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HEALTH FOR ALL

World Health Organization
Somalia

CASE STUDY

Rapid build-up of essential public health functions in Somalia: utilizing the COVID-19 response to improve preparedness and readiness for health security threats in complex emergency situation.

The road to development and recovery from long standing humanitarian emergencies

For the last three decades, Somalia has been challenged by an intense, long standing armed conflict in a complex humanitarian emergency context including natural disasters and recurrent disease outbreaks. Large outbreaks of infectious diseases such as cholera and measles have undermined the efforts to strengthen national health security by taking up essential resources such as human resource and finances which would have otherwise been used in building institutional and sustainable capacities for national health security. In the wake of continual emergency, the country has implemented life-saving activities to respond to the events resulting in little growth in long term investments towards prevention, detection and response capacities leadership and governance, financing, access to essential medicines and diagnostics, health information systems, human resources for health and health services delivery.

Unfortunately, the scant development in these areas is also constantly eroded by frequent destruction of health infrastructure due to conflict, frequent outbreaks of cholera, measles and polio, annual floods, and widespread prolonged droughts. Additionally, outbreaks prevent health-seeking. Not surprisingly, Somalia's maternal and child mortality rates are among the world's highest.

These same factors have kept Somalia's capacity to prevent, detect and respond to outbreaks and other public health security threats low in the past years. In 2021, Somalia had the lowest health security index score (16.6 out of 100) in the world, making it the least prepared country to combat health security threats. This was also seen during a joint external evaluation (JEE) of International Health Regulations (IHR 2005) when 19 core capacities were conducted in Somalia in 2016, where out of 48 indicators, the country had limited or no capacity in 44 (92%) of the indicators.

Somalia's health system has been severely weakened and fragmented by underinvestment resulting from prolonged war, political instability and ongoing humanitarian crisis. The emergence of the coronavirus disease 2019 (COVID-19) pandemic and the resultant disruption of essential health services created an environment where many determinants of poor health outcomes among Somali people were exacerbated.

Photo credit: WHO/Fouzia Bano

Table 1. Somalia's capacity to implement IHR (2005) recommendations required to prevent, detect and respond to outbreaks and other health security threats in 2016

Score	Capacity level	Number of indicators	Frequency (%)
5	Sustained capacity	0	0
4	Demonstrated capacity	1	2.1
3	Developed capacity	3	6.3
2	Limited capacity	18	37.5
1	No capacity	26	54.2

Recently, however, Somalia has begun to transition from a humanitarian to a recovery and development nexus by concurrently prioritizing the planning and implementation of longer term interventions aimed at building the country's institutional capacities, including future capacity to prevent, detect and respond to disease outbreaks and other threats.

A 5-year plan to accelerate Somalia's national health security capacity

Acting on the findings from the 2016 JEE assessment, Somalia developed a 5-year National Action Plan for Health Security (NAPHS) 2020–2024 to accelerate development of the 19 core capacities for prevention, detection, response and other key areas. Guided by the critical gaps identified during the JEE assessment, and recommendations for each of the 19 technical areas, the Somalia NAPHS identifies, operationalizes and costs priority interventions required to achieve health security in Somalia using an all hazards One Health approach. The primary responsibility for implementing the prioritized interventions falls under the jurisdiction of the government's multiple ministries, departments and agencies within and beyond the health sector.

Guided by the critical gaps identified during the JEE assessment, and recommendations for each of the 19 technical areas, the Somalia NAPHS identifies, operationalizes and costs priority interventions required to achieve health security in Somalia using an all hazards One Health approach. The primary responsibility for implementing the prioritized interventions falls under the jurisdiction of the government's multiple ministries, departments and agencies within and beyond the health sector.

The Somalia NAPHS (2000-2024) was finalized during the COVID-19 pandemic, which identified priority interventions to address the critical gaps observed during the Joint External Evaluation of IHR (2005) core capacities conducted in 2016.

Photo credit: WHO/Ismail Taxta

Selection of low-cost high impact interventions to accelerate health security core capacities in Somalia

COVID-19, first reported in Somalia in March 2020, exposed the country's inadequacies to respond to such a large-scale event, while simultaneously providing an opportunity to address the same gaps and develop institutional capacities during the response. Multiple interventions have since been implemented to strengthen Somalia's capacity to prevent, detect and respond to disease outbreaks and other public health security threats. A few low-cost high impact interventions to address gaps in the areas of emergency coordination, surveillance and national public health laboratories were selected for implementation during the COVID-19 response. Like many other countries in the world, Somalia was unprepared to deal with the unprecedented effects of the COVID-19 pandemic. The following areas were identified based on their criticality to the COVID-19 response and were areas which could be quickly built and sustained, 1) creation of Somalia's frontline field epidemiology training programme (FETP-Frontline); 2) implementation of an integrated disease surveillance and response strategy (IDSRS); 3) establishment of influenza surveillance; 4) strengthening of public health laboratories; and 5) establishment of public health emergency operations centres (PHEOCs). These activities are also in line with the thirteenth global programme of work for WHO and the current country cooperation strategy between WHO and Somalia. The timing of key milestones related to these five selected interventions is reflected in **Fig. 1 (below).**

