

Current major event

Building critical care/ICU capacity for resource-limited countries

Although building up critical care and intensive care unit (ICU) capacities has been one of the most urgently needed investments in resource-limited countries, this has not received proper attention in the Eastern Mediterranean Region (EMR) due to protracted and complex conflicts causing fatigue among countries, governments and donors. We propose a long-term capacity building programme in critical care and ICU management in such countries (*see table 1*).

Editorial note

In essence, an ICU needs to be a robust combination of a well-equipped facility and, more importantly, a well-trained multidisciplinary human workforce. For the last one year and nine months of the response to the COVID-19 pandemic, WHO and partners have invested in the procurement of an enormous amount of biomedical equipment and the training of doctors and nurses. The importance of efficient procurement and effective use of ICU equipment in all countries has been one of the major lessons learned.

Unfortunately, it was observed in resource-limited and complex emergency countries that much of this equipment has been left unopened in warehouses, or was not used in hospitals, as local health care workers were unable to properly install or use them. Biomedical equipment such as ventilators and oxygen delivery devices are essential in ICUs, but they must be operated by trained and experienced medical staff to ensure their safe and proper operation, and prevent adverse events such as ventilator-induced lung injury, hospital acquired pneumonia, or in the context of COVID-19, health care worker infections. It is also important to ensure biomedical equipment is properly maintained in a sustainable manner.

It is also observed that some of this equipment was non-functional and could not be repaired due to the lack of appropriately skilled biomedical technicians in the countries.

In response to the increasingly recognized demand in human resource development for critical care and ICU management, WHO has developed various online and onsite clinical trainings. The programmes include an introductory ICU training on the fundamentals of critical care management to help build technical and clinical competencies in the management of critically ill patients, and the development of skills in operating life support equipment. These short-term trainings, usually five days for each cohort, have been well received by the countries and played a significant role in the immediate filling of gaps in ICU care by delivering the basics of critical care to non-ICU doctors and nurses.

A large number of requests for long-term

Table 1. Health workforce trained on critical care and ICU

Training mode	Countries	Number of staff
In-person (through missions)	Yemen	1259
	Gaza, occupied Palestinian territories	250
	Iraq	87
	Somalia	8 (training of trainers)
Virtual	10 countries	> 10 000
Cumulative trained (adding cascade trainings)	In the EMR	40 000

Table 2. Proposed components of long-term capacity building

- Providing long-term clinical specialty training and mentorship.
- Developing the operational and management capabilities of ministries of health, ICU host health facilities and local institutions.
- Procuring easy-to-use biomedical equipment.

trainings has been received from the participants and local health authorities upon their completion of the initial course. The need for country ownership of the programmes has also been emphasized. Achievements and findings from the short training programme revealed the need of resource-limited and complex emergency countries to develop a long-term strategy for critical care capacity building. This includes the development of a specialty training programme on critical care with country ownership, multi-organizational support and monitoring.

It is clear that urgent action is needed to integrate explicit ICU health workforce requirements in pandemic response plans, appropriate to its differentiated levels of critical care; provide proper technical training to all deployed health professionals; provide sufficient training on ICU standard operating procedures and protocols; optimize procurement, training and maintenance of biomedical supplies and equipment for critical and ICU care; and facilitate safe working conditions in ICU while ensuring the mental wellbeing and safety of all health workers.

Political and conflict associated constraints are additional challenges to the building of comprehensive critical care and ICU capacities for resource-limited countries with complex emergencies in the Region. There is therefore a need to undertake a rapid and feasible approach to overcome all these barriers. The goal for implementing country support plans in critical care and ICU management is to reduce the case-fatality ratio among those who are critically ill and injured patients. This is an urgent call to action to initiate systematic and long-term health system strengthening in critical care and ICU for resource-limited and complex emergency countries with full engagement from Member States and the global community.

Update on outbreaks

in the Eastern Mediterranean Region

COVID-19 in 22 EMR countries

Current public health events of concern [cumulative N° of cases (deaths), CFR %]

Coronavirus disease 2019 (COVID-19): 2019-2021

Afghanistan	[154 585 (7199), 4.7%]
Bahrain	[274 179 (1388), 0.5%]
Djibouti	[12 005 (159), 1.3%]
Egypt	[296 276 (16 951), 5.7%]
Iran (Islamic Republic of)	[5 408 860 (116 791), 2.2%]
Iraq	[1 972 705 (21 775), 1.1%]
Jordan	[812 681 (10 606), 1.3%]
Kuwait	[411 124 (2438), 0.6%]
Lebanon	[617 662 (8232), 1.3%]
Libya	[330 945 (4501), 1.4%]
Morocco	[918 126 (13 876), 1.5%]
occupied Palestinian territory (oPt)	[412 442 (4177), 1%]
Oman	[303 390 (4093), 1.3%]
Pakistan	[1 223 841 (27 206), 2.2%]
Qatar	[235 386 (604), 0.3%]
Saudi Arabia	[546 479 (8656), 1.6%]
Somalia	[19 004 (1063), 5.6%]
Sudan	[38 041 (2835), 7.5%]
Syrian Arab Republic	[30 519 (2120), 6.9%]
Tunisia	[700 400 (24 527), 3.5%]
United Arab Emirates	[732 299 (2073), 0.3%]
Yemen	[8630 (1638), 19%]