Weekly Evidence Report

Health Technology Assessment Philippines

28 Feb 2022 to 06 Mar 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of 28 Feb to 06 Mar 2022. The HTA Unit reviewed a total of **15 studies** for the said period.

Evidence includes **2 studies** on Epidemiology; **2 study** on Transmission; **4 studies** on Drugs; **4 studies** on Vaccines, **1 studies** on Equipment and Devices; **0 studies** on Medical and Surgical Procedures; **1 studies** on Traditional Medicine; and **1 studies** 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
01 Mar 2022	WHO Global	Weekly epidemiological update on COVID-19 - 1 March 2022	*WHO Global (Emergency Situation Updates)*	• Globally, during the week of 21 through 27 February 2022, the number of new COVID-19 cases and deaths continued to decline by 16% and 10% respectively, as compared to the previous week. • As of 27 February 2022, over 433 million confirmed cases and over 5.9 million deaths have been reported globally.
			WHO Global (Situation Report – Regional Updates)	• At the regional level, the Western Pacific Region reported a 32% increase in the number of new weekly cases while all other regions reported decreases. • The number of new weekly deaths increased in the Western Pacific (+22%) and the Eastern Mediterranean (+4%) Regions, whilst a decreasing trend have been reported by the Regions of Africa (-59%), South-East Asia (-18%), Europe (-13%) and Americas (-8%).
			WHO Global (Situation Report – SARS-CoV-2 variants of interest and variants of concern)	• In this edition, updates on the geographic distribution of circulating SARS-CoV-2 variants of concern (VOCs), including the spread and prevalence of the Omicron variant.

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 Studies that have not been peer-reviewed are highlighted in red.

Back to Sections page

Evidence on Epidemiology (continued)

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Abd-Elsayed., et al.	The Burden of Coronavirus Disease 2019-Related Cases, Hospitalizations, and Mortality Based on Vaccination Status and Mandated Mask Use: Statewide Data From Wisconsin and Narrative Review of the Literature	*Review article*	• Coronavirus disease 2019 (COVID-19) cases continue to surge in the United States with the emergence of new variants. This is a cross-sectional study conducted on July 31, 2021, utilizing publicly available data from the Wisconsin Department of Health Services. • The primary objective was comparison of total COVID-19-related cases, hospitalizations, and deaths in vaccinated versus unvaccinated people in the state of Wisconsin over a 31-day period (July 2021). • Narrative review of the literature demonstrated high vaccine effectiveness against COVID-19 infection prevention (79%-100% among fully vaccinated people), COVID-19-related hospitalization (87%-98% among fully vaccinated people), and COVID-19-related death (96.7%-98% among fully vaccinated people). • Strict adherence to public mask use and fully vaccinated status are associated with improved COVID-19-related outcomes and can mitigate the spread, morbidity, and mortality of COVID-19 • Anesthesiologists and intensivists should adhere to evidence-based guidelines in their approach and management of patients to help mitigate spread.