The establishment of seven public health laboratories with real-time polymerase chain reaction (PCR) diagnostic technology and three of these laboratories with next-generation sequencing technology was a landmark achievement for a country which had no laboratory for detection of SARS-COV-2 virus at the beginning of the pandemic.

Photo credit: WHO/Ismail Taxta

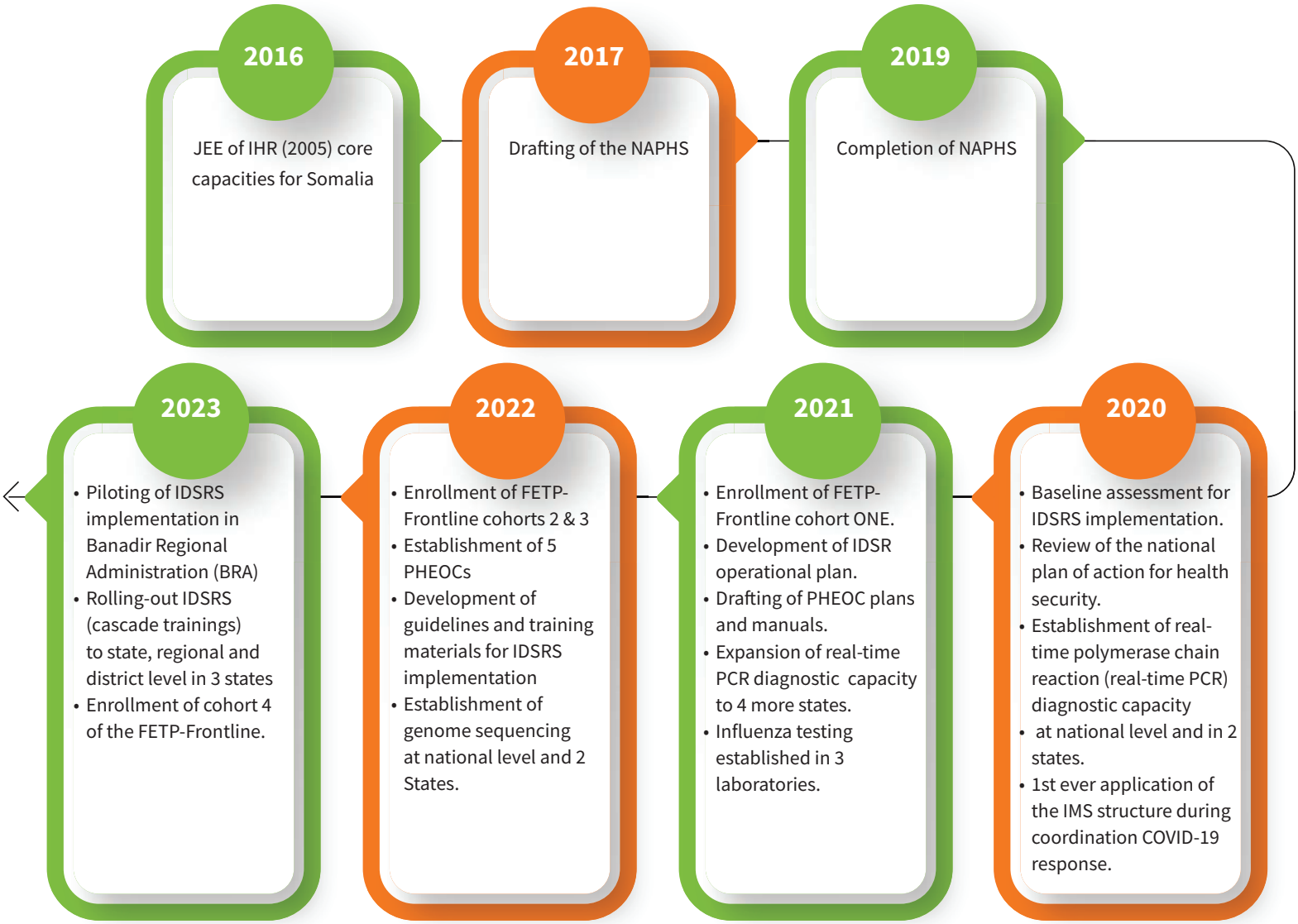

Fig. 1. Key milestones related to implementation of the five selected low-cost high impact interventions

The implementation of these five activities among others has translated to an IHR core capacity score of 33/100 as self-reported in the country's 2022 State Party Annual Report (SPAR) compared to a self-report of 31/100 in 2018 before the pandemic.

