Weekly Evidence Report

Health Technology Assessment Philippines

24 – 30 June 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of 24 -30 June 2022. The HTA Unit reviewed a total of 17 studies for the said period.

Evidence includes 3 studies on Epidemiology; 7 studies on Vaccines; 2 studies on Drugs; 1 study on Transmission; 0 study on Equipment and Devices; 0 study on Medical and Surgical Procedures; 1 study on Traditional Medicine; 1 study on Preventive & Promotive Health; and 2 studies on Other Health Technologies.

Sections

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
29 June 2022	WHO Global	Weekly epidemiological update on COVID-19 - 29 June 2022	*WHO Publications / Global Emergency Situational Updates*	• Globally, the number of weekly cases has increased for the third consecutive week, after a declining trend since the last peak in March 2022. During the week of 20 to 26 June 2022, over 4.1 million new cases were reported, an 18% increase as compared to the previous week. The number of new weekly deaths remained similar to that of the previous week, with over 8500 fatalities reported. • At the regional level, the number of new weekly cases increased in the Eastern Mediterranean Region, the European Region, the South-East Asia Region, and the Region of the Americas while it decreased in the African Region and the Western Pacific Region. • Omicron remains the dominant variant circulating globally, accounting for 94% of sequences reported in the past 30 days. Among Omicron sequences, as of epidemiological week 24 BA.2 represents 25%, while BA.2.12.1 represents 11%, BA.4 represents 12%, and BA.5 represents 43%. • The WHO stated that the trends should be interpreted with caution as several countries have been progressively changing COVID-19 testing strategies, resulting in lower overall test performed and numbers of cases detected.
30 June 2022	European CDC	Country overview report: week 25 2022	*ECDC Data Set / Epidemiological update*	• At the end of week 25 of year 2022 , case rates among people aged 65 years and above, increased in 21 out of the 26 countries reporting these data. This corresponds to a 27% increase compared to the previous week at the EU/EEA level, reaching 42.8% of the pandemic maximum. • The increase in cases signals the start of a widespread wave driven by the BA.4 and BA.5 variants of concern, with BA.4/BA.5 being the dominant variants in 7 out of the 10 countries reporting adequate sequencing volumes.
30 June 2022	Joint ECDC-WHO	Joint ECDC-WHO Regional Office for Europe Weekly COVID-19 Surveillance Bulletin	*ECDC Data Set / Epidemiological update*	• There is an increase of 2.1% in the number of deaths compared to the previous week (week 24). • In this week, 17.9% of cases were in persons aged ≥65 years and 88.7% of fatal cases were in persons aged ≥65 years. • Many countries, have changed, or are starting to change, their testing strategies, usually with a focus on more targeted testing of vulnerable populations or cases of severe disease. Reduction in testing volumes will result in lower numbers of cases reported.

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
28 June 2022	US FDA	Interim Recommendations of the Advisory Committee on Immunization Practices for Use of Moderna and Pfizer-BioNTech COVID-19 Vaccines in Children Aged 6 Months–5 Years — United States, June 2022	*US FDA / Morbidity and Mortality Weekly Report*	• On June 17, 2022, the Food and Drug Administration granted Emergency Use Authorization for the Moderna vaccine for children aged 6 months to 5 years and and Pfizer-BioNTech vaccines for children aged 6 months to 4 years. • On June 18, 2022, the Advisory Committee on Immunization Practices (ACIP) issued interim recommendations for the use of the Moderna vaccine for children aged 6 months to 5 years and for the Pfizer-BioNTech vaccine for children aged 6 months to 4 years in the United States for prevention of COVID-19. ACIP determined that the benefits of vaccination outweigh risks for this population. • ***Pfizer-BioNTech:*** The effectiveness and safety data evaluated for the use of Pfizer-BioNTech vaccine among children 6 months to 4 years of age were generated in an ongoing, randomized, blinded, placebo-controlled clinical trial in the US and internationally (Study C4591007). • ***Moderna:*** Effectiveness and safety data evaluated for the Moderna vaccine for children 6 months to 5 years were generated in two ongoing, randomized, blinded, placebo-controlled clinical trials in the US and Canada (Study P203 and Study P204).
24 June 2022	Tang, K. et al. 2022	Impaired serological response to COVID-19 vaccination following anti-cancer therapy: a systematic review and meta-analysis	*Journal of Medical Virology/ Systematic Review and Meta analysis*	• In this systematic review investigated the risk of impaired antibody response and the seroresponse of patients receiving anti-cancer treatment compared with those without active treatment. A total of 39 studies were included comprising 11,075 oncologic patients. • Overall, it was determined that humoral response was significantly decreased in patients undergoing anti-cancer treatments (OR=2.55, 95% CI: 2.04-3.18) compared with those without active treatment. The seroconversion rates were significantly lower in patients with chemotherapy (OR=3.04, 95% CI: 2.28-4.05), targeted therapy (OR=4.72, 95% CI: 3.18-7.01)and steroid usage (OR=2.19, 95% CI: 1.57-3.07), while there was no significant association between immunotherapy or hormonal therapy and seroconversion after vaccination.

