support for life-threatening medical conditions; and health care professionals in these countries lacked the skills needed for critical care for such medical conditions.

Recognizing the urgent need to improve care for critically ill patients with COVID-19 and strengthen clinical care services in Somalia, the World Bank teamed with the World Health Organization (WHO) and the Federal Government of Somalia to support the Improving Access to Health Services *(Damal Caafimad)* project through its Pandemic Emergency Financing Facility.

The project had three strategic objectives.

i. Enhance and sustain capacity for emergency care within the continuum of health care through training, mentorship and knowledge management.

ii. Develop operations and management capacity of ministries of health for management of emergency, operative and critical care services.

iii. Document and support organizational learning and lessons learnt.

The project activities funded by the Pandemic Emergency Financing Facility were implemented by the WHO country office of Somalia between 10 September 2020 and 31 March 2021. The funding provided by the World Bank (US$ 2.88 million) for the project was used to improve the capacity of health care professionals in Somalia to deliver emergency, critical and operative care services. The overall goal was to establish integrated service delivery by unifying and optimizing services in both primary care and hospitals, which have distinct but complementary capacities for delivering effective emergency care services.

This report provides a summary of the activities conducted under the Pandemic Emergency Financing project. The report is divided into three sections. The first section describes the project activities and outcomes, the second section provides reflections from the field and lessons learnt as described by the participants and facilitators of the training activities carried out under this project, and the third section outlines the vision to establish emergency, critical and operative care services as part of integrated service delivery in Somalia by building on the work done through this project. ■

Section 1

1 Emergency and critical care services: developing integrated service delivery for a continuum of care through the health system

Summary

- Rapid assessment of critical care services conducted in 142 hospitals in all 18 regions using online tools
- Capacity built for assessing hospital facilities using standardized research application tools
- Existing gaps in critical care services identified paving the way to developing sustainable emergency care services as part of the continuum of care for integrated service delivery

Global experience and evidence showed that potentially irreversible respiratory complications can occur in patients with COVID-19, and hence prompt diagnosis and treatment are needed. However, swift responses are not possible in the absence of a skilled health workforce, adequate biomedical equipment and supplemental oxygen. As the objective of this project was to enhance and sustain the capacity for critical care services, it was important to understand the readiness of secondary and tertiary health care facilities across Somalia to handle patients with severe and life-threatening conditions.

With support from WHO headquarters, the country office conducted a rapid assessment of critical care services in Somalia using the WHO emergency critical care assessment tool. The tool was first customized for use in the Somali context. Two experts trained 15 data collectors (six in Banadir and Federal Member States, five in Puntland and four in Somaliland) on the use of the Research Electronic Data Application (REDCap), a secure web and mobile application used to build and manage online surveys and databases that allows online and offline data to be captured for research and studies.

Enumerators used REDCap, an online application, to compile information from hospitals

Table 1 Findings of the rapid hospital assessment, Somalia, 2021

Item	Number
Hospitals assessed, no.	142
Operation theatres, no.	97
Outpatient departments, no.	54
Emergency departments, no.	112
Intensive care units, no.	23
Inpatient departments, no.	128
Inpatient beds, no.	5822
Full time doctors working in the hospital, no.	710
Full time nurses working in the hospital, no.	1988
Emergency critical care readiness, % of hospitals	28
Availability of handwashing facilities, % of hospitals	66
Availability of designated area for emergency care, % of hospitals	20
Availability of intensive care units, % of hospitals	77
Availability of emergency unit, open 24 hours a day, % of hospitals	2.9
Availability of X-rays facilities, open 24 hours a day, % of hospitals	13.6
Availability of laboratories, open 24 hours a day, % of hospitals	13.6
Availability of pharmacies, open 24 hours a day, % of hospitals	16.4
Availability of medical oxygen, % of hospitals	25
Availability of electricity, % of hospitals	62
Blood transfusion services, open 24 hours a day, % of hospitals	0
Availability of running tap water, % of hospitals	37

After pilot tests in Mogadishu, the data collection exercise started on 10 January 2021 in Mogadishu, after which it was expanded to 18 regional secondary- and tertiary-level hospitals in both the private and public sectors.

In each hospital, enumerators interviewed hospital administrators/directors and one clinician each from the emergency room, the intensive care unit (ICU), an inpatient ward and the outpatient department. They gathered information on the technical capacity of the hospital, such as the: emergency unit, operating theatres, outpatient department, regular wards and ICU; number of beds available; transfers/referrals; protocols, such as treatment, diagnostic and management protocols; quality improvement processes; facility ownership (public or private); infrastructure available; main services provided (including diagnostic services; and ability of health personnel to access personal protective equipment (PPE) and infection prevention measures. Throughout this process, WHO technical experts supported the enumerators and data managers by reviewing data submissions and providing corrective feedback and technical assistance where needed. The final assessments showed the overall capacity of the hospital not only in terms of critical and trauma care management facilities, but also with regard to the basic hospital functions and infrastructure, such as electricity and water supply.

Overall, 142 hospitals, 79 of which were public hospitals, were assessed. Detailed analysis of this rich dataset is underway, but an analysis was conducted to check the completeness of the dataset and to provide a snapshot of the hospital assessment (Table 1, updated 7 May 2021). From the data analysed so far, beds are available in the hospital surveyed to cater for patients. However, in terms of service delivery, many lack important services and equipment; for example, none of the hospitals had blood transfusion services and few had medical oxygen.