Training disease detectives through the Somalia Frontline FETP

Somalia is the latest addition to a total of 36 countries that are implementing FETPs in Africa. The programme directly addresses IHR (2005) core capacity gaps in the areas of health workforce development through training of disease detectives for real-time surveillance, reporting and emergency response. The programme is implemented by the National Institute of Health (NIH) and the Federal Ministry of Health (FMOH) with technical support from WHO and African Field Epidemiology Network. This 3-month on-the-job training programme aims to improve the timeliness, completeness and quality of surveillance data to enable early detection of outbreaks and prompt public health action in response to detected outbreaks. The programme enrols trainees in cohorts of about 25 participants each. Each cohort receives critical skills in both classroom and field placements in health facilities for experiential learning. To date, four cohorts from across the country have been implemented with 95 (including 30 female) health workers graduating. The programme has significantly improved the number of health facilities reporting in a timely manner to the national disease surveillance system (IDSRS), which allows for early detection and response to disease outbreaks. The participants have also supported to investigate over 95 disease outbreak alerts reported by the surveillance system. Upon completion of the course, programme graduates are deployed by the Ministry of Health (MOH) to lead surveillance and outbreak management related activities at federal, state and regional level in Somalia.

The training of frontline health workers on gathering public health intelligence, surveillance and response greatly improved epidemic and pandemic preparedness and readiness in the country.

Photo credit: WHO/Ismail Taxta

Integrated disease surveillance and response strategy (IDSRS) implementation in Somalia

During the COVID-19 pandemic, the need for establishing a more comprehensive, robust and functioning disease surveillance system integrating all fragmented data collection system for individual disease reporting was urgently felt. This led to the design, development and operationalization of Integrated Disease Surveillance and Response Strategy (IDSRS) in Somalia in 2020.

In a fragile health situation like Somalia, timely detection of disease outbreaks is essential for appropriate public health responses. Yet, for years now, Somalia has not had a functional disease surveillance system which has severely affected the country's ability to detect and respond to outbreaks in a timely manner. The country had grappled with fragmented surveillance systems which provided uncoordinated information. In 2020, as a recommendation from the JEE, the country made a strategic decision to establish an integrated system for early warning disease surveillance and response. WHO has been instrumental in supporting the country to develop IDSRS technical guidelines, standard operating procedures and training materials customized for health care workers in Somalia. A tracker for IDSRS was developed on the national health information management system – DHIS2 (District Health Information Software 2), where health facilities can report alerts immediately for real-time detection of events and a weekly summary of priority conditions from a mobile application. IDSRS was rolled out in Somalia in February 2022 after transitioning from the EWARN (Early Warning and Alert Response Network) which is usually only implemented in emergency settings. WHO supported training of trainers and cascade training to frontline health workers based at the facility level. The efforts have enabled a total of 335 (54% of 620) health facilities in 50 districts across the country to submit reports on 42 priority conditions. Over 70% of these health facilities are reporting surveillance data in a timely manner which can be visualized in a dashboard on the DHIS2. The IDSRS has been instrumental in detecting alerts of diphtheria and pertussis recently reported even though confirmation was hampered by lack of sample collection kits and testing kits. Capacity for health workers at different administrative levels has been established to develop weekly bulletins with epidemiological analysis and trends of different conditions reported by the frontline health workers. The weekly bulletins are disseminated to a wide range of stakeholders for decision-making, resource coordination as well as to health workers as form of feedback. This is a big win for the country as it is the

The roll out of electronic system for integrated disease surveillance and response strategy (IDSRS) has enabled the health authorities to detect and respond to any health alert in the country in real-time.

Photo credit: WHO/Ismail Taxta

first time a functioning integrated disease surveillance system has been established in the country.

To complement the IDSRS, the country is also implementing community based surveillance through 1969 community health workers (CHWs) deployed in 71 districts across Somalia, of which 31 districts are drought affected. The CHWs report on 12 conditions including acute diarrhoea, acute febrile illness, acute flaccid paralysis, acute respiratory illness among children under 5 years of age, children with danger signs, community deaths, COVID-19, drought, malnutrition, measles, maternal and child health conditions, and unusual events. In addition, the CHWs provide health promotion messages through door-to-door visits. Between August 2022 and June 2023, CHWs visited over one million households (including in internally displaced persons camps) and reached out to 4 791 182 persons with health promotion messages. The CHWs also contribute to prevention of unnecessary mortality from diarrhoea by administering zinc and oral rehydration salts to children with diarrhoea before referring them to health facilities.