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
25 June 2022	Chalkias, S. et al., 2022	A Bivalent Omicron-containing Booster Vaccine Against Covid-19	*medRxiv/ Phase II/III Non Randomized Trial*	• This trial presented safety and immunogenicity data of the 50-µg bivalent omicron-containing mRNA1273.214 booster compared with 50-µg mRNA-1273 booster among those who received primary series of 100-µg mRNA-1273. • The bivalent vaccine mRNA-1273.214 50-µg was well-tolerated and elicited a superior neutralizing antibody response against omicron, compared to mRNA-1273 50-µg, and a non-inferior neutralizing antibody response against the ancestral SARS-CoV-2 (D614G), 28 days after immunization, creating a new tool as we respond to emerging SARS-CoV-2 variants.
26 June 2022	David, S.S.B. et al., 2022	Robust antibody response after a third BNT162b2 vaccine compared to the second among immunocompromi-sed and healthy individuals	*Vaccine/ Prospective Longitudinal Cohort Study*	• A prospective observational study conducted in Maccabi Healthcare Services compared the antibody response following the third dose of Pfizer-BioNTech versus the second dose and evaluated post-booster seroconversion. • One month after third dose, IgG titers were induced 7.83 (95 %CI 5.25–11.67) folds and 2.40 (95 %CI 1.90–3.03) folds compared to one month after the second, in the immunocompromised and immunocompetent groups, respectively. Of the 17 immunocompromised participants who were seronegative after the second dose, 4 (24%) became seropositive following the third. Comparing the titers prior to the third dose, an increase of 50.7 (95 %CI 32.5–79.1) fold in the immunocompromised group and 25.7 (95 %CI 19.1–34.7) fold in and immunocompetent group, was observed. • A third BNT162b2 vaccine elicited robust humoral response, superior to the response observed following the second, among immunocompetent and immunocompromised individuals.
29 June 2022	Tanishima , M. et al., 2022	Safety and immunogenicity of an inactivated SARS-CoV-2 vaccine, KD-414, in healthy adult and elderly subjects: a randomized, double-blind, placebo-controlled, phase 1/2 clinical study in Japan	*medRxiv/ Phase I/II Randomized Clinical Trial*	• In this double-blind, randomized, placebo-controlled, Phase 1/2 study, adults aged 20 to 64 years and elderly participants aged 65 years or older without a history of COVID-19 were assigned to groups receiving 2.5 µg/dose, 5 µg/dose, 10 µg/dose of KD-414 or the placebo group. Safety was assessed after the first dose and neutralizing antibody titers against SARS-CoV-2 were evaluated 28 days after the second dose. Exploratory evaluation of safety and immunogenicity was performed in patient receiving 3 doses of 10 µg/dose of KD-414. • KD-414 was well tolerated in healthy adults and the elderly at all doses evaluated. In view of the dose-response and age-dependency of the immunogenicity of KD-414 (H) (10 µg/dose), it is expected to induce high neutralizing antibody titers, particularly in the age range of 20 to 40 years.

