Weekly Evidence Report

Health Technology Assessment Philippines

08 – 14 October 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Division reviewed for the period of 08 - 14 October 2022 on current public health emergency concerns, COVID-19 and monkeypox. The HTA Division reviewed a total of 14 studies for COVID-19 and 5 studies for monkeypox.

For COVID-19, evidence includes 3 studies on Epidemiology; 7 studies on Vaccines; 3 studies on Drugs; 0 study on Transmission; 0 study on Equipment and Devices; 0 study on Medical and Surgical Procedures; 0 study on Traditional Medicine; 1 study on Preventive & Promotive Health; and 0 study on Other Health Technologies.

For monkeypox, evidence includes 2 studies on Epidemiology; 2 studies on Vaccines; 0 study on Drugs; 0 study on Transmission; 0 study on Equipment and Devices; 0 study on Medical and Surgical Procedures; 0 study on Traditional Medicine; 1 study on Preventive & Promotive Health; and 0 study on Other Health Technologies; 0 study on Equipment and Devices; 0 study on Medical and Surgical Procedures; 0 study on Traditional Medicine;

Sections

COVID-19

Evidence on Epidemiology

Local COVID-19 Case Tracker:

https://doh.gov.ph/2019-nCoV?gclid=CjwKCAjwjtOTBhAvEiwASG4bCOmLzFMQljh8DX_VVSGA-HmO0Pt5_CscykID7xZv4zqlXG5vm9PM2xoC27QQAvD_BwE

Date	Author/s	Title	Journal/ Article Type	Summary
11 Oct 2022	Malijan et al	SARS-CoV-2 seroprevalence and infection rate in Manila, Philippines prior to national vaccination program implementation: a repeated cross-sectional analysis	*Tropical Medicine and Health/ Cross-Sectional Study*	• Repeated cross-sectional surveys in San Lazaro Hospital, Manila across four periods, 3 months apart, between May 2020 and March 2021 was conducted. Multivariable logistic regression was used to assess associations between different characteristics and infection status including seropositivity. • The quadrupling of seroprevalence over 3 months between the first and second enrollment periods coincided with the high burden of infection in Metro Manila in early 2020. The findings suggest a limit to the rise and potential decline of population-level SARS-CoV-2 infection-induced immunity without introduction of vaccines.
12 Oct 2022	WHO Global	Weekly epidemiological update on COVID-19 - 12 October 2022	*WHO Global Situation Report*	• Globally, the number of new weekly cases decreased by 10% during the week of 3 to 9 October 2022, as compared to the previous week, with over 2.8 million new cases reported. • The number of new weekly deaths remained stable (-1%), as compared to the previous week, with about 9000 fatalities reported.
13 Oct 2022	European Centre for Disease Prevention and Control (ECDC)	Country overview report: week 40 2022	*ECDC/Situation Report*	• The pooled EU/EEA notification rate of COVID-19 cases among people aged 65 years and older increased by 33% compared with the previous week, as part of a three-week increasing trend. Increases of 1–6 weeks' duration were observed in 16 of the 25 countries reporting data on this indicator. Increases in overall (all-age) notification rates were reported by 13 countries. • Pooled EU/EEA rates of hospital occupancy, ICU occupancy and ICU admissions for COVID-19 have been increasing for the last 2–3 weeks. Of 26 countries reporting data, 14 observed increasing trends of 1–5 weeks' duration in at least one hospital or ICU indicator. • The pooled EU/EEA COVID-19 death rate remained at a low level, similar to the previous week, but increasing trends of 1–4 weeks' duration were observed in 11 countries.

Evidence on Vaccines

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

WHO COVID-19 Vaccine Tracker:
https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines

WHO SAGE Vaccine Recommendations:
https://www.who.int/groups/strategic-advisory-group-of-experts-on-immunization