The findings from the hospital assessment will guide the development of an online data collection and management system for case-based patient data in the future, with specific focus on the critical care units of targeted hospitals. ■

Basic emergency care skills: integrating early emergency interventions in primary care

Summary

- 16 trainers certified as master trainers for basic emergency care training of the International Federation for Emergency Medicine (IFEM)
- 354 front-line health care workers trained in basic emergency care, a certified training programme of WHO, International Committee of the Red Cross (ICRC) and IFEM
- Basic emergency care skills and procedures introduced as part of essential health care at the primary care level

As part of this project, WHO conducted a basic emergency care course in Mogadishu in December 2020 and January 2021, and in Hargeisa in January 2021. Jointly developed by WHO and the ICRC, and endorsed by the IFEM, this certified course was designed for front-line health care providers who manage acute life-threatening conditions with limited resources. The African Federation for Emergency Medicine, a member organization of IFEM and the certifier and accreditor of the basic emergency care course, facilitated the training course with WHO staff from WHO headquarters and the WHO Regional Office.

Under the supervision of international master trainers, the course was implemented in two phases. The basic emergency care training was first given to clinicians from all over Somalia as a 5-day course. This was followed by a 6-day session to train trainers: 16 participants were selected and became national provisional trainers in Mogadishu and Hargeisa (Table 2). These provisional trainers then conducted cascaded training for health care workers across the country.

Health professionals who participated in the basic emergency care course were offered simulations of real-life scenarios and theory

To comply with the accreditation process of becoming a master trainer for the basic emergency care course, each of the provisional trainers conducted two sessions of 5-day basic emergency care training in Mogadishu, Garowe and Hargeisa under the supervision of the international master trainer from the African Federation for Emergency Medicine. After their certification, the master trainers conducted basic emergency care training for other health professionals in Mogadishu, Garowe and Hargeisa. Through the basic emergency care training, 354 health care workers were trained to adopt a systematic initial approach to managing acute and potentially life-threatening conditions in a timely way. Participants also gained practical skills for life-saving interventions during these trainings.

“On behalf of the Federal Government of Somalia, the Ministry of Health and partners conducted the Pandemic Emergency Financing project which will contribute to the health sector. The training provided through this project came at the right time – as such training will strengthen Somalia’s COVID-19 response in many ways, especially by developing the capacity of the health workforce. The sessions enhanced the skills of doctors and nurses working on the front lines in emergency departments, intensive care units, and as leaders and managers, among other roles.

It is the first time Somalia has trained master trainers for basic emergency care and infection prevention control in the country, who will further share their skills with other professionals. It is also the first time a comprehensive rapid assessment of critical care services in hospitals has been conducted, the findings of which are currently being analysed by the Ministry of Health, with support from WHO, to have data for evidence-based planning in the health sector.”

Dr Ibrahim Mohamed Nur
Director,
Department of Human Resources for Health and Training
PEF Focal Point/Coordinator,
Federal Ministry of Health and Human Services, Somalia

Table 2: Basic emergency care training, Somalia, 2020–2021

Location	Number of international trainers	Number of provisional trainers[a]	Number of master trainers	Number of health care workers at the basic emergency care training of trainers[b]	Number of health care workers at the basic emergency care training by provisional trainers[c]
Banadir	3	8	8	22	14
Jowhar		–	–	5	12
Barawa		–	–	7	12
Kismayo		–	–	5	12
Dusamareb		–	–	5	12
Garowe		–	–	10	16
Hargeisa		8	8	133[d]	89
Total	**3**	**16**	**16**	**187**	**167**

[a]Provisional trainers were selected during the initial basic emergency care training based on their interest and skills acquired during this session. They were then trained in a training-of-trainers session. The best trainers were selected and accredited as master trainers, which allows them to conduct cascade training in other locations, under the supervision of international master trainers.

[b]December 2020–February 2021.

[c]February–March 2021.

[d]This includes 114 people trained during cascade training conducted by the master trainers.

Starting with the ABCDE approach

Mogadishu is no stranger to emergencies. After witnessing many innocent injured victims wait indefinitely for help to arrive during each incident, a group of Somali professionals set up the Amiin Ambulances Organization in 2006. The organization's ambulances serve victims free of any costs along the busy Mogadishu and Afgoi corridor.

Twenty-six-year-old Dr Abdirahman Ali Dahir joined the team of the Amiin Ambulances Organization as a volunteer team leader in 2018. Although Dr Dahir and his colleagues were happy to be part of a team serving others, after attending the basic emergency care and mass casualty management courses in Mogadishu, he felt that he had acquired many new and life-saving skills.

As part of the basic emergency care training, participants like Dr Dahir learn to approach trauma patients in a systematic way using the ABCDE approach. Among other skills, participants learn how to identify life-threatening conditions early, insert supportive devices in basic airways, and ensure patients' airways remain open and that breathing and circulation are adequate to deliver oxygen to the body. They also learn how to manage patients with breathing difficulties and patients in shock.

In addition, Dr Dahir learnt what not to do in an emergency situation and while handling trauma patients.

Since he has gained this valuable knowledge, Dr Dahir has conducted cascade training within the Amiin Ambulance services, the Jazeera University Hospital and the Kalkaal Specialist Hospital.

The courses offered participants a unique opportunity to get to discuss their experiences and best practices with one another

> At one of the trainings in Mogadishu, a participant turned master trainer approached me at the end of one of the days and expressed just how much they needed the basic emergency care training. He looked at me earnestly and said, "I promise, we will teach our nation." After so many days and nights of pouring ourselves into making the trainings happen, knowing that they were motivated to carry things forward without us brought tears to my eyes!

Dr Pryanka Relan
Technical Officer,
WHO Facilitator, Basic Emergency Care Training

Medical educational facilities need support

When Dr Abdifatah Hussein Osman was young, his sister died when she was pregnant. She was suffering from eclampsia. When she was having convulsions one evening, Dr Abdifatah rushed with her to the hospital where she had another convulsion that blocked her airway. As she could not get a doctor's attention in time, she passed away. Dr Osman was only 11, but this incident was etched in his memory for life.

For the last 2 years, Dr Osman has been working in the emergency department at the Hiran Regional Hospital in Beletweyne (a regional referral hospital), where he sees about 45–65 people a day on average. Among other cases, he sees a lot of emergencies caused by road incidents as they have no rules on Beletweyne's roads.

