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Current major event

WHO SARS-CoV-2 EQAP (2020) in EMR

The External Quality Assessment Programme (EQAP) for the Detection of SARS-CoV-2 Virus by real time transcription polymerase chain reaction (RT –PCR) was rapidly launched to assess the proficiency of laboratories that are performing molecular detection of SARS-CoV-2 in the region. The EQAP was organized by the WHO Global Influenza Programme, WHO Health Emergencies Programme and coordinated by the WHO COVID-19 Reference Laboratory in the Public Health Laboratory Centre (PHLC), Hong Kong SAR, with support from WHO Regional Offices.

Editorial note

The WHO Global Strategic Preparedness and Response Plan for coronavirus disease 2019 (COVID-19) highlights diagnostic testing as a core component of comprehensive public health measures in containing and mitigating the impact of the ongoing pandemic. Robust detection of acute SARS-CoV-2 infected individuals, typically done by RT –PCR and conducted on nasopharyngeal swabs or other upper respiratory tract specimens, is crucial for clinical management, surveillance and to interrupt transmission chains. Many in-house and commercial assays have been developed rapidly, and most molecular assays have achieved 100% specificity, however sensitivity can be affected by specimen quality, sampling time to symptom onset, testing errors, or other technical errors. Therefore, it is critical to implement quality assurance measures in all COVID-19 testing laboratory networks in the regional.

EQA is a method that allows COVID-19 testing laboratories to assess their performance by comparing their results with results from other testing laboratories and reference laboratories within the network. EQA usually evaluates testing competency, the performance of the laboratories, reliability of the testing methods, and accuracy of the results reports, including follow-up for poor EQA results with corrective action. Several EQA methods or processes are commonly used. (*See above*).

In a unique effort to support global testing performance evaluation and guide corrective actions for poor performing laboratories, WHO organized a first round of proficiency-testing which enrolled more than 200 national reference laboratories worldwide. This rapid EQAP was dispatched between April and July 2020. A total of 35 laboratories from 20 countries were invited to participate from Eastern Mediterranean (EMR). The panel was dispatched from PHLC at ambient temperature by courier to participating laboratories who were requested to return their results within four weeks of the date of sample reception on or before the EQAP closing date.

Commonly used EQA methods or processes:

1. **Proficiency testing**—external provider sends unknown samples for testing to a set of laboratories, and the results of all laboratories are analyzed, compared and reported to the laboratories.
2. **Rechecking or retesting**—slides that have been read are rechecked by a reference laboratory; samples that have been analyzed are retested, allowing for interlaboratory comparison.
3. **On-site evaluation**—usually done when it is difficult to conduct traditional proficiency testing or to use the rechecking/retesting method.

Table.1 Sample characteristic

Sample number	Virus
2020-01	SARS-CoV-2
2020-02	SARS-CoV-2
2020-03	Negative
2020-04	Human Coronavirus OC43
2020-05	SARS-CoV-2

The panel consists of four vacuum-dried extracted coronavirus RNA samples, 3 SARS-CoV-2 RNA in different dilutions and a human coronavirus (hCoV) OC43 RNA and one empty vial negative Sample (*See table 1*). Participating laboratories were instructed to reconstitute each sample with 50 µl PCR grade water and to perform SARS-CoV-2 RT-PCR detection test as their routine samples. A positive control of SARS-CoV-2 RNA was also included in the panel.

Among the 35 laboratories invited across the region, 29 received the EQAP samples within the shipment schedule. Of those, 27 returned results before closing date and 25/27 (92.6%) participants reported correct results for all the 5 samples. Overall, the performance of the participating laboratories was good, and the 2 laboratories that had incorrect results on their tests were supported to take corrective actions by reevaluating their protocols and internal quality control processes according to the laboratory guidelines.

The COVID-19 pandemic has put enormous demand on laboratory infrastructure and required an unprecedented rapid scale up of testing capacity for SARS-CoV-2 at national and subnational levels to meet existing and anticipated needs. In EMR, the PCR testing capacity improved significantly and over 450 subnational laboratories were established and currently operational in 22 countries. In order to systematically improve and maintain diagnostic capabilities globally, WHO is organizing a second round of proficiency-testing enrolled more than 3,000 subnational testing laboratories.

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): 2019-2020	
Afghanistan	[50 678 (2074), 4.1%]
Bahrain	[90 062 (349), 0.4%]
Djibouti	[5781 (61), 1.1%]
Egypt	[124 891 (7069), 5.7%]
Iran (Islamic Republic of)	[1 152 072 (53448), 4.6%]
Iraq	[583 118 (12 680), 2.2%]
Jordan	[272 797 (3545), 1.3%]
Kuwait	[147 775 (918), 0.6%]
Lebanon	[156 570 (1270), 0.8%]
Libya	[94 560 (1353), 1.4%]
Morocco	[415 226 (6909), 1.7%]
occupied Palestinian territory (oPt)	[137 106 (1232), 0.9%]
Oman	[127 019 (1483), 1.2%]
Pakistan	[457 176 (9330), 2%]
Qatar	[141 858 (243), 0.2%]
Saudi Arabia	[360 848 (6112), 1.7%]
Somalia	[4662 (124), 2.7%]
Sudan	[22 990 (1450), 6.3%]
Syrian Arab Republic	[10 050 (601), 6%]
Tunisia	[120 687 (4158), 3.4%]
United Arab Emirates	[192 404 (634), 0.3%]
Yemen	[2091 (607), 29%]