Weekly Evidence Report

Health Technology Assessment Philippines

21 – 27 May 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of 02 May – 06 May 2022. The HTA Unit reviewed a total of 11 studies for the said period.

Evidence includes 3 studies on Epidemiology; 4 studies on Vaccines; 1 study on Drugs; 0 studies on Transmission; 1 study on Equipment and Devices; 0 studies on Medical and Surgical Procedures; 1 study on Traditional Medicine; 1 study on Preventive & Promotive Health; and 0 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
25 May 2022	WHO Global	Weekly epidemiological update on COVID-19 - 25 May 2022	*WHO Global Situation Report*	• Globally, the number of new weekly cases has continued the declining trend observed since a peak in January 2022. During the week of 16 through 22 May 2022, over 3.7 million cases were reported, a 3% decrease as compared to the previous week. The number of new weekly deaths also continues to decline, with over 9000 fatalities reported, representing an 11% decrease as compared to the previous week. • As of 22 May 2022, over 522 million confirmed cases and over six million deaths have been reported globally. • In this edition, the WHO provides an update on the geographic distribution of circulating SARS-CoV-2 variants of concern (VOCs), including the prevalence and summary of current evidence of the Omicron variant. The WHO also provides updates on vaccine effectiveness for the Omicron variant.
21 May 2022	McMichael, TM et al.	Epidemiology of Covid-19 in a Long-Term Care Facility in King County, Washington	*The New England Journal of Medicine/ Case Report*	• After identification on February 28, 2020, of a confirmed case of Covid-19 in a skilled nursing facility in King County, Washington, Public Health–Seattle and King County, aided by the Centers for Disease Control and Prevention, launched a case investigation, contact tracing, quarantine of exposed persons, isolation of confirmed and suspected cases, and on-site enhancement of infection prevention and control. • As of March 18, a total of 167 confirmed cases of Covid-19 affecting 101 residents, 50 health care personnel, and 16 visitors were found to be epidemiologically linked to the facility. Most cases among residents included respiratory illness consistent with Covid-19; however, in 7 residents no symptoms were documented. Hospitalization rates for facility residents, visitors, and staff were 54.5%, 50.0%, and 6.0%, respectively. The case fatality rate for residents was 33.7% (34 of 101). As of March 18, a total of 30 long-term care facilities with at least one confirmed case of Covid-19 had been identified in King County.

Evidence on Epidemiology (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
23 May 2022	Nott R, Fuller TL, Brasil P, Nielsen-Saines K.	Out-of-Season Influenza during a COVID-19 Void in the State of Rio de Janeiro, Brazil: Temperature Matters	*MDPI/ Descriptive study*	• The authors assessed the contribution of climate change and influenza immunization coverage in the phenomenon wherein an out-of-season H3N2 type A influenza epidemic occurred in the State of Rio de Janeiro, Brazil during October–November 2021, in between the Delta and Omicron SARS-CoV-2 surges, which occurred in July–October 2021 and January–April 2022, respectively. State weather patterns during the influenza epidemic were significantly different from the five preceding years, matching typical winter temperatures, associated with the out-of-season influenza. • The authors also found a mismatch between influenza vaccine strains used in the winter of 2021 (trivalent vaccine with two type A strains (Victoria/2570/2019 H1N1, Hong Kong/2671/2019 H3N2) and one type B strain (Washington/02/2019, wild type) and the circulating influenza strain responsible for the epidemic (H3N2 Darwin type A influenza strain). In addition, in 2021, there was poor influenza vaccine coverage with only 56% of the population over 6 months old immunized. • Amid the COVID-19 pandemic, the authors stated that it is important to be prepared for out-of-season outbreaks of other respiratory viruses in periods of COVID-19 remission, which underscore novel disease dynamics in the pandemic era.

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
25 May 2022	Goldberg, Y et al.	Protection and Waning of Natural and Hybrid Immunity to SARS-CoV-2	*The New England Journal of Medicine/ Case-cohort Study*	• Although a decline in protection against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection after two doses of BNT162b2 vaccine (Pfizer–BioNTech) has been observed in several studies, the level of protection remains unclear, as does the presence or extent of waning of natural immunity. One recent study showed that