Recently, Dr Osman had a feeling of déjà vu when a pregnant women with eclampsia and convulsions rushed through the doors of the emergency ward. He dropped what he was doing and went to support and stabilize her. One of the first things Dr Osman did was to use the ABCDE approach that he had learnt at the training supported by the Pandemic Emergency Financing project. He observed her airway and realized she needed oxygen immediately, after which he checked all her vital signs. Twenty-five minutes after Dr Osman met this patient, she was stable, and after a few days of observation, she left the hospital in good health.

Even though he graduated 2 years ago from Jazeera University in Banadir, he explains that the teachers need to upgrade their own knowledge, skills and hands-on experience in order to share this knowledge with medical students. "There is a big gap in medical educational facilities." Dr Osman says. "Medical faculties also need updated curricula that address the emergencies Somalia faces and modern teaching tools, but for this, they need support from the ministries of health and education." ■

Methods used in basic emergency care training	PowerPoint presentations, group discussions, hands-on training, case scenario presentations, workbooks, flash cards, WhatsApp group for communication.
Outputs	Participants learnt practical and systematic approaches to responding to acute and potentially life-threatening conditions, including trauma, difficulty in breathing, shock and altered mental status. Participants also received hands-on training sessions to enhance their skills in the application of various life-saving tools and techniques and on immediate management of critically ill patients, oxygen therapy protocols and administration of life-saving medicines and intravenous fluid. This knowledge will increase participants' confidence in dealing with emergency cases.
Outcomes	Improved knowledge of emergency preparedness at the hospital level; knowledge and skill transfer among nationals through master trainers and by collaborating with health authorities; stronger foundations for dealing with emergencies at the hospital level.

Mass casualty management and trauma care: building capacity for critical care, resuscitation and emergency surgery

Summary

- First certified course held in Africa of the WHO Academy on mass casualty management
- 74 doctors and nurses trained on three WHO Academy certified courses on mass casualty management
- Mass casualty management plan for hospitals developed and tabletop exercise organized to practise and test hospital preparedness, readiness and response procedures for handling mass casualties in hospitals

A rapid assessment by WHO for better understanding of the critical care services in the country concluded that trauma imposes a heavy burden on Somalia's health system and the community at large: about half of all civilian trauma cases are caused by conflict and about a third of all casualties are children under 15 years.

Against this backdrop, WHO identified the immediate needs for hospital preparedness, mass casualty management and trauma training. As the first of its kind, the WHO Academy, together with the WHO Regional Office for the Eastern Mediterranean, developed an operational, context-specific and team-based training course on mass casualty management. The objective of this training was to prepare health workers across Somalia to respond effectively to mass casualties in their hospitals, whether caused by a bomb explosion, road traffic incident or a natural disaster.

The training focused on building knowledge and competencies, and allowed global experts to support Somali health workers in designing and upgrading their own hospital mass casualty management plans. These plans were tested using tabletop exercises and revised based on the lessons learnt, with the support of the WHO experts.

Gaining practical skills for efficient management of situations

As the only surgeon at Jowhar Regional Hospital, Dr Mohamed Mohamud Yusuf specializes in surgery for war victims and elective surgeries. Every few months, as a result of the conflict around Jowhar, Dr Mohamed has to work with people suffering from wounds as a result of fighting and bomb explosions, in addition to elective surgeries he conducts.

Dr Mohamed says the training in mass casualty management was one of the best he has ever participated in, especially because it was practical and related to his work and the situation in Somalia.

He particularly benefitted from learning how to plan for a mass casualty event, including organizing teams in the hospital and managing crowds during unexpected events, and nominating security and resource leads, for example.

A facilitator at a mass casualty management training course discussing mass casualty events with trainees

This pilot training offered opportunities for the participants to practise preparedness and response mechanisms for mass casualty management in emergency departments especially to:

- gain knowledge of the concepts of mass casualty management;
- practise mass casualty management in teams through simulation exercises using their own hospital plans;
- share best practices and difficulties with health workers from other hospitals; and
- create or update their mass casualty management plans and identify areas for action in their facilities.

In Mogadishu and Hargeisa, 10 international master trainers from the WHO Academy conducted three 5-day mass casualty management training courses for 74 doctors and nurses (Table 3). A central component of the training was to facilitate dialogue between doctors and nurses to share their knowledge, experiences and interest in improving mass casualty management, with the aim of building a "community of practice" led locally by the Somali health care workers. ■

Table 3 Training on emergency preparedness and response, and mass casualty management, Somalia, January–February 2021

Location	Number of international trainers	Number of participants
Banadir	6	20
Jowhar		5
Barawa		7
Kismayo		5
Dusamareb		5
Garowe		10
Hargeisa	4	22
Total	**10**	**74**

Methods used in mass casualty management training	PowerPoint e-presentations, interactive and clinical-led discussions, hands-on training, case scenario presentations, workbooks, quick cards, tabletop exercises, WhatsApp group for communication.
Outputs	Participants acquired knowledge of the fundamental components of a mass casualty response which will enable them to build robust, effective, efficient and sustainable mass casualty plans applicable to the health systems in their areas of work.
Outcomes	Better equipped hospitals and health workforce able to respond to mass casualties.

> Although nearly all of the trainees were aware of the concept of a mass casualty plan, few had any experience of one and many had no real idea of what a plan entailed. By the end of the course, the trainees were more familiar with the concept of working in a team and the design and implementation of a mass casualty plan. Most importantly, at the end of 5 days, it was possible to see an evolving understanding of underlying concepts and an ease with communicating with colleagues in the language of mass casualty.

