Weekly Evidence Report

Health Technology Assessment Philippines

17 Jan 2022 to 23 Jan 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of 17 Jan to 23 Jan 2022. The HTA Unit reviewed a total of **15 studies** for the said period.

Evidence includes **4 studies** on Epidemiology; **1 study** on Transmission; **1 study** on Drugs; **4 studies** on Vaccines, **3 studies** on Equipment and Devices; **1 studies** on Medical and Surgical Procedures; **0 studies** on Traditional Medicine; and **1 study** on Preventive & Promotive Health.

Sections

Evidence on Epidemiology

Local COVID-19 Tracker: https://www.doh.gov.ph/covid19tracker
Local COVID-19 Case Tracker: https://www.doh.gov.ph/covid-19/case-tracker

Date	Author/s	Title	Journal/ Article Type	Summary
18 Jan 2022	WHO Global	Weekly epidemiological update on COVID-19 - 11 January 2022	*WHO Global (Situation Report)*	• Globally, the number of new COVID-19 cases increased in the previous week (10-16 January 2022), while the number of new deaths remained similar to that reported during the previous week. • As of 16 January, over 323 million confirmed cases and over 5.5 million deaths have been reported worldwide.
			WHO Global (Situation Report) – *Regional Updates*	• All regions reported an increase in the incidence of weekly cases with the exception of the African Region, which reported a 27% decrease. • The South-East Asia region reported the largest increase in new cases last week (145%), followed by the Eastern Mediterranean Region (68%). • New weekly deaths increased in the South-East Asia Region (12%) and Region of the Americas (7%) while remaining approximately the same as the previous week in the other regions.
20 Jan 2022	European Centre for Disease Prevention and Control (ECDC)	Weekly COVID-19 Surveillance Report	*ECDC Data Set*	• At the end of week 2 (week ending Sunday 16 January 2022), the overall epidemiological situation in the European Union was characterised by a high overall case notification rate that has increased rapidly in the past four weeks, and an elevated but stable death rate. • The rapid spread of the Omicron variant of concern (VOC) continues, while both the Delta VOC and Omicron VOC are still co-circulating in some countries.

Evidence on Vulnerable Population Epidemiology

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	Agency for Clinical Innovation	Incidental COVID-19	*COVID-19 Critical Intelligence Unit (Evidence Brief)*	• Patients with COVID-19 may be asymptomatic and diagnosed with COVID-19 after admission to hospital. The percentage of hospitalisations classified as incidental COVID-19 varies (19%-63%). • Internationally, reporting is often split by COVID-19 positive patients in hospitals or intensive care units admitted for COVID-19 and those admitted for other reasons. • Many jurisdictions do not differentiate between patients admitted to hospitals with a principal diagnosis of COVID-19 and patients admitted to hospitals for other causes but with a positive COVID-19 result (incidental COVID-19)
18 Jan 2022	Flatby, A., et al.	Post-COVID-19 Condition	*Norwegian Institute of Public Health (Rapid Review)*	• Severe COVID-19, requiring hospitalisation or intensive care treatment, correlates with more symptoms after six to 12 months. The range of long-term symptoms for hospitalised patients is widest, with General, Neurological and Pulmonary symptoms the most common. • Women stand out with a higher risk for developing long-term symptoms. Many patients who have had mild and moderate COVID-19 (non-hospitalised) report prevailing symptoms six to 12 months after infection, but controlled studies now show that many of these symptoms are also reported by uninfected controls. Symptoms in patients with mild and moderate COVID-19 are similar to those in the general population. • The extent of long-term impact of COVID-19 on the quality of life in the general population remains unclear, as most studies included patients with severe COVID19.

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	Agency for Clinical Innovation	Omicron – symptoms and hospitalised patients	*COVID-19 Critical Intelligence Unit (Evidence Brief)*	The review noted that there is currently no information to suggest that Omicron symptoms are different from other SARS-CoV-2 variants, with the most reported symptoms for Omicron being a runny nose, headache, fatigue, sneezing and a sore throat. However, there is evidence of higher proportions of asymptomatic infections in Omicron cases compared to other SARS-CoV-2 variants. Reports suggest Omicron is less severe compared to Delta with reduced rates of hospital admission, intensive care unit admission and mortality. Early animal and human studies suggest that Omicron replicates faster in human airways however has reduced levels of multiplication and concentration deep in the lung.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	Davarpanah, M., et al	Combination of Spironolactone and Sitagliptin Improves Clinical Outcomes of Outpatients with COVID-19: An Observational Study	*medRXiv (Observational Study)*	In the prospective cohort study of acutely ill outpatients with COVID-19, the combination of sitagliptin and spironolactone reduced duration of COVID infection and hospital visits better than standard therapeutic approaches. The effects of combination of sitagliptin and spironolactone in COVID-19 patients should be further verified in a double blind, randomized, placebo-controlled trial.