The CHWs report alerts through a mobile application that allows real-time sharing of information of priority epidemic prone diseases. A total of 201 rapid response teams based at the district level, who supervise the CHWs, conduct investigation of the reported alerts, collect biological samples for analysis and provide initial response.

The operational plan for rolling out the Integrated Disease Surveillance and Response Strategy (IDSRS) was developed through consultation with all stakeholders across the country.

Photo credit: WHO/Ismail Taxta

Establishment of surveillance for influenza and other respiratory pathogens

Somalia was the last country in the Eastern Mediterranean Region to establish influenza surveillance. To ensure that highly infectious respiratory pathogens are detected early, surveillance for influenza and other respiratory pathogens was established in 2021 in four sentinel sites in Mogadishu and one site in Garowe, Puntland. These sites, which enrol patients at least three times a week, are supported by two public health laboratories each located in Mogadishu and Garowe. Plans are underway to establish a sentinel surveillance centre in Hargeisa. Epidemiologic and virologic information is collected and reported electronically using EMFLU (Eastern Mediterranean Flu Network). A proportion of samples which test positive are shared with WHO collaborating centres to contribute to influenza vaccine development.

As of July 2023, a total of 2234 cases of suspected influenza have been enrolled of which 2190 have been tested. A total of 269 samples tested positive for influenza or a highly infection strain of respiratory pathogens. WHO supported the country to begin this surveillance by building capacity of frontline health workers, epidemiologists, data managers and virologists on the implementation of influenza surveillance and other respiratory pathogens; procuring and distributing laboratory reagents for the testing of suspected cases of influenza and other laboratory pathogens; translating and distributing health promotion materials for respiratory pathogens; and coordinating influenza surveillance with animal health sector under the One Health approach. Somalia is at a higher risk of outbreaks of emerging and re-emerging respiratory pathogens attributed to a weak health system and a high proportion of internally displaced persons who have limited access to primary health care. Implementation of surveillance for influenza in Somalia will contribute to timely detection and response to outbreaks of influenza and other high threat pathogens. The efforts by WHO and the MOH will contribute to overall reduction in morbidity and mortality attributed to influenza and other respiratory pathogens in Somalia.

Somalia is at a higher risk of outbreaks of emerging and re-emerging respiratory pathogens attributed to a weak health system and a high proportion of internally displaced persons who have limited access to primary health care. Implementation of epidemiological and virological surveillance for seasonal influenza in Somalia will contribute to improving preparedness and readiness for future epidemics and pandemic from respiratory pathogens.

The establishment of sentinel-based surveillance system for seasonal influenza will improve the country's capacity for timely detection and response to novel influenza virus or any other respiratory pathogen with epidemic and pandemic potential.

Photo credit: WHO/Ismail Taxta

Strengthening the capacity for testing of pathogens in Somalia; 2020–2022

When the first case of COVID-19 was detected in Somalia in March 2020, the country had no capacity to test for COVID-19, usually done through real-time PCR testing technology. Samples were shipped to regional reference laboratories which was not only expensive, but also hampered timely detection of epidemic prone diseases due to delay in receiving analysis results. The first ever real-time PCR machine in Somalia was installed at the National Public Health Laboratory in Mogadishu in April 2020. Two months later, real-time PCR machines were installed in Garowe and Hargeisa public health laboratories. By end of 2022, the Somalia had real-time PCR capacity in all its states. Within the same time frame, three public health laboratories (Mogadishu, Garowe, Hargeisa) have been equipped with Oxford nanopore sequencing technology devices and supplies and are conducting COVID-19 genomic sequencing. This capacity was used to confirm circulation of Delta and Omicron variants of COVID-19 in Somalia. Using the same capacity, the country tested samples for suspected monkeypox in 2022 from Puntland and Hirshabelle states whose results came out negative. Within the same duration, laboratory capacity for seasonal influenza surveillance was established in a total of three public health laboratories: in Garowe, Hargeisa and Mogadishu. With this laboratory investment, the country now has the capacity to confirm a wide range of priority epidemic prone diseases, a critical requirement for successful implementation of IDSRS.

These national and subnational public health laboratories had tested over 598 847 suspected cases of COVID-19 from April 2020 to 30 June 2023. Of these 27 408 cases were laboratory-confirmed while 1352 deaths were also reported across Somalia with an overall case fatality rate of 4.9%.