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

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Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
26 June 2022	Yao, T. et al. 2022	Long-term immune persistence induced by two-dose BBIBP-CorV vaccine with different intervals, and immunogenicity and safety of a homologous booster dose in high-risk occupational population Secondary Study Based on a Randomized Clinical Trial	*medRxiv/ Phase IV Randomized Clinical Trial*	• The trial aimed to evaluate the immune persistence of neutralizing antibody elicited by BBIBP-CorV vaccines with day 0-14, 0-21 and 0-28 schedule, and assess the immunogenicity and safety of a homologous booster dose in the high-risk occupational population aged 18-59 years • Results showed that the priming two-dose BBIBP-CorV vaccine with 0-28 days and 0-21 days schedule could lead a longer persistence of neutralizing antibody than 0-14 days schedule. Maintaining long-term immune persistence was also associated with age<40, female, and history of influenza vaccination. Regardless of priming two-doses vaccination regimens, a homologous booster dose led to a strong rebound in neutralizing antibody and might elicit satisfactory persistent immunity.
27 June 2022	Al Kaabi, N. et al., 2022	Safety and immunogenicity of a hybrid-type vaccine booster in BBIBP-CorV recipients in a randomized phase 2 trial	*Nature Communications/ Phase II Randomized Clinical Trial*	• This randomized, double-blind, controlled, phase 2 trial conducted in the United Arab Emirates evaluated the safety and immunogenicity of homologous BBIBP-CorV booster and heterologous booster of NVSI-06-08 to individuals receiving primary series of BBIBP-CorV. • The incidence of adverse reactions is low, and the overall safety profile is quite similar between two booster regimens. Both Neutralizing and IgG antibodies elicited by NVSI-06-08 booster are significantly higher than those by BBIBP-CorV booster against not only SARS-CoV-2 prototype strain but also multiple variants of concerns (VOCs). Especially, the neutralizing antibody GMT against Omicron variant induced by heterologous NVSI-06-08 booster reaches 367.67, which is substantially greater than that boosted by BBIBP-CorV (GMT: 45.03). • In summary, NVSI-06-08 is safe and immunogenic as a booster dose following two doses of BBIBP-CorV, which is immunogenically superior to the homologous boost with another dose of BBIBP-CorV.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
24 June 2022	Jolliffe, D. A. et al., 2022	Vitamin D Supplements for Prevention of COVID-19 or other Acute Respiratory Infections: a Phase 3 Randomised Controlled Trial (CORONAVIT)	*medRxiv/ Phase III Randomized Clinical Trial*	• This systematic review included 6 RCTs with 11,145 participants investigating the effectiveness of Janus kinase (JAK) inhibitors (baricitinib, tofacitinib or ruxolitinib) plus standard of care compared to SOC alone (with or without placebo). • In hospitalized individuals with moderate to severe COVID-19, JAK inhibitors decrease all-cause mortality at up to day 28 [RR: 0.72, 95%CI: 0.57 to 0.92] based on moderate certainty of evidence, and up to day 60 [RR: 0.69, 95%CI: 0.56 to 0.86] based on high certainty of evidence. • They make little to no difference in improvement of clinical status (discharged alive or hospitalised, but no longer requiring ongoing medical care) [RR: 1.03, 95%CI: 1.00 to 1.06), and probably decrease the risk of worsening of clinical status (new need for invasive mechanical ventilation or death at day 28) [RR: 0.90, 95%CI: 0.82 to 0.98], based on moderate certainty of evidence.
27 June 2022	Amani, B. et al., 2022	Rapid Review and Meta-Analysis of Adverse Events Associated with Molnupiravir in Patients with COVID-19	*British Journal of Clinical Pharmacology/ Rapid Review and Meta analysis*	• The review evaluate the safety profile of molnupiravir in COVID-19 patients. • Four trials involving 2241 patients met the inclusion criteria. No significant difference was observed between molnupiravir at 200, 400, and 800 mg compared with placebo (200 mg: P=0.80; 400 mg: P=0.07; 800 mg: P=0.36) for any adverse events (AEs), at 200, 400, and 800 mg compared with placebo (200 mg: P=0.57; 400 mg: RR = P=0.56; 800 mg: P=0.15) for serious adverse events, at 200, 400, and 800 mg compared with placebo (200 mg: P=0.39; 400 mg: P=0.91; 800 mg: P=0.14) for AEs leading to death, and at 200, 400, and 800 mg compared with placebo (200 P=0.64; 400 mg:P=0.99; 800 mg: P=0.17) for treatment discontinuation due to AEs. • This meta analysis showed that the use of three doses of molnupiravir (200, 400, and 800 mg) is safe for COVID-19 patients. Further research is needed to confirm the present findings.

