



COVID-19 Online Support Forum

Low and middle-income country emergency care

acem.org.au/covid-19



On 22nd February 2022, emergency care (EC) providers, program managers and coordinators participated in a COVID-19 GEC online support forum (OSF). Participants were encouraged to discuss current clinical situations and needs based on the key four pillars of GEC Committee's LMIC COVID-19 guidelines - systems, space, supplies, staff - in their countries and Emergency Departments (ED).

The following is a summary of the discussions.

COVID-19 Clinical Management Update

Variants

- Omicron (latest variant):
 - highly infectivity and transmissible- quickly replaced the delta variant
 - May cause milder illness, but resulting in record number of cases and hospital admissions
 - Now an even newer sub-variant of omicron
- Trend- newer the variant, the greater the infectivity and transmissibility and will dominate more quickly. Hope that variant results in less severe illness, although the net effect is higher hospitalization due to high case numbers.

Recommended Management Strategies

1. COVID-19 Vaccination

- Vaccination is still the most significant and key pillar of COVID-19 clinical management
 - Current situation with vaccine development and administration:
 - More vaccines approved and under development: In February 2022, there were 33 approved vaccines with 183 vaccine candidates in clinical trials phase 1 to 3 (<https://covid19.trackvaccines.org/vaccines/>)
 - 10.57 billion doses of vaccines administered around the world with 62.3% of world population has received at least one dose, however, only 11.4% of people in low-income countries have received at least one dose (refer to: <https://ourworldindata.org/covid-vaccinations>; <https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html>)
 - There is a huge inequity accessing vaccines between HICs and LMICs

- Current recommendation: 3 doses of vaccines with potential need for boosters every 6 months
 - JAMA study: Association Between 3 Doses of mRNA COVID-19 Vaccine and Symptomatic Infection Caused by the SARS-CoV-2 Omicron and Delta Variants (JAMA. 2022;327(7):639-651. doi:10.1001/jama.2022.0470)
 - Vaccine boosters: Evidence of waning of immunity with some countries starting to provide booster vaccinations

2. Supportive Treatments

- Oxygen to maintain saturation >90%:
 - Nasal prongs
 - Face mask
 - High flow nasal cannula (HFNC) or non-invasive ventilation (NIV)
 - Invasive ventilation (if appropriate)
- Prone positioning:
 - At least 3 hours per day
- Prophylaxis for venous thromboembolism
- Antibacterial agents if concern for pneumonia

3. Therapeutics

- Types of COVID-19 treatments and how they could work

Treatment Type	COVID-19 issue being treated	How treatment could work
Antivirals	Virus particle multiplying inside the body	Antiviral drug prevents virus from multiplying
Anti-Inflammatories	Immune system dangerously overreacts to virus	Anti-inflammatory drug calms immune response
Antibody treatments		Antibody specific to coronavirus binds to it and kills it

- Based on WHO Therapeutics and COVID-19: Living Guideline - 14 January 2022
- Therapeutics strongly recommended:
 - Dexamethasone: 6mg/d (oral or IV) while requiring oxygen for up to 10 days or until discharged; can use alternate steroids: effective, cheap, available and saves lives!
- New therapeutics conditionally recommended:
 - Antivirals:
 - ▶ Nirmatrelvir (<https://www.nejm.org/doi/full/10.1056/NEJMoa2118542>) – for use with high risk nonhospitalized adults – although some issues and expensive so not likely to be a game changer
 - ▶ Molnupiravir (<https://www.nejm.org/doi/full/10.1056/NEJMoa2116044>): repurposed antiviral; oral; may reduce hospitalization and death, although expensive
 - Fluvoxamine: SSRI with possible anti-inflammatory/antiviral ([https://doi.org/10.1016/S2214-109X\(21\)00448-4](https://doi.org/10.1016/S2214-109X(21)00448-4)) – for use to reduce hospitalization of high-risk adults -seems promising and costs US\$4 per course. However, caution as other studies are less convincing (<https://www.covid19treatmentguidelines.nih.gov/therapies/immunomodulators/fluvoxamine/>)
 - Baricitinib as an alternative to Interleukin 6 inhibitors in combination with corticosteroids in severe/critical COVID patients- caution as expensive and need to be selective with patients
- Therapeutics conditionally recommended **against**:
 - Remdesivir: repurposed antiviral; no mortality difference proven; larger trials show no effect (<https://www.nejm.org/doi/10.1056/NEJMoa2023184>; [https://doi.org/10.1016/S1473-3099\(21\)00485-0](https://doi.org/10.1016/S1473-3099(21)00485-0); <https://www.nejm.org/doi/full/10.1056/NEJMoa2116846>)
- Therapeutics **not** recommended:
 - Everything else, especially Ivermectin:
 - ▶ No evidence for use of Ivermectin:
 - Some low-quality studies and a 'high quality looking' website promoting Ivermectin
 - No reputable organization recommending Ivermectin such as: WHO, FDA, BMJ, TGA