Evidence on Vaccines

Date	Author/s	Title	Journal/ Article Type	Summary
18 Jan 2022	Padiyar, S., et al	New-onset Adult-onset Still's disease-like syndrome after ChAdOx1 nCoV-19 vaccination—a case series with review of literature	*Clinical Rheumatology (Case series)*	The study reported a series of 3 Adult-onset Still's disease (AOSD)-like presentations in previously healthy females following vaccination with the ChAdOx1 nCoV-19 vaccine, and also compare them with similar cases reported in literature through a PubMed database search. The underlying mechanism may be linked to the activation of Toll-like receptors (TLR)—TLR-7 and TLR-9—leading to a robust immune response. These 3 cases highlight the immunogenicity of COVID-19 vaccines, with the possibility of occurrence of new-onset systemic hyper-inflammation illness which can happen a few days following the vaccination, sometimes even delayed to months, and can range in severity from mild to even life-threatening. More cases need to be studied to understand the profile and prognosis of these syndromes in the long run

NYT Coronavirus Vaccine Tracker:
https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html

Bloomberg Vaccine Tracker:
https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/

London School of Hygiene and Tropical Medicine Vaccine Trial Mapper and Tracker:
https://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/

ACIP Files:
https://drive.google.com/drive/u/0/folders/1v-jd66qIIxnUkfzXWKqiD0mkVvqy_VvJ?pli=1

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	WHO Strategic Advisory Group of Experts on Immunization (SAGE)	Interim recommendations for use of the Pfizer–BioNTech COVID-19 vaccine, BNT162b2, under Emergency Use Listing	*WHO (Recommendation Update)*	Key updates: • Included pediatric age indication based on the recent emergency use authorization by stringent regulatory authorities for the age indication 5-11 years. • Interchangeability between vaccine products and platforms where both homologous and heterologous schedules are encouraged. • Booster doses (third dose) is recommended 4-6 months after the 2nd dose given increasing evidence of waning of vaccine effectiveness over time, further compounded by lower vaccine effectiveness against Omicron and Delta that can be restored with a third dose. • The need for a third and fourth dose in certain immunocompromised populations • The *Vaccine Performance* section has been updated to reflect the latest data with regards to the circulation of variants of concern and evidence on the impact on immunogenicity and effectiveness of the vaccine, in particular Omicron.
21 Jan 2022	WHO Strategic Advisory Group of Experts on Immunization (SAGE)	WHO SAGE Roadmap for prioritizing uses of COVID-19 vaccines	*WHO (Roadmap Update)*	Key updates: • The revised Roadmap considers increasing vaccine availability and vaccine coverage rates. • The Roadmap identifies four priority-use groupings, from highest to lowest priority-use, based largely on risk of severe disease, hospitalizations, and death. • This health risk criterion aligns with a specification of the human well-being principle in the WHO SAGE values framework for the allocation and prioritization of COVID-19 vaccines. • In addition, other specifications of that principle, including reducing societal and economic disruption and protecting essential health services, as well as of the national equity and reciprocity principles, are also used to justify categorization of some priority-use groupings

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	Leung, N., et al	BNT162b2 vaccine boosts neutralizing antibodies to ancestral SARS-CoV-2 & Omicron variant in adults who previously received two doses of inactivated vaccine	*medRXiv (Case series)*	A third dose of BNT162b2 substantially increased antibody titers on each assay. Mean ELISA levels increased from an optical density (OD) of 0.3 to 2.1 ($p<0.01$), and mean sVNT levels increased from an inhibition of 17% to 96% ($p<0.01$). In a random subset of 20 participants, the geometric mean PRNT50 titers rose very substantially by at least 27 fold from Day 0 to Day 28 against the ancestral virus ($p<0.01$) and rose by at least 14 fold against the Omicron variant ($p<0.01$). In daily monitoring, post-vaccination reactions subsided within 7 days for over 99% of participants. In conclusion, a third dose of COVID-19 vaccination with an mRNA vaccine substantially improved antibody levels against the ancestral virus and against the Omicron variant with well-tolerated safety profile, in adults who had received two doses of inactivated vaccine 6 months earlier.

Evidence on Medical and Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
17 Jan 2022	Masuda, Y., et al	Variation in community and ambulance care processes for out-of-hospital cardiac arrest during the COVID-19 pandemic: a systematic review and meta-analysis	*Nature Scientific Reports (Systematic Review and Meta-analysis)*	The meta-analysis found that : • Out-of-hospital sudden cardiac arrest (OHCA) at home was more common during the pandemic. • Bystander cardiopulmonary resuscitation (BPCR) did not differ during and before the COVID-19 pandemic, although bystander defibrillation was significantly lower during the COVID-19 pandemic. • Emergency medical services call-to-arrival time was significantly higher during the COVID-19 pandemic. • Resuscitation duration did not differ significantly between pandemic and pre-pandemic timeframes. The COVID-19 pandemic significantly affected prehospital processes for OHCA. These findings may inform future interventions, particularly to consider interventions to increase BCPR and improve the pre-hospital chain of survival.