Dr Neil Shorney
Consultant Anaesthetist, WHO Trauma Operational and Advisory Team
Expert Adviser, WHO Academy Mass Casualty Management Programme

> The mass casualty management training in Mogadishu in January and February 2021 was a most useful and rewarding experience to look into hospital emergency plans for mass casualty management with local colleagues who, regrettably, have to deal with the results of ongoing violence. And there was a special moment – meeting a patient from my first mission in 1992 in Gedo region, who was then a malnourished child and is now the doctor in charge of a hospital.

Harald Veen
Surgeon
Facilitator, WHO Academy Mass Casualty Management Programme


MEM
PLAN

Use and maintenance of biomedical equipment in critical care: using oxygen concentrators to provide better care

Summary

- Appropriate use and maintenance of medical oxygen concentrators at the point-of-care enhanced
- Plan developed for servicing and maintaining other essential biomedical equipment as part of the learning network

Medical oxygen concentrators are an important development in medicine, particularly for low-resource settings. In response to the COVID-19 outbreak and to support patients who need medical oxygen, between 2020 and 2021, WHO, with support from the United Nations Children's Fund (UNICEF) and International Organization for Migration (IOM), supplied over 200 oxygen concentrators to over 40 hospitals across Somalia.

However, these life-saving tools would be of little use without health personnel who can use them properly. Therefore, on 9 December 2020 and 21 January 2021, WHO staff conducted 2-hour, hands-on training sessions on the use of the CANTA V8 oxygen concentrator – the concentrator that was procured for Somalia through the UN Global Supply Chain Consortium – in Mogadishu and Hargeisa. These training sessions included troubleshooting and maintenance of the device.

Dr Pryanka Relan, training facilitator and Technical Officer from WHO headquarters, remembers a number of participants from the training on oxygen concentrators being very keen to learn every word that was being said by the facilitators and what buttons to push on the device. As they had no biomedical support in their hospitals, caring for equipment was their responsibility as clinicians. As a result, they were eager to learn how to maintain the new device in order to provide lifesaving oxygen to their patients for months and years to come. The trainees described having seen equipment that piled up in their hospitals, unused, so they wanted to ensure they could make good use of this device in the long term. ■

Methods used in medical oxygen concentrator training	Hands-on, practical training – in person and with expertise from WHO headquarters.
Outcomes	Participants were made familiar with the use of oxygen concentrators available in Somalia and how to troubleshoot and maintain them.
Outputs	Increased capacity to maintain and use oxygen concentrators.

Behind the frontline: enhancing hospital management skills for better care

Summary

- Leadership training workshop introduced for hospital managers
- 69 hospital directors from all regional hospitals and representatives from key nongovernmental implementing partners (e.g. ICRC, Médecins Sans Frontières and Save the Children International) trained on essential leadership and management skills of hospital services
- Network of hospital managers established for peer-to-peer learning on essential aspects of hospital leadership and management

Senior leadership among health authorities and hospital directors plays a critical role in driving changes in knowledge, attitudes and behaviour across a country's health workforce. Therefore, the hospital management and leadership workshop was specifically designed to equip hospital leaders and decision-makers, who have been struggling with the COVID-19 pandemic and inadequate resources, with updated knowledge and lessons learnt from other countries and contexts on patient safety, quality of care, triage and emergency unit design. Strengthening these skills will bring new perspectives, support coordination between policy-makers, donors and implementing partners, and improve the implementation of cross-cutting emergency, trauma and critical care management to save lives.

To this end, WHO held 3-day hospital leadership and management workshops in Mogadishu in December 2020 and Hargeisa in January 2021. Participants included representatives of national and state ministries of health, 69 hospital directors from all regional hospitals, and representatives from key nongovernmental implementing partners (e.g. ICRC, Médecins Sans Frontières and Save the Children International), as well as some private hospitals (Table 4).

Participants play a game to describe various terms in mass casualty management during leadership training

Motivating health leaders by developing management skills

As the Hospital Lead at Beletweyne Regional Hospital, Dr Suleiman Abdi Ali felt the training on hospital management and leadership in Banadir was just the breath of fresh air that he, and other hospital managers, needed.

One of the things he was grateful to learn during the training was the difference between leadership and management: managers should control and supervise, whereas leaders delegate, inspire and motivate people to be their best.

"At the hospital, all the department supervisors, including the emergency unit, surgical unit and maternity department, report to me. Sometimes, it can get overwhelming. However, with the knowledge I have gained, I feel more confident and organized. I have had many trainings before but this was special," explained Dr Ali.

Dr Ali also appreciated refreshing his knowledge about how to triage and prioritize patients effectively. After the training, Dr Ali made sure he shared all his newly gained skills and knowledge with his hospital staff, and in the teaching forums hosted by Beletweyne Regional Hospital.

"After all, we are responsible for teaching the next generation of health workers how to be good leaders," said Dr Ali. ■

Table 4 Hospital management and leadership workshop, Somalia, December 2020 and January 2021

Location	Number of international trainers	Number of participants
Banadir	4	11
Jowhar		4
Barawa		5
Kismayo		4
Dusamareb		4
Garowe		6
Hargeisa		35
Total	4	69

Methods used in hospital management training	PowerPoint presentations, group discussions, hands-on training, case scenario presentations, handouts and presentations shared.
Outputs	Hospital directors learnt manage emergency care pathway procedures, including triage, emergency unit design, patient flow and resource management. Participants also acquired project management skills to run hospitals efficiently.
Outcomes	Hospital managers and ministry officials better equipped to manage emergency departments and hospitals to ensure they run efficiently; stronger engagement between authorities and hospitals.

Risk reduction for health care workers in hospitals: introducing infection prevention and control standards

Summary

- Concept of infection prevention and control (IPC) standards, practice and procedures for high-threat pathogens introduced in health care settings
- 89 health care professionals trained on IPC measures in health care settings
- Plan developed to assess IPC measures and practices in health care settings and include it as part of hospital emergency preparedness and response plan

When patients come to health facilities to access health care, the last thing they expect to get is another infection. However, according to experts, health care-associated infections are a significant morbidity, mortality and economic burden, with about three in every 20 hospitalized patients acquiring infections while receiving health care in low- and middle-income countries. In fact, the major outbreaks that occurred in the Eastern Mediterranean Region and worldwide in recent years (i.e. COVID-19, Middle East respiratory coronavirus and Ebola virus disease) were made worse because of the lack of effective national and facility-level infection IPC programmes.