Utilizing the funding from COVID-19 response, the country now has the capacity to confirm a wide range of priority epidemic prone diseases, a critical requirement for building appropriate surveillance and response capacity for health security threats.

The rapid build-up of capacities of public health laboratories during the COVID-19 pandemic has significantly improved the country›s readiness to prevent, detect, and respond to health security threats in a timely manner.

Photo credit: WHO/Ismail Taxta

Establishment of essential PHEOCs in Somalia

Lessons learned from response to COVID-19 and other public health events of international concern have identified the need to have coordination hubs which can be utilized by all key players in an emergency response. WHO played a critical role in establishing multisectoral incident management teams (IMTs) at national and state levels during the COVID-19 pandemic. In 2021, WHO supported the ministries of health to establish coordination hubs where the IMTs could come together, meet, deliberate and make key decisions regarding the response. Through provision and installation of information technology equipment, development of standard operating procedures and training of health workers, seven PHEOCs were established in Banadir, Baidoa, Dhusamareb, Garbaharey, Garowe, Hargeisa and Kismayo. These centres will be used for coordination of information and resources aimed at improving better coordination in response to public health emergencies. WHO supported the MOH to procure and install critical information technology infrastructure in the PHEOCs and develop standard operating procedures for use by staff in day to day operations. Over 30 health workers were trained on Incident Management System (IMS), PHEOC operations and use of the Strategic Tool for Assessing Risks (STAR) in 2021. Using the STAR, the country conducted risk assessments at national and state levels to identify priority hazards in the country and to inform emergency preparedness and response. Recently, the nominated staff have received access and training on event based surveillance software – the Epidemic Intelligence Open Source and the electronic Public Health Emergency Response Management (ePHEM). These PHEOCs are currently operational and have been used for coordination of drought response and coordination of planning for integrated immunization campaigns. WHO and MOH are planning an advanced incident management training for the staff who have been nominated to work in the PHEOCs.

The Public Health Emergency Operations Centres, established in the country during the COVID-19 pandemic, continue to act as coordination hubs for management of all health emergencies in the country.

Photo credit: WHO/Ismail Taxta

The PHEOCs established during the COVID-19 pandemic will be used for coordination, information sharing and managing response operations in all future public health emergencies in the country.

Investing in pandemic preparedness and readiness through One Health

Somalia is prone to zoonotic diseases due to high reliance on animal husbandry. In the JEE of 2016, the capacities for zoonotic diseases surveillance, animal health workforce and response to zoonotic emergencies were scored as either limited or no capacity. The situation has not changed according to the SPAR of 2022. The country has since drafted a One Health strategy, conducted a prioritization workshop which identified priority zoonotic diseases for the country and established a One Health technical working group.

In collaboration with FAO, WHO and UNICEF, Somalia submitted a proposal for the pandemic fund call in April 2023 to build coordinated One Health capacities in surveillance, laboratories and health workforce. Led by the Federal Government of Somalia, the proposal development taskforce ensured that the proposal was aligned with the NAPHS 2020–2024 and sought to build upon existing systems and programmes. Building on the experiences from developing the proposal, the country will work on a national investment plan which will guide plans for national health security.

Owing to high reliance on animal husbandry, Somalia is prone to zoonotic diseases. Using a One Health approach, the country plans to develop a national investment plan for health emergency prevention, preparedness and readiness for resilience.

Photo credit: WHO/Ismail Taxta

Supporting the establishment and building capacity of the National Institute of Health as a specialized public health agency

The NIH, which was established in 2013 by the FMOH, is the designated National Focal Point (NFP) for IHR 2005. Through a ministerial directive of 2021, the NIH was assigned several functions including surveillance, national public health laboratories, human resources capacity development, health research and PHEOCs. To fulfil its responsibilities, the NIH developed a 3-year (2021–2023) operational plan to strengthen public health systems in the country through a consultative workshop held in January 2021. To equip NIH with the capacity required to fulfil its mandate as the NFP for IHR 2005, several training events – virtual and physical – were organized for the NIH staff and the IHR task force. These trainings included a 1-week training on IHR 2005 in Cairo in October 2021 conducted by the WHO Regional Office for the Eastern Mediterranean and a 1-week training in January 2023 for national and state MOH staff conducted in Mogadishu, Somalia. These trainings substantially built the capacity of the NIH and the IHR Technical Working Group (IHR TWG) to perform its functions as the NFP for IHR (2005) in Somalia effectively. Standard operating procedures for the IHR NFP and terms of reference for IHR TWG were developed and reviewed.