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
28 Feb 2022	Suñer., et al.	Association between two mass-gathering outdoor events and incidence of SARS-CoV-2 infections during the fifth wave of COVID-19 in north-east Spain: A population-based control-matched analysis	*The Lancet Regional Health - Europe*	• In this study, the authors aimed to assess the effect of two mass-gathering outdoor events, held during a peak of SARS-CoV-2 transmission, on COVID-19 incidence. • The primary objective was to compare the incidence of COVID-19 within the 3-to-10 days following the event between attendees and a population-based control group. • Despite the proven effectiveness of preventive measures such as Ag-RDT screening, mask-wearing and vaccination, caution should be taken when holding these events during a period of high community SARS-CoV-2 transmission.
02 Mar 2022	Chen., et al.	Measuring the effects of COVID-19-related disruption on dengue transmission in southeast Asia and Latin America: a statistical modelling study	*The Lancet Infectious Diseases - Review article*	• The COVID-19 pandemic has resulted in unprecedented disruption to society, which indirectly affects infectious disease dynamics. We aimed to assess the effects of COVID-19-related disruption on dengue, a major expanding acute public health threat, in southeast Asia and Latin America. • Authors found out that strong association between COVID-19-related disruption (as measured independently by public health and social measures and human movement behaviours) and reduced dengue risk, even after taking into account other drivers of dengue cycles including climatic and host immunity (relative risk 0·01–0·17, p<0·01). • Measures related to the closure of schools and reduced time spent in non-residential areas had the strongest evidence of association with reduced dengue risk, but high collinearity between covariates made specific attribution challenging. • Overall, authors estimate that 0·72 million (95% CI 0·12–1·47) fewer dengue cases occurred in 2020 potentially attributable to COVID-19-related disruption. • In most countries, COVID-19-related disruption led to historically low dengue incidence in 2020. Continuous monitoring of dengue incidence as COVID-19-related restrictions are relaxed will be important and could give new insights into transmission processes and intervention options.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Tom J., et al.	Prognostic and Predictive Biomarkers in Patients With Coronavirus Disease 2019 Treated With Tocilizumab in a Randomized Controlled Trial	*PubMed - Clinical trial*	• Modeling in the placebo arm showed all candidate biomarkers except lactate dehydrogenase and d-dimer were strongly prognostic for day 28 clinical outcomes of mortality, mechanical ventilation, clinical status, and time to hospital discharge. • Modeling in the tocilizumab arm showed a predictive value of ferritin for day 28 clinical outcomes of mortality (predictive interaction, p = 0.03), mechanical ventilation (predictive interaction, p = 0.01), and clinical status (predictive interaction, p = 0.02) compared with placebo. • Multiple biomarkers prognostic for clinical outcomes were confirmed in COVACTA. • Ferritin was identified as a predictive biomarker for the effects of tocilizumab in the COVACTA patient population; high ferritin levels were associated with better clinical outcomes for tocilizumab compared with placebo at day 28.
01 Mar 2022	Rossignol., et al.	A randomized double-blind placebo-controlled clinical trial of nitazoxanide for treatment of mild or moderate COVID-19	*eClinicalMedine - Clinical trial*	• A randomized double-blind placebo-controlled clinical trial in 36 centers in the U.S. between August 2020 and February 2021 investigated the safety and effectiveness of oral nitazoxanide 600 mg twice daily for five days in outpatients with symptoms of mild or moderate COVID-19 enrolled within 72 h of symptom onset (ClinicalTrials.gov NCT04486313). • Efficacy endpoints were time to sustained clinical recovery (TSR, a novel primary endpoint) and proportion of participants progressing to severe illness within 28 days (key secondary). • In the primary analysis, median (IQR) TSR were 13·3 (6·3, >21) and 12·4 (7·2, >21) days for the nitazoxanide and placebo groups, respectively (p = 0·88). • 1 of 184 (0·5%) treated with nitazoxanide progressed to severe illness compared to 7 of 195 (3·6%) treated with placebo (key secondary analysis, odds ratio 5·6 [95% CI 0·7 - 46·1], relative risk reduction 85%, p = 0·07). • In the pre-defined stratum with mild illness at baseline, nitazoxanide-treated participants experienced reductions in median TSR (3·1 days, p = 0·09) and usual health (5·2 days, p < 0·01) compared to placebo. Nitazoxanide was safe and well tolerated.