Evidence on Equipment & Devices

Date	Author/s	Title	Journal/ Article Type	Summary
18 Jan 2022	Tipre, D., et al	Imaging Pulmonary Blood Vessels and Ventilation-Perfusion Mismatch in COVID-19	*Molecular Imaging and Biology (Narrative Review)*	COVID-19 hypoxemic patients although sharing a same etiology (SARS-CoV-2 infection) present themselves quite differently from one another. Imaging can aid the physician in assessing severity of COVID-19. Although useful for their portability X-ray and ultrasound serving on the frontline to evaluate lung parenchymal abnormalities are unable to provide information about pulmonary vasculature and blood flow redistribution which is a consequence of hypoxemia in COVID-19. Imaging helps to access the severity of infection, lung performance, ventilation-perfusion mismatch, and informs strategies for medical treatment. This review summarizes the capacity of these imaging modalities to assess ventilation-perfusion mismatch in COVID-19. Despite having limitations, these modalities provide vital information on blood volume distribution, pulmonary embolism, pulmonary vasculature and are useful to assess severity of lung disease and effectiveness of treatment in COVID-19 patients.
21 Jan 2022	Goodall, J., et al	Investigating sensitivity of nasal or throat (ISNOT): A combination of both swabs increases sensitivity of SARS-CoV-2 rapid antigen tests	*medRXiv (Diagnostic Study)*	The investigation compared results of a common Ag-RDT (i.e. Abbott Panbio COVID-19 Ag Rapid Test Device) using three sampling sites: nasal swab; throat swab and; combined nasal/throat. All Ag-RDT results were confirmed with molecular testing. Compared to RT-PCR, samples from nasal or throat swabs each detected 64.5% of SARS-CoV-2 cases; however, combining the contributions of each swab increased sensitivity to 88.7%. This trend was also evident with the Rapid Response Ag-RDT (BTNX), which uses a more flexible swabs than Panbio. When nasal swab collection was compared to paired sampling of the nasal/throat using a single swab with the Panbio Ag-RDT, the sensitivity of each was 68.4% and 81.6%, respectively. No false-positive results were observed with nasal, throat, or combined nasal/throat sampling. Self-administered throat and nasal/throat swabs both had >90% acceptability. These findings support the use of self-collected combined nasal/throat sampling for Ag-RDT based SARS-CoV-2 detection in self perceived asymptomatic individuals.

Note. Studies that have not been peer-reviewed are highlighted in red.

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Evidence on Equipment & Devices (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
21 Jan 2022	Gustmann, D., et al	Aerosol measurement identifies SARS-CoV 2 PCR positive adults compared with healthy controls	*Molecular Imaging and Biology (Narrative Review)*	Aerosol measuring may detect highly contagious individuals ("super spreaders or super-emitters") and discriminate between SARS-CoV-2 infected and non-infected individuals. This is the first study comparing exhaled aerosols in SARS-CoV-2 infected individuals and healthy controls. There was a highly significant difference in respiratory aerosol concentrations between SARS-CoV-2 PCR-positive (median 1490.5/L) and -negative subjects (median 252.0/L; p<0.0001). There were no significant differences due to age, sex, smoking status, or body mass index. ROC analysis showed an AUC of 0.8918. Measurements of respiratory aerosols were significantly elevated in SARS-CoV-2 positive individuals and may become a helpful tool in detecting highly infectious individuals via a noninvasive breath test

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Preventive & Promotive Health

Evidence on Screening/Surveillance

Date	Author/s	Title	Journal/ Article Type	Summary
20 Jan 2022	Ahmed, W., et al	Minimizing errors in RT-PCR detection and quantification of SARS-CoV-2 RNA for wastewater surveillance	*Science of The Total Environment (Narrative Review)*	Surveillance of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) in wastewater can potentially provide an early warning signal of COVID-19 infections in a community.This paper is a technical review of factors that can cause false-positive and false-negati ve errors in the surveillance of SARS-CoV-2 RNA in wastewater, culminating in recommended strategies that can be implemented to identify and mitigate some of these errors. Recommendations include stringent QA/QC measures, representative sampling approaches, effective virus concentration and efficient RNA extraction, PCR inhibition assessment, inclusion of sample processing controls, and considerations for RT-PCR assay selection and data interpretation. Clear data interpretation guidelines (e.g., determination of positive and negative samples) are critical, particularly when the incidence of SARS-CoV-2 in wastewater is low. The strategies that are recommended in this review aim to improve SARS-CoV-2 characterization and detection for wastewater surveillance applications.

Evidence on Personal Measures

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
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