To build capacities for conducting scientific studies, data utilization and evidence based decision-making, WHO has supported the NIH to conduct research oriented activities. This includes convening of the first public health research conference in Garowe, Somalia, between 30 January and 1 February 2022. The conference assembled 200 national and international researchers where 50 research abstracts were presented, including seven presented by women, showcasing new evidence and best practices in public health in Somalia. In addition, 12 panel presentations were held which stimulated discussions on policy development and action in Somalia. The conference aimed to provide health researchers, academics and health care practitioners with the opportunity to present their ongoing research projects and share their successes, challenges and the gaps their studies have identified.

In May 2022, a research prioritization workshop was conducted to align health research priorities for the country. Among the top 10 research questions included areas of essential health services, evidence based decision-making, antimicrobial resistance (AMR), noncommunicable diseases and reproductive health.

The country established a national ethical review board in June 2023. Several manuscripts derived from locally produced data have been published in peer reviewed journals by the country and partners which will hopefully guide planning and decision-making.

WHO has supported the National Institute of Health (NIH) in Somalia to conduct a number of research studies and publish these results in peer reviewed journals. This support has built the capacities of the NIH to generate evidence for decision-making.

Photo credit: WHO/Ismail Taxta

Antimicrobial resistance- an emerging concern

Lack of a functional medicine regulatory authority, together with unregulated private sector suppliers and poor quality of medicines have contributed significantly to the substandard and counterfeit medicines making their way into Somalia; this contributes to antimicrobial resistance (AMR). The irrational use, over-prescription and inadequate knowledge on the use of antimicrobial agents have led to the development of drug resistant pathogens, disease spread, severe illness and death. To address AMR in Somalia, the FMOH, in collaboration with WHO, has developed a national action plan to combat AMR. The plan consists of the following key areas: raising awareness, increased surveillance of drug resistant cases, infection prevention and control (IPC), proper use of antimicrobials, and incorporating AMR awareness in the education system. On World Antimicrobial Awareness Day in 2021, the Somali government committed to implementing the National Action Plan for AMR. The starting point was to cost the National Action Plan, carry out point prevalence studies to understand the burden of AMR and introduce a sentinel-based surveillance system for regular monitoring of the trends on AMR. WHO, FAO and Organization for Animal Health formed an alliance to enhance coordination and collaboration between public health and animal health sectors. This has addressed the need for surveillance in the region to better understand AMR transmission mechanisms through food chains to humans and its effects on the human population.

Antimicrobial resistance is an urgent public health and economic challenge in all countries especially in low-income settings. More information on the burden and scale of this problem in complex and humanitarian emergency countries like Somalia is needed to generate evidence that informs appropriate policy.

The country has developed a national action plan for combating antimicrobial resistance which underscores the need to collect more data on the patterns of resistance in the country through establishing sentinel-based surveillance system.

Photo credit: WHO/Ismail Taxta

Progressive efforts in infection prevention and control (IPC)

Somalia has faced challenges of poor medical waste management and high burden of health care acquired infections for decades. These challenges can be attributed to lack of prioritization of IPC at policy level, inadequate resources to support IPC, and limited technical knowledge and skills among health care workers.

In September 2021, WHO included IPC in the nine priority pillars to be reviewed at national and subnational levels as part of monitoring the COVID-19 response in the country. Subsequently, WHO convened meetings with water, sanitation and hygiene (WASH) cluster partners and health authorities in the Banadir Region and state MOHs of Hirshabelle, Southwest, Galmudug, Puntland and Jubaland. The meetings helped to review the implementation of WASH activities in drought affected districts. During these meetings, a plan for training health workers on the implementation of IPC was developed in six states.

In 2022, WHO Somalia supported the federal and state MOH to carry out a national IPC survey. The teams assessed the status of the WHO core components of IPC at 307 health facilities selected for this assessment. The sampled facilities were representative of all geographical regions (except Somaliland), health facilities' ownership and level of care. The core components assessed during this survey were as follows, IPC programme, availability of IPC guidelines, education and training, health care associated infections surveillance, multimodal strategies, monitoring and evaluation of IPC practices and feedback, health facility workload, staffing and bed occupancy, and finally environment, materials and equipment for IPC at health facilities. Somalia scored a total of 136.09 points out of a maximum possible score of 800 points. The country's performance was well below average, and this calls for the dire need to strengthen IPC practices in Somalia directly from the policy level.

The WHO technical team, in coordination with the technical unit in MOH and cluster partners, built capacity for 480 frontline health workers (including 247 females) in the implementation of IPC activities including medical waste management in major hospitals of Somalia. The participants were selected from Banadir, Galmudug, Hirshabelle, Jubaland, Puntland and Southwest states. The frontline health workers were trained on the establishment of IPC committees, standard protocols for the implementation of IPC activities, utilization of personal protective equipment and medical waste management. During the training, MOH commissioned the national IPC technical working group that was tasked to coordinate IPC activities, establish IPC capacities in all states and develop an IPC workplan and strategy for Somalia.