- Many case reports of overdoses of Ivermectin resulting in toxicity and causing severe illness

Responses of countries experiencing COVID-19 Omicron variant waves

- COVID-19 Omicron variant has spread to many countries in the Indo-Pacific region with some countries experiencing COVID-19 waves for the first time since the pandemic commenced.
- Some countries with very low vaccination rates within both general population and healthcare workers are experiencing first COVID-19 wave are being severely impacted by high number of COVID-19 cases and deaths.
 - Challenges include:
 - ▶ Health systems are overwhelmed with extreme access block in EDs and reduced capability to provide surgery and other emergency treatments/ medical care
 - ▶ High infection rate amongst healthcare staff as well as in the general population
 - ▶ Overcrowding at vaccination sites due to increased interest in becoming vaccinated
 - ▶ Testing- gene express/PCR testing too slow
 - Useful responses that participants highlighted as assisting with COVID -19 management in EDs:
 - ▶ Talking to experienced colleagues within their networks about COVID-19 management
 - ▶ AUSMAT provided respected expertise and assistance in establishing COVID management systems, support, and training of staff
 - ▶ Regular de-brief sessions to review current situation and approaches
 - ▶ ED and hospital staff experienced in COVID-19 management advising and supporting other healthcare workers in other parts of the country as COVID-19 spreads
 - ▶ Establishment of specific COVID-19 spaces for cases- mild cases in a centre near the hospital and severely infected patients in a ward within the hospital, leaving the ED less congested and so able to provide emergency care

- ▶ The use of rapid antigen testing (RAT) led to quicker responses and treatment for patients
- ▶ Establishment of COVID-19 treatment guidelines, including whether to intubate COVID-19 patients or not
- Establishment of Staff management processes:
 - ▶ Provide quarantine/isolation support if staff unable to isolate at home safely
 - ▶ Provide adequate PPE for staff
 - ▶ Include the support of ancillary staff in planning
- Ensure adequate provision of oxygen:
 - ▶ Accessed additional oxygen cylinders and concentrators from donors for 'mild case' and 'severely sick case' spaces
- Treatments used in a low resource setting include:
 - ▶ Oxygen therapy
 - ▶ Dexamethasone
 - ▶ Heparin, if immobile
 - ▶ No antivirals used as patients presented too late
- Important for ED/hospitals to work with the local public health teams

continued need to access oxygen and equipment

- Logistics management in healthcare facilities and infrastructure – focused on clinical staff and forgot to support the 'support/ancillary staff' that clean, remove rubbish, replace oxygen cylinders, replenish supplies and drugs. Therefore, health care staff need to include ancillary staff in planning and support.

Resources

[WHO Therapeutics and COVID-19: Living Guideline 24 September 2021](#)

[NICE Guideline \[NG191\]: COVID-19 rapid guideline: managing COVID-19](#)

[Managing COVID-19 across the Indo-Pacific – A guide for emergency departments with limited resources](#)

[Oxygen Therapy with Limited Resources](#)

The [Pacific Protocol](#) for prevention of COVID-19 transmission from the workplace to home -and other feedback and suggestions from Pacific health workers - now available in the Kiribati, Tuvalu and Vanuatu language.

Steroid conversion and dose recommended resource: [Dose conversion calculator](#).

[WHO Ventilation recommended resource](#)

[A useful guide for determining COVID-19 transmission risk based on occupancy and ventilation](#)

[ACEM COVID-19 Resources for Low and Middle Income Countries Resources](#)

[Other ACEM GEC COVID-19 Resources](#)

[The Ethics of Public Health Emergency Preparedness and Response - Experiences and lessons learnt from frontline clinicians in low- and middle-income countries in the Indo-Pacific region during the COVID-19 pandemic](#)

[Online Support Forum 17 vaccination Q&A webinar: Summary Notes and Recording](#)

Participants in this session

34 total participants - on average 10 engaging in the conversation at any one time.

62% (21/34) of participants were from Low and Middle-Income Countries (LMICs) including Federated States of Micronesia, Fiji, Marshall Islands, Myanmar, Nauru, Nepal, Papua New Guinea, Solomon Islands and Timor Leste.

Features of countries recovering from a significant COVID-19 omicron variant wave and their responses:

- A country reported that COVID burden now decreasing with increased vaccine booster coverage and staff still using N95 masks in all hospital departments. Most presenting COVID cases are coincidental with other medical issues and noted that there is current a surge in other communicable diseases
- A country reported that during the omicron surge, covid cases seemed milder and there were less hospital admissions compared to the delta surge, however there were a very high number of cases being managed at home which resulted in the following challenges:
 - High level of self-medication resulted, including a high usage of prescribed antibiotics, which could lead to risk of antibiotic resistance in the community
 - High level of self-testing, which was not officially counted, so actual covid cases were a lot higher than the reported numbers.
 - Oxygen provision was still important, with