

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active. children's development—good health, adequate nutrition, safety and security, learning opportunities, and responsive and supportive interactions with adults. The abilities of families to sustain nurturing care under economic and other stresses are being stretched. The likely worsening impact of continued income cuts and parental mental distress on the healthy developmental trajectory of many children will only reliably be estimated with available data on ECD.

Within just a decade, ECD measurement and monitoring have started to be mainstreamed. However, to achieve a universal picture of how young children are faring, as well as progress and setbacks to improve their lives and their futures, we need more countries, including HICs, to adopt and prioritise the measurement of internationally comparable ECD indicators. Much more work is needed to advance ECD, never more so than now, when young children in all countries face threats to their survival, health, and development resulting from or exacerbated by the COVID-19 pandemic.<sup>8</sup>

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# ) Tackling COVID-19 in the Eastern Mediterranean Region

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COVID-19 has substantially impacted the Eastern Mediterranean Region (EMR), home to nearly 700 million people across 22 diverse countries. Since the first reported confirmed case in January, 2020, 3611352 confirmed COVID-19 cases and 91738 deaths were reported in the region as of Nov 17, 2020.1 Most countries saw fairly slow transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) during the early months of the pandemic but in May, as social measures, such as restrictions and partial or full lockdowns, were relaxed during the holy month of Ramadan, disease transmission accelerated.<sup>2,3</sup> After a small reduction in the summer, cases increased in late August as disease surged in countries, such as Jordan and Tunisia, where transmission had been low earlier in the year and resurged in other countries, such as Bahrain and Oman.<sup>3</sup>

Several factors can explain the regional COVID-19 trends and inform more effective disease control. First, the early implementation of public health and social measures, starting mid-March, proved effective, including nonpharmaceutical individual and societal interventions to control COVID-19.4 All countries closed schools and non-essential businesses, imposed travel restrictions, and partial or full lockdowns,<sup>5</sup> and community mobility decreased substantially.<sup>6</sup> But as these measures were eased, community mobility resumed and was only 19% below pre-COVID-19 levels by mid-July.<sup>6</sup> Second, restrictions on mass gatherings and pilgrimages had an important role. In Iran, cases initially occurred in Qom, a destination for religious pilgrimages, which soon became an epicentre, and within 15 days all 31 provinces in Iran reported cases. By early April, 12 EMR countries reported SARS-CoV-2 transmission associated with mass gatherings and pilgrimages. In response, new measures were taken including the closures of mosques and the suspension of Friday and church prayers and

the Umrah.7 Third, migrant workers drove SARS-CoV-2 transmission during the early months of the pandemic in those countries where they constitute a large proportion of the population. The Gulf countries, which have the highest testing rates, also have the highest COVID-19 regional attack rates; in these countries, 62-90% of COVID-19 cases occurred among migrant workers early on,<sup>8</sup> attributed partly to overcrowded living conditions.<sup>9</sup> Finally, among the eight EMR countries affected by conflict and humanitarian emergencies-Afghanistan, Iraq, Libya, the occupied Palestinian territory, Somalia, Sudan, Syria, and Yemen-COVID-19 attack rates are substantially lower than in other countries in the region (median 73 cases per 100000 population vs 1343 cases per 100 000).<sup>10</sup> This lower attack rate might be due to restricted international arrivals limiting virus introduction, reduced internal mobility, the demographics of these countries,<sup>11</sup> and fewer tests in conflict-affected countries than in other EMR countries (median 291 tests per 100 000 vs 15 279 per 100 000).12 Observations from community and health facilities in conflict-affected countries suggest that laboratory testing capacity or under-reporting of cases is unlikely to solely explain these lower attack rates.