Evidence on Drugs (continued)

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Marzolini., et al.	Fluvoxamine for the treatment of COVID-19	*The Lancet Global Health - Commentary*	• In the TOGETHER study, Gilmar Reis and colleagues showed a benefit of early treatment with fluvoxamine with notably a reduction in the need for hospitalisation, which was defined as retention in a COVID-19 emergency setting for more than 6 h or transfer to a tertiary hospital. • Although the time course of fluvoxamine treatment is relatively short (10 days), drug–drug interactions cannot be ignored and their management can be challenging particularly for comedications whose dosage is titrated based on the clinical response (eg, antiepileptics, antidepressants, and neuroleptics).
04 Mar 2022	Chen., et al.	Anticoagulants for people hospitalised with COVID- 19	*Cochrane Database of Systematic Reviews - Rapid Review*	• The primary manifestation of coronavirus disease 2019 (COVID- 19) is respiratory insufficiency that can also be related to diffuse pulmonary microthrombosis and thromboembolic events, such as pulmonary embolism, deep vein thrombosis, or arterial thrombosis. People with COVID- 19 who develop thromboembolism have a worse prognosis. • Anticoagulants such as heparinoids (heparins or pentasaccharides), vitamin K antagonists and direct anticoagulants are used for the prevention and treatment of venous or arterial thromboembolism. Besides their anticoagulant properties, heparinoids have an additional anti- inflammatory potential. However, the benefit of anticoagulants for people with COVID- 19 is still under debate. • When compared to a lower- dose regimen, higher- dose anticoagulants result in little to no difference in all- cause mortality and increase minor bleeding in people hospitalised with COVID- 19 up to 30 days. • Compared with no treatment, anticoagulants may reduce all-cause mortality but the evidence comes from non- randomised studies and is very uncertain. It is unclear whether anticoagulants have any effect on the remaining outcomes compared to no anticoagulants (very low- certainty evidence or no data).

Evidence on Vaccines

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Ioannou., et al.	Comparison of Moderna versus Pfizer-BioNTech COVID-19 vaccine outcomes: A target trial emulation study in the U.S. Veterans Affairs healthcare system	*eClinical Mediine - Observational study*	• mRNA COVID-19 vaccines manufactured by Pfizer-BioNTech (BNT162b2) and Moderna (mRNA-1273) have been shown to be efficacious but have not been compared in head-to-head clinical trials. • . Compared to BNT162b2, mRNA-1273 recipients had significantly lower risk of SARS-CoV-2 infection (adjusted hazard ratio [aHR] 0.736, 95% CI 0.696–0.779) and SARS-CoV-2-related hospitalization (aHR 0.633, 95% CI 0.562–0.713), which persisted across all age groups, comorbidity burden categories and black/white race. • The differences between mRNA-1273 and BNT162b2 in risk of infection or hospitalization were progressively greater when the follow-up period was longer, i.e. extending to March 31, June 30 or August 25, 2021. • SARS-CoV-2-related deaths were less common in mRNA-1273 versus BNT162b2 recipients (168 versus 213) but this difference was not statistically significant (aHR 0.808, 95% CI 0.592–1.103). • Data suggests that compared to BNT162b2, vaccination with mRNA-1273 resulted in significantly lower rates of SARS-CoV-2-infection and SARS-CoV-2-related hospitalization.
01 Mar 2022	Parker., et al.	Response to additional COVID-19 vaccine doses in people who are immunocompromised: a rapid review	*The Lancet Global Health - Rapid Review*	• Authors identified 23 eligible studies reporting on a total of 1722 people who are immunocompromised receiving an additional COVID-19 vaccine dose (median sample size of 60, IQR 34·5–81·5). These included two randomised controlled trials and 21 observational studies done in countries that were early to adopt a policy of offering an additional dose to people who are immunocompromised.

Evidence on Vaccines (continued)