Even though IPC is relevant to both health care workers and patients everywhere, unfortunately, Somalia lags behind in ensuring that effective IPC measures are put in place. To tackle the serious shortage of IPC skills in the existing health workforce, WHO technical experts conducted a set of IPC training sessions in Hargeisa and Garowe. The curriculum of the 7-day training-of-trainers session was developed by WHO experts to cover the specific needs of Somalia, and provide clear information on all aspects of good IPC practice in health care settings.

A training-of-trainers course in Garowe passing on skills to participants at the district level

Training modules covered the standard infection control measures as well as the tools and skills to conduct IPC risk assessment. These skills will enable the participants to evaluate various problems and adapt international guidelines to suit the local context.

Overall, 89 health care workers participated in the IPC training in Somalia (Table 5). Sixty of these health care workers participated in the cascade training conducted by national facilitators who completed the IPC training-of-trainers course in Somaliland.

Time to shine the spotlight on infection prevention and control

Dr Mohamed Abdirahman Omar, better known as Dr Qalbi, wears many hats. At the Banadir Hospital, he heads the paediatric department and serves as Infection Prevention and Control (IPC) Focal Point and COVID-19 Programme Coordinator.

As the IPC Focal Point for the training supported by the Pandemic Emergency Financing project, nominated by the Federal Ministry of Health and Human Services in November 2020, Dr Qalbi was impressed with how the high-quality training was planned and rolled out.

"As a result of the IPC training, every state in the country has its own IPC master trainer, who is qualified to train other health professionals in how to prevent and control infections," said Dr Qalbi. "This is so important because IPC is a universal discipline that is related to all aspects of health care." He adds that it will be important to continue to support hospitals and health facilities to roll out this training as they are always dealing with patients and can stop the spread of additional infections.

Since he qualified as a trainer of trainers, Dr Qalbi has trained 300 students on the main principles of standard infection control measures. These include the importance of IPC, how to educate staff and patients on infection control, what leaders of health facilities can do to influence the quality of care of patients, and the main methods of IPC.

"At all health facilities, leaders and all personnel need to give IPC more attention," added Dr Qalbi, explaining how important IPC is for patients. "We see patients who come in with a specific disease being infecting with other diseases due to the lack of attention to infection prevention. Something as simple as safe, proper and regular handwashing can make a big difference in saving people's lives."

Dr Qalbi summed up how he felt the situation could improve: health care workers need enough personal protective equipment; institutions and personnel need to develop measures to improve hand hygiene; and all staff in health facilities need regular trainings on IPC. He also stressed the importance of: developing national IPC guidelines and protocols for the country; health facilities developing and following their own IPC programmes; and policy-makers and international agencies providing support to learning institutes, such as medical, midwifery and nursing schools.

"By following all these measures, we can contribute to improving health equity across the country," Dr Qalbi said.

Stopping the spread of infections

As a trained nurse and National Public Health Officer at the Federal Ministry of Health, Naima Abdulla Hersi found she really benefitted from the information she learnt about infection prevention and control (IPC), health care-associated infections and community-acquired infections during the training conducted by WHO and the World Bank in Mogadishu.

"The facilitators were excellent," Naima says. "They engaged the participants so that everyone better understood the importance of using IPC techniques in health facilities to protect health workers, patients, their families and the communities around us.

"Even what we regard as simple techniques, like correct hand hygiene and the proper use of personal protective equipment, would be useful to break the chain spreading infections among the community, staff and patients. People who have knowledge of IPC are much-needed role models who can help doctors, nurses and others to close the gaps in health facilities and save lives with safe practices," Naima adds.

Twenty-nine-year-old Naima, alongside other participants, learnt about how hospital-associated infections and community-acquired infections occur, as well as how better IPC measures can reduce their occurrence and improve patient safety. Participants were trained in IPC, and learnt about risk assessment in IPC, aseptic and sterile techniques, and the decontamination of equipment and instruments. They also learnt about proper waste management in health care settings, laundry management, assessment of IPC in health care settings, safe injection practices, and IPC in the management of COVID-19 patients.

After the training, Naima immediately set out to identify and define the needs of the health workers she has access to, and has already trained some doctors and nurses at hospitals in IPC to save lives. Now, Naima plans to encourage change within hospitals. She aims to advocate to higher levels of management to develop an IPC programme, as well as policies and guidelines at the national level. ■

Trainers used engaging teaching methods to ensure all participants understood concepts and would be able to use them at work

> We have developed extraordinary global partnerships through the training supported by the Pandemic Emergency Financing Facility that will help create an enabling environment for growth in the health sector.
>
> **Dr Mohamed Mohamud Derow**
> Critical Care Unit and Trauma Care Focal Point
> Ministry of Health & Human Services
> Federal Government of Somalia

Table 5 Training of trainers on infection prevention and control, Somalia, March 2021

Location	Number of international trainers	Number of master trainers	Number of participants
Banadir	2		6
Jowhar			2
Barawa			2
Kismayo			2
Dusamareb			2
Garowe			3
Hargeisa		12	72[a]
Total	**2**	**12**	**89**

[a]60 participants received cascade training conducted by 12 master trainers.

Methods used in IPC training	PowerPoint presentations, group discussions and group work, hands-on training, case scenario presentations, videos and hand-outs.
Outputs	Participants learnt practical strategies to reduce infections, such as handwashing, correct use of personal protective equipment (putting on and taking off safely), safe use of injections) and maintaining hygiene between patients.
Outcomes	More health care workers familiar with infection control; IPC committees established; knowledge transfer between hospitals – all resulting in reduced infection in hospitals and communities.