The main challenges to the COVID-19 response in the EMR include information sharing, expanding public health measures, protecting health workers, achieving behaviour change, ensuring continuity of essential health services, and establishing reliable supply chains. Although the effectiveness of country-specific COVID-19 responses varies, certain best practices in the region have been important. Decisive leadership and whole-of-government and whole-of-society approaches are central to an effective response.13 Most countries established highlevel national multisectoral coordination mechanisms and developed national plans that covered the nine pillars of the WHO COVID-19 Strategic Preparedness and Response Plan (panel).<sup>14</sup> For surveillance, countries leveraged existing systems, including routine influenza surveillance and polio infrastructure. Nonetheless, reporting of epidemiological data to WHO as per the International Health Regulations (2005) and application of the WHO case definition have often been unreliable and incomplete. Although all 22 countries can test for SARS-CoV-2, laboratory capacities, testing strategies, and testing rates vary widely-eq, from 33 to 146343 tests per 100 000 population in EMR countries. Contact tracing is generally insufficient and not yet scaled up. All EMR countries have designated health facilities to manage COVID-19 cases, mostly of severe disease. Treatment protocols vary from supportive treatment to complex regimens, including compassionate drug use outside of clinical trials.<sup>15</sup> Health workers accounted for 7-10% of COVID-19 cases during the 3 months of the pandemic in the EMR and outbreaks among these workers contributed to acceleration of the pandemic.<sup>16</sup> Inadequate infection prevention and control (IPC) programmes and poor IPC compliance are important contributing factors, especially considering that ten countries had no preexisting national IPC structures. On the basis of WHO recommendations, all EMR countries subsequently prioritised and invested more in IPC practices through training, monitoring, and provision of personal protective equipment.<sup>17</sup> As the pandemic evolved, risk communications and community engagement faced challenges, such as widespread so-called pandemic fatigue.18 COVID-19 knowledge and risk perception vary across the region; use of masks ranges from 6% to 83% across EMR countries.<sup>19-21</sup> The socioeconomic impacts of COVID-19 response measures have been substantial, with gross domestic product projected to decline by 4.7% across the EMR in 2020 and by 13% in conflictaffected countries.<sup>22</sup> WHO recommends risk assessment before the easing of COVID-19 response measures, but some countries struggled to make such assessments while mitigating economic impacts, and often decisions were not adequately informed by public health data.<sup>23</sup>

The COVID-19 pandemic has compromised delivery of essential health services (EHS) in the region, as countries repurposed health systems to respond. About 75% of EHS had some level of disruption in 13 countries, mostly affecting routine immunisations, dental services,

#### Panel: Nine pillars of the WHO COVID-19 Strategic Preparedness and Response Plan

- Country-level coordination, planning, and monitoring
- Risk communication and community engagement
- Surveillance, rapid response teams, and case investigation
- · Points of entry, international travel, and transport
- National laboratories
- Infection prevention and control
- Case management
- Operational support and logistics
- Maintaining essential health services and systems

rehabilitation services, and family planning.24 Countries are now increasingly prioritising continuity of EHS, using WHO's operational guidance.<sup>25</sup> In addition, the pandemic has exposed the fragility of the medical supply chain; there have been shortages of personal protective equipment, ventilators, and diagnostics in all EMR countries. WHO and partners established the COVID-19 Supply Chain System that managed distribution of supplies to more than 160 countries. WHO's EMR logistics hub in Dubai, central to this system, had managed 376 shipments to 109 countries by Nov 17, 2020. In conflict-affected countries there are insufficient resources for an effective response, with inadequate planning, limited public health and hospital capacity, and difficulties with implementing physical distancing and hand and personal hygiene in overcrowded settlements for displaced persons.<sup>26</sup>

The most pressing challenges remain balancing the easing of COVID-19 control measures while maintaining suppression of SARS-CoV-2 transmission, scaling up public health measures, tackling COVID-19 fatigue, and establishing a platform for distribution of eventual COVID-19 vaccines. Countries in the EMR must heed the advice of the independent Global Preparedness Monitoring Board: show responsible leadership, engage citizens, build strong systems for health security, and ensure sustained investment and strong governance of preparedness for health emergencies.<sup>27</sup>

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