Local COVID-19 Vaccine Updates: https://doh.gov.ph/vaccines

Date	Author/s	Title	Journal/ Article Type	Summary
09 Oct 2022	Ka Chun Yan et al	Effectiveness of BNT162b2 and CoronaVac vaccinations against mortality and severe complications after SARS-CoV-2 Omicron BA.2 infection: a case–control study	*Emerging Microbes & infections/ Case-control Study*	• Vaccine effectiveness (95% CI) against COVID-19-related mortality after two doses of BNT162b2 and CoronaVac were 90.7% (88.6–92.3) and 74.8% (72.5–76.9) in those aged ≥65, 87.6% (81.4–91.8) and 80.7% (72.8–86.3) in those aged 50–64, 86.6% (71.0–93.8) and 82.7% (56.5–93.1) in those aged 18–50. • Vaccine effectiveness against severe complications after two doses of BNT162b2 and CoronaVac were 82.1% (74.6–87.3) and 58.9% (50.3–66.1) in those aged ≥65, 83.0% (69.6–90.5) and 67.1% (47.1–79.6) in those aged 50–64, 78.3% (60.8–88.0) and 77.8% (49.6–90.2) in those aged 18–50. • Both CoronaVac and BNT162b2 vaccination were effective against COVID-19-related mortality and severe complications amidst the Omicron BA.2 pandemic, and risks decreased further with the third dose.
12 Oct 2022	US Food and Drug Administration	Coronavirus (COVID-19) Update: FDA Authorizes Moderna and Pfizer-BioNTech Bivalent COVID-19 Vaccines for Use as a Booster Dose in Younger Age Groups	*US FDA Press Release*	• U.S. Food and Drug Administration amended the emergency use authorizations (EUAs) of the Moderna COVID-19 Vaccine, Bivalent and the Pfizer-BioNTech COVID-19 Vaccine, Bivalent to authorize their use as a single booster dose in younger age groups. • The Moderna COVID-19 Vaccine, Bivalent is authorized for administration at least two months following completion of primary or booster vaccination in children down to six years of age
14 Oct 2022	WHO	COVID-19 vaccine tracker and landscape	*WHO/ Tracker and landscape*	• As of 14 October 2022, there are 172 vaccines in clinical development and 199 vaccines in pre-clinical development worldwide. • Among the candidates in clinical phase, 11 vaccines are in phase 4 of the development, 46 vaccines are in the phase 3, while the rest of the candidate vaccines are in phase 1-⅔ of their development.

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
12 Oct 2022	Yin et al.	Immunogenicity and efficacy of COVID-19 vaccines in people living with HIV: a systematic review and meta-analysis	*International Journal of Infectious Diseases/ Systematic Review & Meta-Analysis*	• This meta-analysis aimed to compare immunogenicity and efficacy of COVID-19 vaccines in people living with HIV (PLWH) with healthy individuals. • Twenty-two studies with 6522 subjects met the inclusion criteria. After first vaccine dose, seroconversion in PLWH was comparable to that in healthy individuals. After a second dose, seroconversion was slightly lower in PLWH compared with healthy controls, and antibody titers did not seem to be significantly affected or reduced among participants of both groups. • COVID-19 vaccines show favorable immunogenicity and efficacy in PLWH. A second dose is associated with consistently improved seroconversion, although it is slightly lower in PLWH compared with healthy individuals. Additional strategies, such as a booster vaccination with mRNA COVID-19 vaccines, might improve seroprotection for these patients.
12 Oct 2022	Hajji et al	Antibody response to a third booster dose of SARS-CoV-2 vaccination in adults with haematological and solid cancer: a systematic review	*British Journal of Cancer/ Systematic Review*	• A systematic search was undertaken for studies published until March 1, 2022. A systematic narrative review was undertaken to include all studies that evaluated the efficacy of booster vaccines against SARS-CoV-2 in patients with cancer. • Fifteen studies encompassing 1205 patients with cancer were included. It was found out that a booster vaccine dose induced a higher response in patients with solid cancer as compared to haematological malignancies. Recent systemic anticancer therapy does not appear to affect seroconversion in solid organ malignancies, however, there is an association between B-cell depleting therapies and poor seroconversion in haematological patients. • Third booster vaccination induces an improved antibody response to SARS-CoV-2 in adults with haematological and solid cancer, relative to patients who only receive two doses. Access to vaccination boosters should be made available to patients at risk of poor immunological responses, and the provision of fourth doses may be of benefit to this vulnerable population.