Effective management of critical care services: building foundations for better resource planning, monitoring and management of emergency medical care

A team of four international and national staff from the WHO country office provided technical, managerial and operational support to operationalize the Pandemic Emergency Financing project

Facilitators used hands-on, practical training for participants to learn about critical care services

As part of additional support provided through the Pandemic Emergency Financing project, WHO engaged a global management consultancy firm, Abyrint, with experience in post-conflict settings to offer operational and management support to the Federal Ministry of Health. This was undertaken because the COVID-19 response was using considerable technical and service delivery capacity. Some of Abyrint's support to the ministry centred around:

i. solving problems in implementation of the ministry's COVID-19 response and preparedness actions;

ii. developing tools and building skills to enable designated health ministry staff to accurately plan, track and manage in-country health programmes, such as the *Damal Caafimad* programme;

iii. establishing basic capabilities for safe and credible financial management; and

iv. building strong foundations in for more advanced capabilities.

Abyrint also provided editorial support to the finalization of detailed COVAX advanced market commitment plans for the Federal Ministries of Health and Finance of Somalia. WHO also recruited three full-time international and two national technical staff to provide technical support to ministries of health. A team of four international and national staff from the WHO country office provided technical, managerial and operational support to operationalize the Pandemic Emergency Financing project. ■

Section 2

Reflections from the field: acting now to capitalize on the need for acute care for COVID-19

Closing the gender gap in medicine and training

Women being supported to advance their skills

Dr Ikram Aden Abdirahman is one of the luckier career women in Somalia. Her mother, a home maker, and older brother have always encouraged her to learn as much as she can.

"There aren't as many female doctors as there are male ones," she said. "Many women are expected to get married after they graduate. Also, many women tend to go for nursing and midwifery."

Working on the emergency ward of De Martino Hospital, one of the busiest hospitals in Banadir, Dr Ikram and her colleagues see 25–30 patients a day on average. Many are trauma patients.

"I feel really fortunate to have a supportive family. I have learnt so much. We didn't have any triage points in our hospital before this training," said Dr Ikram.

"After I learnt the importance and benefits of triage points, a colleague of mine, who also participated in the training, and I shared this knowledge with our fellow doctors, nurses and the medical director, who is very supportive. Now, the De Martino Hospital is building a new emergency department with a triage point to help prioritize patients' needs," she added.

Sharing information to drive decision-making for health

In Baidoa, South West State, Dr Hassan Mohamed Ibrahim, who is Project Coordinator for Health, Nutrition and WASH, says he was pleased to be part of the rapid assessment survey on emergency and critical care services that would collect much-needed information from Somalia's hospitals. Dr Ibrahim was serving as Acting Medical Director when the survey was conducted at the Baidoa District Hospital.

"The hospital assessment was an important exercise as it will help us uncover needs in hospitals across the states and help stakeholders fill these gaps," he says. "We really need surveys like this to help hospitals strengthen their departments and help communities with better services."

"I would encourage WHO and partners to translate survey tools into Somali as many enumerators are familiar with Somali. Also, it would be good to train enumerators in health before conducting a survey on health."

While the participants in the training courses in Hargeisa and Garowe were well balanced in terms of gender, Dr Nelson Olim, lead of the mass casualty management course, noted that this was not the case in Mogadishu. Very few females, mostly nurses, had been nominated to participate in the training. He added that this reflects the cultural reality in many low- and middle-income countries, where women are not prioritized for training even if there seems to be no knowledge differences between both men and women.

Creating opportunities for better health for everyone in Somalia

To evaluate the challenges to running the training courses and their effectiveness in providing participants with skills to allow them to deliver better care for their patients, the views of both participants and the teams involved in the training were sought. This feedback will help enhance such training in the future. Some views of participants and trainers/facilitators on specific training courses are given throughout section 1. Box 1 gives the views of the teams. ■

Box 1

Feedback from the participants and teams providing training under the Pandemic Emergency Financing project

I am so grateful to WHO, the World Bank and all other international organizations for empowering us Somali doctors," says Dr Dahir. "As a doctor, I am so proud that I was able to learn skills to teach others where facilities and training equipment are lacking.

Dr Abdirahmen Ali Dahir
Amiin Ambulance Organization
Mogadishu, Somalia

Before this training, I really did not understand mass casualties and the ABCDE approach. There is a big gap in medical educational facilities in terms of our acquiring knowledge and new skills. We need to be continuously updated on managing emergency care using modern learning tools. The training that I received from WHO was an eye opener to me and probably to many others.

Dr Abdifatah Hussein Osman
Hiran Regional Hospital, Beletweyne

I learnt smart ways of organizing myself and attending to the situation during mass casualty events, which happen often where I am. We didn't even have a green or red zone before the training. People would walk in anywhere they could for medical attention. These skills have helped us to be better organized.

Dr Mohamud Mohamed Yusuf
Jowhar Regional Hospital

I am so happy I got the chance to participate in the training on managing patients who need critical care. It was very helpful as we learned how to perform advanced cardiovascular life support and basic life support, how to treat patients who are critically ill, and how to use a ventilator, which is something I have never learnt as my university and places of work have never had one.

Dr Sabah Mohamed Muse
Head, Emergency Department
Borama Regional Hospital

There is clearly a lack of equipment and human resources in most hospitals that were trained, and an integrated comprehensive support programme needs to be put in place. Additionally, next steps should include deep-dive sessions with hospital directors and emergency unit staff to endorse the roles of command teams during mass casualty incidents and the offer of support to prioritized hospitals to implement and rehearse their plans for mass casualty events.

Dr Nelson Olim
Course Lead, Mass Casualty Management Programme

The focus of these and all trainings needs to be on the basics; doing the basics well will make a huge difference. High-tech equipment is not the answer; low-cost interventions can save lives. The hardest part is redirecting people's attention and changing behaviours. Diving deeper into cultural aspects and local priorities (such as food/nutrition and security) helps us understand how to make these changes sustainable.