The importance and strong focus on hand washing in all health care facilities during the COVID-19 pandemic has improved infection prevention and control practices in health care in the country.

Photo credit: WHO/Ismail Taxta

Continued provision of essential health services during emergencies

Somalia was one of the participants in the Pulse Survey, carried out by WHO, which indicated that 33% of essential health services had been disrupted between May and September 2020, with continued disruption of 12% of essential health services between January and March 2021, one year into the COVID-19 pandemic. During the pandemic, WHO supported primary health care centres with essential drugs, medical supplies and personal protective equipment to ensure continuity of routine services alongside emergency services. Due to the need to scale up essential health services to protect health gains, the WHO country office, collaborated with UNICEF, UNFPA and other partners to augment essential health care services. This allowed immunization services, essential newborn care, care for pregnant and lactating women and other routine primary health care services to resume normally amid the pandemic. WHO staff also increased monitoring and supervisory visits to these vaccination, maternal and child health care centres to ensure that routine health services resumed operations. Integrated polio and measles campaigns were held with the aim of reaching the vulnerable children who had missed out on immunization during the pandemic. A total of 92% of the targeted children received polio vaccine, while 93% received measles vaccine. Vitamin A and deworming tablets were issued to 92% of the targeted population. Subsequently, there were two rounds of house-to-house immunization campaigns against polio in south and central Somalia; these coverage rates were above 94%. Other disease control campaigns such as indoor residual spraying were implemented with the support of WHO proving that essential health services can continue during emergencies in fragile settings.

WHO ensured that essential health services continue in Somalia throughout the pandemic period using appropriate risk mitigation measures at individual and population levels. This ensured continuity of health services leading to building resilience in the event of future health emergencies.

WHO supported all primary health care centres with essential drugs and medical supplies to ensure continuity of route health care services during the COVID-19 pandemic in the country.

Photo credit: WHO/Ismail Taxta

The successful leadership of WHO in supporting the continuation of routine health services can be attributed to effective planning, coordination and implementation of appropriate risk mitigation measures at the individual and population levels.

Medical oxygen solarization and environment conservation

For decades, Somalia has struggled with lack of medical grade oxygen in health facilities. Over a fifth of deaths in children under 5 years of age in the country are caused by pneumonia, a condition for which medical oxygen can be life-saving. The COVID-19 pandemic highlighted the need for medical oxygen as a life-saving treatment for patients with breathing difficulties across Somalia.

In response to the lack of medical oxygen in health care centres in Somalia, WHO committed to working together with the FMOH, as well as UN and donor partners to scale up the availability of medical oxygen in the country. In addition to distributing numerous oxygen concentrators to health facilities across the country, WHO Somalia partnered with Grand Challenges Canada to set up the first solar-powered medical oxygen concentrator system at Hanano Hospital in Dhusamareb in Galmudug State. Subsequently, WHO Somalia collaborated with The Access to COVID-19 Tools (ACT) Accelerator to install two additional solar-powered medical oxygen concentrator systems at Kismayo General Hospital in Jubaland and Bay Regional Hospital in Southwest State. All the systems are comprised of three oxygen concentrator units with a capacity of 10 L/minute each, operating 24 hours per day, seven days per week. A survival analysis for critical patients admitted to COVID-19 isolation facilities found that patients who received medical oxygen had a 75% higher survival probability than those treated with both oxygen and non-invasive ventilation. Patients given non-invasive ventilation with medical oxygen had a risk of death 5.43 times higher than those given oxygen only. Apart from COVID-19, medical grade oxygen has also been beneficial to patients suffering from pneumonia, major trauma, shock, comatose, cardiovascular problems, asthma and those in need of emergency obstetric care.

This innovative solution gives hope for the availability of medical grade oxygen in the rural health facilities through sustainable systems, thereby moving Somalia closer to attaining the health-related Sustainable Development Goals.

WHO's scale up of solar-powered oxygen delivery systems to health facilities across the country has improved the availability of high-grade medical oxygen at the point of care in a sustainable and environmentally friendly way. .

Photo credit: WHO/Fouzia Bano

Conclusion

National health security is a critical and multifaceted challenge that requires concerted efforts from both local and international stakeholders. The investments made by the country and WHO to mitigate the impact of the pandemic have left Somalia better prepared to detect and respond to public health events of international concern by establishing longer term and sustainable capacities. By strengthening surveillance, building in country capacities to diagnose priority diseases, improving IPC and empowering the health workforce, WHO has enabled the country to build resilience and safeguard the health of its people. The achievements in Somalia during the COVID-19 pandemic prove that national health security can be strengthened even in complex emergency environments. WHO will continue to guide the country in prioritizing preparedness, response and recovery activities to ensure a more secure future for its population.