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
13 Oct 2022	Department of Health - Health Technology Assessment	HTAC Guidance: Limited Evidence Of Improved Protection From 2nd Booster Dose Among Healthy Individuals Aged 18-49 Years	*Guidance Report*	• The HTAC does not recommend COVID-19 Vaccines for second boosters for healthy individuals ages 18 to 49 years at this time for the following reasons: ○ There is evidence on sustained protection of the first booster against severe COVID-19. ○ There is limited evidence on the protection of the second booster among healthy populations ages 18 to 49 years. ○ The existing COVID-19 vaccine supply shall be used to increase the vaccination coverage of the 1st booster dose.
13 Oct 2022	Ajlan et al	Comparison of the safety and immunogenicity of the BNT-162b2 vaccine and the ChAdOx1 vaccine for solid organ transplant recipients: a prospective study	*BioMed Central infectious Diseases/ Prospective Study*	• This is prospective study on 431 kidney and liver transplant recipients (kidney: n = 230; liver: n = 201) who received either the ChAdOx1 vaccine (n = 148) or the BNT-162b2 vaccine (n = 283) and underwent an assessment of immunoglobulin M/immunoglobulin G spike antibody levels. • The primary objective of the study is to directly compare the efficacy of two different vaccine platforms in solid organ transplant recipients by measuring of immunoglobulin G (IgG) antibodies against the RBD of the spike protein (anti-RBD) two weeks after first and second doses.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
10 Oct 2022	Khanam et al	JAK Antagonists and IL-6 Inhibitors For Management Of SARS-COV-2 Infection: A Systemic Review and Network Meta-Analysis of Randomized Controlled Trials	*Chest/ Systematic Review & Meta-Analysis* *(Conference Abstract)*	• Systematic review and network meta-analysis was done using PRISMA guidelines. Randomized controlled trials evaluating various IL-6 inhibitors and JAK-antagonists were included. Outcomes were 28-day mortality and progression, defined as advancement to mechanical ventilation or ECMO. Subgroup analysis of concomitant steroid and remdesivir usage was also analyzed. P-scores were used to rank treatment groups in class and drug specific classifications. • 33 RCTs with 13,680 patients met the selection criteria. The analysis revealed that IL-6 inhibitor versus JAK antagonists, IL-6 was associated with greater odds of mortality (OR = 1.23 (1.13, 1.34), p = 0.01). This finding was also evident in the subgroup receiving concomitant steroids and remdesivir (OR = 1.41 (1.00, 2.00), p = 0.049) but no significant differences observed for the outcome of progression in this group. Baricitinib is associated with a significant 30% reduction in 28-day mortality compared to Tocilizumab. • Baricitinib reduced mortality by the greatest amount. Only IL-6 inhibitors seemed to have a significant effect on preventing progression. Siltuximab and Tocilizumab were both effective against control but Tocilizumab reduced progression the best.
10 Oct 2022	Williams et al	Remdesivir plus Dexamethasone vs Tocilizumab or Baricitinab Supplementation Initiated Inside 48 Hours of Index COVID-19 Hospitalization in ICU Patients	*Chest/ Retrospective Cohort*	• Electronic medical record data were extracted under IRB exemption. Treatment responsiveness was estimated using delta in C-reactive protein (CRP), ferritin, lactate dehydrogenase (LDH) and D-dimer levels from assays respectfully respectively first within 24h and last between 25-72h of initiating REM/DEX with vs without TOCI or BARI. Confounder balanced multigroup contrasts were significant when p< .017. • Between March 10, 2020 and January 31, 2022, 891 COVID-19 patients were admitted to the ICU with 459 receiving REM/DEX (n=326) or supplemented with BARI (n=85) or TOCI (n=41).