Dr Pryanka Relan
Technical Officer,
WHO Facilitator, Basic Emergency Care Training

We observed huge disparities in education and exposure among the participants – there were health personnel older than 60 years who had been trained in Somalia's pre-war era, the young diaspora that had returned to serve the country, and the youngest generation of Somali doctors who didn't know anything other than the environment they were raised in. It was a first to see them come together and share their common interests. Many of them have never had this chance before, to share knowledge and skills and the emotional burden, in their own words, with each other. This `community of practice' will help rebuild the health system in Somalia and engender a culture of life-long learning. WHO is committed to continue supporting the health care workers of Somalia through this journey, as they develop their knowledge, skills and practice, and ultimately, improve patient outcomes.

Dr Sara Halimah
Regional Trauma Specialist
WHO Co-lead, WHO Academy Course

The mass casualty management course itself was regarded by the Academy as a pilot course. It was the first time it had been delivered and the feedback from the instructors and trainees was considered essential for the further refinement and contextualizing of the course. To that end, each day, the instructors debriefed to consider what had and hadn't worked, or at least what could be improved on and feedback from the participants was collated.

Dr Neil Shorney
Consultant Anaesthetist
WHO Trauma Operational and Advisory Team
Expert Adviser
WHO Academy Mass Casualty Management Programme

The training was directly applicable to all of the participants in Mogadishu. Staff and hospitals will be better prepared, and patients will benefit, with a better outcome. However, more needs to be covered to optimize the health care, for instance, a training in emergency surgical technique.

Harald Veen
Surgeon
Facilitator
WHO Academy Mass Casualty Management Programme

Some of the participants in our trainings were the only doctors working in the emergency department or the only surgeons in the hospital, and they had to spend more than a week away from their communities and families to attend the training. It was then our duty to ensure we provided them flexible context, relevant solutions and acknowledge their difficulties. By using tabletop exercises simulating mass casualty incidents, we challenged participants with emergency scenarios to help them practice the new concepts introduced in the training sessions.

Ms Alice Malachane
Coordinator
WHO Academy Mass Casualty Management Programme

For each training, I worked on the accommodation, flight transportation and refreshments. We did our best. This training looked really helpful and will help our young medical personnel by giving them the capacity they didn't have before. The international trainers conducting the courses were well educated and experienced. I really appreciated their knowledge and kindness.

Mr Ahmed Abdikarim
Logistics and Operations Support
WHO Somalia country office

I liked the enthusiasm and motivation of the participants in the infection prevention and control (IPC) course to learn about IPC and to conduct cascade training to transmit that knowledge. However, the effect of the training could have been maximized by adding more practical sessions inside health care settings. Although the security situation limited the feasibility of such activities, replicating this training on IPC in hospitals is recommended to match the real-life situation and enhance the compliance of the health care providers. Taking into consideration the scarce resources for infection control in the country and the very limited capacities, next steps should focus on: (i) expanding training to other health care settings; (ii) developing applicable national IPC guidelines that focus on the local challenges that Somali health care settings face; and (iii) supporting focused, targeted, quality improvement projects (e.g. hand hygiene promotion, environmental cleaning, waste management) that are feasible, have short achievable outcomes and are highly rewarding. The success of these activities can be used to advocate for a bigger goal of a national programme for infection control in the country.

Dr Tamer Saied
Facilitator
Infection Prevention and Control Training Programme

Starting training with a lecture on team dynamics and a multidisciplinary approach to intensive care unit (ICU) care was embraced by the Ministry of Health. The Ministry made a point of strongly advising not to separate nurses and doctors during any part of the training to ensure multidisciplinary team learning so that the skills learnt during the training will be reflected as teamwork in the workplace. A frequent comment was the appreciation for the training and materials, both of which were based on the most up-to-date, technical standards and guidance.

Through the implementation of a country support plan, in combination with short-term and long-term programmes, Somalia will receive immediate hands-on support for care of critically ill people, and the development of a country-specific training course and country-specific ICU standard protocols. The establishment of a core ICU team of local doctors and nurses will serve to provide critical care support to improve health system quality.

Dr Chiori Kodama
Medical Officer
WHO Facilitator
Intensive Care Unit Training

Facilitators used pre- and post-training tests to determine how much trainees learnt.

Engaging members of the health community to steer future changes

During the Pandemic Emergency Financing training sessions, facilitators interviewed participants and listened closely to their accounts of their experiences and problems faced during their clinical work. They also heard their views on the best approaches for skills development and improving health service delivery at their health facilities.

Facilitators also organized a series of dialogues with national stakeholders, including health authorities, professional bodies, deans of medicine faculties and private entrepreneurs, to acknowledge their contribution and seek advice for future training programmes.

Maintaining high standards of training

The WHO team put into place a strong monitoring and evaluation system for the Pandemic Emergency Financing project, to ensure the many time-bound activities were conducted in accordance with international standards. The Organization engaged a dedicated technical consultant to support supervision and procedural compliance efforts. To assure quality, key monitoring indicators were identified to track and assess performance, training evaluations were carried out at the end of each session and on-the-ground monitoring and evaluation activities were carried out.

To assure quality, key monitoring indicators were identified to track and assess performance, training evaluations were carried out at the end of each session and on-the-ground monitoring and evaluation activities were carried out

WHO worked closely with the ministries of health and expert trainers to ensure participants attendance and engagement, and that the training sessions had good facilitation, training materials and resources, and logistical support.

Pre- and post-tests were conducted before and after every training to assess the level of knowledge and skills gained by participants. Post-training evaluations were conducted to assess the overall quality of the training and feedback was received from the participants. Furthermore, a WHO team, led by the WHO Representative for Somalia, Dr Mamunur Rahman Malik, visited and observed training on ICU management, mass casualty management and trauma care. This team interacted with the technical teams, trainers and participants, and assessed the gaps and needs for further interventions.