The investments made by the country and WHO to mitigate the impact of the pandemic have left Somalia better prepared to detect and respond to public health events of international concern by establishing longer term and sustainable capacities. By strengthening surveillance, building in country capacities to diagnose priority diseases, improving IPC and empowering the health workforce, WHO has enabled the country to build resilience and safeguard the health of its people.

Acknowledgment

We thank all our donors, partners and collaborators who have supported the work of WHO in Somalia during the COVID-19 pandemic to build and sustain the public health capacity for IHR (2005) for all future health emergencies:

1. FIND Diagnosis for all
2. GAVI, the Vaccine Alliance
3. Global Affairs Canada
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5. The African Development Bank
6. The Access to COVID-19 Tools (ACT) Accelerator
7. The Central Emergency Response Fund (CERF) of the United Nations.
8. The European Civil Protection and Humanitarian Aid Operations
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11. The Government of Germany
12. The Government of Italy
13. The Government of Sweden
14. The Global Fund to Fight AIDS, Tuberculosis and Malaria
15. The Swiss Agency for International Development
16. The United States Agency for International Development (USAID)
17. The United States Centers for Disease Control and Prevention (CDC)
18. The World Bank
19. Unitaid

Related links

- WHO Somalia. Strengthening the public health system in a conflict setting: an example of a unique partnership between WHO, Sweden and Somalia working towards achieving health for all. 2022. Strengthening-public-health-systems-case-study-september-2022.pdf (who.int).
- WHO Somalia. Somalia rolls out FETP-Frontline training programme to build disease detectives and prevent spread of diseases. 2021. WHO EMRO | Somalia rolls out FETP-Frontline training programme to build disease detectives and prevent spread of diseases | News | Somalia site.
- WHO Somalia. Somalia pioneers implementation of an integrated disease surveillance and response strategy in a fragile setting. 2021. WHO EMRO | Somalia pioneers implementation of an integrated disease surveillance and response strategy in a fragile setting | News | Somalia site.
- WHO Somalia. Policy brief 5 – Integrated Disease Surveillance and Response Strategy for Somalia (IDSRS): improving surveillance and response capacity or national health security in Somalia. 2021. http://www.emro.who.int/images/stories/somalia/documents/policy_brief_idsrs.pdf?ua=1.
- WHO Somalia. Policy brief 4 – Shaping national health security in Somalia through field epidemiology training programmes. 2021. Policy brief_Shaping national health security in Somalia_(who.int).
- WHO Somalia. A forgotten conundrum: regulating the use of antimicrobials in a fragile context. 2021. https://www.emro.who.int/somalia/news/a-forgotten-conundrum-regulating-the-use-of-antimicrobials-in-a-fragile-context.html.
- WHO EMRO. Global Action Plan on Antimicrobial Resistance. 2023. https://www.emro.who.int/Page-88.html.
- WHO Somalia. Acute watery diarrhoea situation reports. 2023. https://www.emro.who.int/somalia/information-resources/acute-watery-diarrhoeacholera-situation-reports.html.
- WHO Somalia. Section 4 – Managing Essential Health Services during COVID-19. 2022. In: WHO's response to COVID-19 in Somalia 2020–2022; https://applications.emro.who.int/docs/9789292740627-eng.pdf?ua=1.
- WHO Somalia. Section 5 – Supporting essential care. In: WHO's response to COVID-19 Somalia: A year of resilience, impact and innovation. https://www.emro.who.int/images/stories/somalia/documents/who-response-to-covid-in-somalia.pdf?ua=1.
- WHO Somalia. COVID-19 information note 24. High prevalence of SARS-CoV-2 in Somalia: understanding the true burden of COVID-19. 2023. https://www.emro.who.int/images/stories/somalia/documents/covid-19-information-note-24.pdf?ua=1.
- Hossain MS, Derrow MM, Mohamed SI, Abukar HM, Qayad MG, Malik SMMR, et al. Population-based sero-epidemiological investigation of SARS-CoV-2 infection in Somalia. J Infect Pub Health. 2023; 16(6):948-54. https://doi.org/10.1016/j.jiph.2023.04.016.
- WHO Somalia. Health Emergency Programme Update – Somalia. 2023. https://www.emro.who.int/images/stories/somalia/Health-Emergency-Programme-March-2023.pdf.
- Health emergency programme report – October 2022 https://www.emro.who.int/images/stories/somalia/Health-Emergency-Programme-October-2022_updated.pdf?ua=1

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