Date	Author/s	Title	Journal/ Article Type	Summary
				Cont. • The evidence base is skewed towards mRNA vaccines (exclusively offered in 18 of the eligible studies), although several studies have explored the potential merits of a heterologous additional dose (Ad26.COV2.S or ChAdOx1-S) following a two-dose mRNA primary vaccination series. • The benefits of an additional dose as part of an extended primary series among people who are immunocompromised are likely to outweigh the risks on the basis of the available data. • Findings also highlight the need for continued caution among people who are immunocompromised while SARS-CoV-2 transmission remains high globally. • Accordingly, additional protective measures within the households and care facilities of people who are immunocompromised, including vaccination of close contacts as well as other public health and social measures, will be crucial to reduce the risk of transmission to this susceptible population.
01 Mar 22	Nguyen T., et al.	Reactogenicity and immunogenicity of heterologous prime-boost immunization with COVID-19 vaccine	*Science Direct -Systematic Review*	• A systematic collection of economic evaluations of the reactogenicity and immunogenicity of heterologous COVID-19 vaccination regimens in clinical trials and observational studies is presented. • Studies are provided evidence about the higher induction of robust immunogenicity and tolerated reactogenicity of heterologous vaccination regimens (vector-based/mRNA vaccine or vector-based/inactivated vaccine). • The heterologous regimens induced the potential protection against the variant of concern, even to the Delta variant

Evidence on Vaccines (continued)

Date	Author/s	Title	Journal/ Article Type	Summary
04 Mar 2022	WHO	COVID-19 vaccine tracker and landscape	*WHO - Publication*	The COVID-19 vaccine tracker: • Provides summary tables of COVID-19 vaccine candidates in both clinical and pre-clinical development; • Provides analysis and visualization for several COVID-19 vaccine candidate categories; • Tracks the progress of each vaccine from pre-clinical, Phase 1, Phase 2 through to Phase 3 efficacy studies and including Phase 4 registered as interventional studies; • Provides links to published reports on safety, immunogenicity and efficacy data of the vaccine candidates; • Includes information on key attributes of each vaccine candidate and • Allows users to search for COVID-19 vaccines through various criteria such as vaccine platform, schedule of vaccination, route of administration, developer, trial phase and clinical endpoints. • The database is updated regularly - twice a week (Tuesday and Friday, 17:00 CET).

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

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

Back to Sections page

Evidence on Equipment & Devices

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Sherlaw-Johnson., et al.	The impact of remote home monitoring of people with COVID-19 using pulse oximetry: A national population and observational study	*eClinicalMedicine - Review article*	• This study is an evaluation of the clinical effectiveness of the pre-hospital monitoring programme, COVID oximetry @home (CO@h). • For every 10% increase in coverage of the programme, mortality was reduced by 2% (95% confidence interval:4% reduction to 1% increase), admissions increased by 3% (-1% to 7%), in-hospital mortality fell by 3% (-8% to 3%) and lengths of stay increased by 1·8% (-1·2% to 4·9%). • None of these results are statistically significant, although the confidence interval indicates that any adverse effect on mortality would be small, but a mortality reduction of up to 4% may have resulted from the programme.

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
01 Mar 2022	Ali S., et al.	Natural products can be used in therapeutic management of COVID-19: Probable mechanistic insights	*Science Direct - Review*	• Several natural products are reported highly effective in COVID-19 therapy. • Therapeutic potential, biochemical properties and mechanism of action of essential phytoconstituents are discussed. • The mechanism of action of a few effective phytoconstituents in COVID-19 therapy are highlighted. • These phytoconstituents represent a promising option for targeting SARS-CoV-2 pathogenesis.

Evidence on Preventive & Promotive Health

Date	Author/s	Title	Journal/ Article Type	Summary
04 Mar 2022	Bigoni., et al.	Brazil's health system functionality amidst of the COVID-19 pandemic: An analysis of resilience	*The Lancet Regional Health - Americas*	• In this descriptive study, the authors aimed to discuss the SUS functionality and resilience, describing the impact of the pandemic on non-COVID health services delivery while considering the regional inequalities of the allocation of financing health system, health infrastructure and health workforce. • The Brazilian Government did not consider that socioeconomically vulnerable states were at a higher risk of being impacted by the overburden of the health system caused by the COVID-19, which resulted in poorer health system functionality for those vulnerable states. • The lack of proper planning to improve health system resilience resulted in the decrease of a quarter of the amount of healthcare procedures increasing the already existing health disparities in the country.

Evidence on Medical and Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
-	-	-	-	-