Evidence on Drugs (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
10 Oct 2022	Williams et al	Remdesivir plus Dexamethasone vs Tocilizumab or Baricitinab Supplementation Initiated Inside 48 Hours of Index COVID-19 Hospitalization in ICU Patients (cont.)	*Chest/ Retrospective Cohort*	• REM/DEX/TOCI combination therapy provided largest reduction of inflammatory markers and mortality while substantially increasing percentage of discharges to home. REM/DEX treatment responsiveness was adversely impacted by addition of baricitinib, while augmented by tocilizumab.
12 Oct 2022	Murton et al	Remdesivir-related cost-effectiveness and cost and resource use evidence in COVID-19: a systematic review	*Infection/ Systematic Review*	• Searches of MEDLINE, Embase the International Health Technology Assessment (HTA) database, reference lists, congresses and grey literature were performed in May 2021. Articles were reviewed for relevance against pre-specified criteria by two independent reviewers and study quality was assessed using published checklists. • Eight studies reported resource use and five reported costs related to remdesivir. Over time, the prescription rate of remdesivir increased and time from disease onset to remdesivir initiation decreased. Remdesivir was associated with a 6% to 21.3% decrease in bed occupancy. Cost estimates for remdesivir ranged widely, from $10 to $780 for a 10-day course. In three out of four included economic evaluations, remdesivir treatment scenarios were cost-effective, ranging from ~ 8 to ~ 23% of the willingness-to-pay threshold for the respective country.

Evidence on Preventive & Promotive Health

Evidence on Screening

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

Date	Author/s	Title	Journal/ Article Type	Summary
12 Oct 2022	Lin et al	The health benefit of physical exercise on COVID-19 pandemic: Evidence from mainland China	*Public Library of Science One/ Retrospective cohort*	• Prefecture-level panel data related to physical exercise and the COVID-19 pandemic in China were collected from January 1 to March 17, 2020, (N = 21379). Multiple linear regression was conducted, and the ordinary least squares technique was used to estimate the coefficient. • It was shown that regular sports participation significantly negatively affected COVID-19 morbidity (estimate = -1.1061, p<0.01) and mortality (estimate = -0.3836, p<0.01), and positively affected cure rate (estimate = 0.0448, p<0.01), implying that engaging in physical exercise regularly does have a significant positive effect on COVID-19 outcomes. • Results suggest that regularly engaging in physical exercise before the pandemic has positive health effects, especially in the case of a more severe epidemic.

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Equipment and Devices

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Medical and Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
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MONKEYPOX

Evidence on Epidemiology

Monkeypox Case Tracker:

WHO: https://extranet.who.int/publicemergency/#

US CDC: https://www.cdc.gov/poxvirus/monkeypox/response/2022/index.html

Date	Author/s	Title	Journal/ Article Type	Summary
11 Oct 2022	European CDC	Monkey situation update	*Epidemiological update*	• Since the start of the monkeypox outbreak and as of 11 October 2022, 20 455 confirmed cases of monkeypox (MPX) have been reported from 29 EU/EEA countries. In total, 63 cases have been reported from three Western Balkan countries and Turkey.
12 Oct 2022	ECDC and WHO	Joint ECDC-WHO Regional Office for Europe Monkeypox Surveillance Bulletin	*Situation Report*	• A total of 24,973 cases of monkeypox have been identified through IHR mechanisms and official public sources up to 11 October 2022, 14:00, from 45 countries and areas throughout the European Region. Case-based data were reported for 24,839 cases from 41 countries and areas to ECDC and the WHO Regional Office for Europe through The European Surveillance System (TESSy), up to 11 October 2022, 10:00

Evidence on Vaccines

Date	Author/s	Title	Journal/ Article Type	Summary
13 Oct 2022	Centers for Disease Control and Prevention	Jynneos Vaccine	*US CDC Interim Guidance Report*	• CDC recommends that vaccination with JYNNEOS can be considered for people determined to be at high risk for infection to prevent monkeypox disease.
13 Oct 2022	New York Health	JYNNEOS Vaccine for MPV: Frequently Asked Questions	*Guidance document*	• The JYNNEOS vaccine is recommended for people who may have recently been exposed to monkeypox (MPV) or may be in the future.

Evidence on Preventive & Promotive Health

Evidence on Screening

Date	Author/s	Title	Journal/ Article Type	Summary
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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
12 October 2022	Farasani	Monkeypox virus: Future role in Human population	*Journal of Infection and Public Health/ Scoping review*	• Human-human transmission occurs and is difficult until bodily fluids or respiratory droplets are exchanged. • If a specific individual uses an infected person's towels or bed sheets, infection may occur. • The old vaccine includes antivirals approved for use against Orthopoxvirus, such as tecovirimat, which can treat up to 85% of MPXV in humans. • This review concludes MPXV is not as contagious as COVID-19 but proper measures should be taken as mentioned in this review to avoid MPXV.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Equipment and Devices

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Medical and Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
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