For the long term and the free exchange of information, WHO will soon launch an outcome analysis framework, so that each training course will have its own digital communication platform where participants can share their experiences and problems, and where facilitators can provide online support. ■

3

Section 3

Looking to the future: planning a long-term vision of emergency, critical and operative care services in Somalia

Against the backdrop of an environment of insecurity and conflict in some areas and limited health care capacity across the country, WHO worked alongside the ministries of health, with invaluable support from the World Bank and other international partner institutions and experts, to make the following achievements, in record time and in the middle of the COVID-19 pandemic.

- Created a pathway for future human resources development in emergency medical care in the health sector.
- Created opportunities for further training courses run by national master trainers, namely:
  - 16 national master trainers for basic emergency care training.
  - 12 national master trainers for infection prevention and control training.
- Developed and used a digital learning platform, utilizing the power of technology.
- Introduced evidence-based checklists and systematic (ABCDE teaching approaches) for emergency and critical care unit management, as a means to influence behavioural changes.
- Introduced mass casualty management and trauma management into the integrated service delivery.
- Developed a plan for improving infection prevention and control measures and practices in health care settings.
- Enhanced the capacity of critical care services as part of the continuum of care, including maintenance of biomedical equipment.
- Enhanced hospital leadership for management of hospital services.

> Somalia is a country prone to a multitude of health emergencies, some causing mass casualties that require hospital care. Most hospitals in the country have limited capacity to handle such acute life-threatening events which, as a result, cause tremendous loss of life and avoidable disability. The Pandemic Emergency Financing project has enabled the Ministry of Health to lay the foundation for building institutional capacity in the care and management of mass casualties, by training the frontline health care workers to prepare for, respond to and manage such health emergencies. The project has now produced a core of certified trainers in all 18 regions of the country. This technical capacity is expected to train and produce a critical mass of qualified health care providers in basic emergency care in the coming years.

Dr Mohamed Jama
Senior Adviser to the Federal Minister of Health and Human Services

- Evaluated the capacity of existing facilities and identified gaps in service delivery through rapid hospital assessments.
- Established systems for national ownership of skills and knowledge transfer mechanisms.

The impact of this project implemented by WHO with funding from the World Bank and with support from the Somali Government and international partners will be evaluated over the long term. However, the following additional elements are required to ensure comprehensive support for the Somali health system.

- Based on the findings of the rapid hospital assessment, develop a comprehensive plan for delivery of emergency, critical and operative care services for efficient and effective secondary and tertiary level services in the country as part of the strategy to achieve universal health coverage which is also in alignment with the revised Essential Package of Health Services of the government of Somalia.
- Establish a vision and strategy for integrated delivery of services linking primary care with hospital-based services to optimize use of scarce health resources for critically ill patients and life-threatening medical conditions.
- Make additional investments in quality-assured, internationally-recognized training for clinicians, nurses and paramedics who are working at the front-line of critical and intensive care units in hospitals.
- Designate a high-quality facility/centre as a training/learning hub for long-term, competency-based skill development and continued professional education of emergency and critical health care workers, including a well-equipped simulation centre.
- Use telemedicine and technology to enhance critical care services and allow transfer of knowledge and skills. Liaise with local institutions to expand training outreach (e.g. Edna Adan Hospital in Hargeisa and the National Institute of Health, to encourage the introduction of certification of courses in association with the African Federation for Emergency Medicine).
- Develop further the plan for trauma care and mass casualty management, increase the capacity of the trauma care, from the point of injury through to rehabilitation, to save lives and reduce the risk of disability.
- Conduct regular tabletop exercise or full simulation exercise to test the hospital readiness for a large-scale mass casualty event.

Training conducted with record speed, accountability and uncompromised quality

Dr Mohamed Mohamud Derow has the energy of an agent of change. He chuckles when he explains he got his name "Derow", which means "spring" in Somali, from his grandfather.

As a Critical Care Unit and Trauma Care Focal Point, Dr Derow worked closely with the project coordinator of the training supported by the Pandemic Emergency Financing project. He coordinated the planning teams from the Federal Government and WHO to discuss the immediate needs of Somalia's health system, after which they mobilized resources from the World Bank, and conducted the capacity-development interventions and a rapid hospital assessment concurrently.

Dr Derow explains how all three institutions worked in tandem to ensure this ambitious project was undertaken in just 4 months, after a few months of planning. Together, the Federal Ministry of Health and WHO formed teams of coordinators and focal points, provided administrative and financial support and nominated participants from across all hospitals in the country so they could share their knowledge and benefit communities equitably.

In addition to the speed with which this project was carried out, for which Dr Derow credits the Ministry of Health and WHO teams for their commitment and accountability, he adds that he was particularly proud of the legacy the project will create — national trainers who are empowered to conduct high-quality training and teach fellow professionals without supervision from external partners. He also praises the team of data collectors who were deployed by the Ministry of Health to collect data in an unbiased and objective way from more than 100 hospitals in the country. "They are playing a vital role in objectively identifying gaps in the hospitals," Dr Derow says.

- Establish a knowledge platform for peer-to-peer continued learning on emergency, critical and operative care services and maintain networks of trainees and trainers/mentors to allow sharing of knowledge and experience on best practices and encourage life-long learning and collaboration.
- Include training of different levels of management personnel in improving health facilities and the overall working environment in the integrated service delivery, such as infection prevention and control at mid- and lower-management levels. Also engage hospital directors to increase their interest in implementing WHO toolkits for emergency care systems (e.g. WHO triage system, checklists and registry). ■

In addition to the speed with which this project was carried out, for which Dr Derow credits the Ministry of Health and WHO teams for their commitment and accountability, he adds that he was particularly proud of the legacy the project will create

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