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
27 June 2022	Adam, D.C. et al., 2022	Within-hotel transmission of SARS-CoV-2 during on-arrival quarantine in Hong Kong	*medRxiv/ Phylogenetic Analysis*	• The study examined data on each laboratory-confirmed COVID-19 case identified in on-arrival quarantine in a hotel in Hong Kong between 1 May 2020 and 31 January 2022. They sequenced the full genomes of viruses from cases that overlapped with other confirmed cases in terms of the hotel of stay, date of arrival and date of testing positive. A combination of epidemiological information and sequence information was then used to identify probable transmission events. • The study identified potential occurrences of COVID-19 transmission within hotel quarantine in Hong Kong demonstrating the underlying low but non zero risk associated with sequestering arrivals within hotels. • In future pandemics, on-arrival quarantine in hotels could be used to delay the introduction of infection, but the construction of purpose-built facilities for on-arrival quarantine might be necessary to minimize importation risk.
29 June 2022	Duval, D. et al., 2022	Long distance airborne transmission of SARS-CoV-2: rapid systematic review	*BMJ/ Systematic Review*	• The review evaluated the potential for long distance airborne transmission of SARS-CoV-2 in indoor community settings and to investigate factors that might influence transmission. • There were 22 reports relating to 18 studies were identified. All the studies were outbreak investigations. • This rapid systematic review found evidence suggesting that long distance airborne transmission of SARS-CoV-2 might occur in indoor settings such as restaurants, workplaces, and venues for choirs, and identified factors such as insufficient air replacement that probably contributed to transmission. These results strengthen the need for mitigation measures in indoor settings, particularly the use of adequate ventilation.

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
27 June 2022	Anderson, B.J. et al., 2022	Use of Chinese herbs to treat symptoms likely related to COVID-19: Survey analysis of licensed acupuncturists in the United States	*medRxiv/ Cross-sectional Study*	• The study examined the prescribing of Chinese herbal medicine (CHM) by licensed acupuncturists in the United States during the COVID-19 pandemic. • A 28-question survey with nine branching questions was disseminated among participants indicated they were licensed acupuncturists that treated more than five patients for symptoms likely related to COVID-19. • The study demonstrates that licensed acupuncturists were treating COVID-19 infected individuals in the US during the early stages of the pandemic, and for many such patients this was the only therapeutic intervention they had access to from a licensed healthcare provider. Information disseminated from China through collegial networks, along with published sources including scientific studies, informed the approach to treatment for the vast majority of the acupuncturists surveyed.

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 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 Preventive & Promotive Health

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
27 June 2022	Heinrichs, H. et al., 2022	Digitalization impacts the COVID-19 pandemic and the stringency of government measures	*medRxiv/ Narrative Review*	• Using the Digital Adoption Index (DAI), the study examined the effects of digitalization on early COVID-19 cases, deaths, and stringency indices (SI) of government measures. • Gradient Tree Boosting pinpointed essential features, such as populations' smoker fraction, age, poverty, and DAI. Then, regression analyses indicated that higher DAI was associated with significant declines in new cases ($p<0.001$) and deaths ($p<0.001$) months after the peak. • Digitalization is evident for handling current and future pandemics but can also facilitate stronger government actions restricting individual freedom.

Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
27 June 2022	Van Dat, T. et al., 2022	Telepharmacy: A Systematic Review of Field Application, Benefits, Limitations, and Applicability During the COVID-19 Pandemic	*Telemed JE Health/ Systematic Review*	• In the systematic review of reported usages, benefits, and limitations of telepharmacy models worldwide, a total of 39 relevant articles were included. • The review suggested that telepharmacy has played an essential role in addressing pharmacist shortages and helping patients both safely and effectively administer medications in underserved areas. During the COVID-19 pandemic, remote dispensing and counseling are effective measures to avoid infection. • Telepharmacy could potentially replace or complement pharmaceutical-related activities, facilitating future innovation in the healthcare industry.
28 June 2022	De Simone, S. et al., 2022	Implementations and strategies of telehealth during COVID-19 outbreak: a systematic review	*BMC Health Services Research volume/ Systematic Review*	• This systematic review included studies that focused on the implementation of technology for telehealth, multidisciplinary approach, service satisfaction, guidelines, and medical training. • Nonsurgical specialties had the greatest number of telehealth visits. Clinicians showed positive attitudes toward the implementation of video telehealth visits; patients report high levels of satisfaction with this care and strong interest in continuing this modality as a significant portion of clinical practice. • According to the findings, telehealth may be used in different medical area with a clear strategy of intervention according to patients' and doctors' needs.