Evidence on Vaccines (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
25 May 2022	Goldberg, Y et al.	Protection and Waning of Natural and Hybrid Immunity to SARS-CoV-2	*The New England Journal of Medicine/ Case-cohort Study*	messenger RNA (mRNA)–based vaccines confer a level of protection against hospitalization that is five times as high as that provided by previous infection. • In this study, the authors estimated the incidence of confirmed SARS-CoV-2 infection in the following cohorts: previously infected, unvaccinated persons; previously infected persons who had also received the BNT162b2 vaccine; and vaccinated persons who had not been previously infected. • For each cohort, the authors quantified the association between the time that had passed since infection or vaccination and the rate of confirmed infection. • By comparing the rates of infection among these groups, the authors were able to assess the level of protection afforded by hybrid immunity as compared with that afforded by natural immunity or immunity conferred by vaccination.
26 May 2022	Creech, CB, et al.	Evaluation of mRNA-1273 Covid-19 Vaccine in Children 6 to 11 Years of Age	*The New England Journal of Medicine/ Open-label dose-selection phase and observer-blinded, randomized, placebo-controlled expansion phase*	• The Coronavirus Efficacy (COVE) and Teen COVE trials showed that the mRNA-1273 vaccine (Moderna) had mainly low-grade transient adverse effects and high efficacy in preventing symptomatic COVID-19 in persons who were 12 years of age or older, and mRNA-1273 is approved for vaccination of adults in the United States. • The authors report the interim results of the ongoing phase 2–3 KidCOVE trial, which evaluated the safety, immunogenicity, and efficacy of two 50-μg doses of the mRNA-1273 vaccine, as compared with placebo, administered 28 days apart in children who were 6 to 11 years of age.
27 May 2022	Marconi, E et al.	Acute appendicitis in a patient immunised with COVID-19 vaccine: a case report with morphological analysis	The British Pharmacological Society Journals/ *Case Report*	• Although the benefit/risk profile for mRNA COVID-19 vaccines is recognised as extremely favourable, appendicitis is currently considered an adverse event (AE) of special interest. The authors describe the case of a 58-year-old female who presented with signs and symptoms of appendicitis approximately 48 hours after her first injection of the Pfizer-BioNTech vaccine. Following 2018 WHO criteria, the present case of appendicitis was considered as consistent to immunisation. • The authors recommend monitoring the safety profile and potential gastrointestinal AEs associated with mRNA COVID-19 vaccines, to swiftly manage subjects with gastrointestinal symptoms and prevent potential complications.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
27 May 2022	Loader, J et al.	Renin-Angiotensin Aldosterone System Inhibitors and COVID-19: A Systematic Review and Meta-Analysis Revealing Critical Bias Across a Body of Observational Research	*Journal of the American Heart Association / Observational Study*	• Renin- angiotensin aldosterone system (RAAS) inhibitor—COVID- 19 studies, observational in design, appear to use biased methods that can distort the interaction between RAAS inhibitor use and COVID- 19 risk. This study assessed the extent of bias in that research and reevaluated RAAS inhibitor—COVID- 19 associations in studies without critical risk of bias.

Evidence on Equipment and Devices

Date	Author/s	Title	Journal/ Article Type	Summary
23 May 2022	Caggiano, G et al.	Investigations on the Efficacy of Ozone as an Environmental Sanitizer in Large Supermarkets	*MDPI/ Experimental study*	• Awareness of the importance of the microbial contamination of air and surfaces has increased significantly during the COVID-19 pandemic. The aim of this study was to evaluate the presence of bacteria and fungi in the air and on surfaces within some critical areas of large supermarkets with and without an ozonation system. • Surveys were conducted in four supermarkets belonging to the same commercial chain of an Apulian city in June 2021, of which two (A and B) were equipped with an ozonation system, and two (C and D) did not have any air-diffused remediation treatment. • There was a statistically significant difference in the total bacterial count (TBC) and total fungal count (TFC) in the air between A/B and C/D supermarkets ($p = 0.0042$ and $p = 0.0002$, respectively). Regarding surfaces, a statistically significant difference in TBC emerged between A/B and C/D supermarkets ($p = 0.0101$). • To the best of the knowledge of the authors, this is the first study evaluating the effect of ozone on commercial structures in Italy. Future investigations, supported by a multidisciplinary approach, will make it possible to deepen the knowledge on this method of sanitation, in light of any other epidemic/pandemic waves.

Evidence on Preventive & Promotive Health

Evidence on Screening

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

Evidence on Personal Measures

Date	Author/s	Title	Journal/ Article Type	Summary
23 May 2022	Gentil, P et al.	Resistance Training before, during, and after COVID-19 Infection: What Have We Learned So Far?	*MDPI/ Narrative Review*	• Even in the absence of contamination, the mobility reduction, social distancing and closing of exercise facilities negatively affected physical activity and conditioning, which is associated with muscle atrophy, loss of muscle strength, and reductions in functional capacity. • In cases of infection, it has been shown that increased physical capacity is associated with decreased hospitalization and mortality risk. Among different physical exercise models that might help to prevent and treat COVID-19-related conditions, resistance training (RT) might be particularly relevant. Among its benefits, RT can be adapted to be performed in many different situations, even with limited space and equipment, and is easily adapted to an individual's characteristics and health status. • The current narrative review aims to provide insights into how RT can be used in different scenarios to counteract the negative effects of COVID-19. By doing this, the authors expect to provide insights to help deal with the current pandemic and similar events the world may face in the future.

Evidence on Community Measures

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

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
21 May 2022	Xu, T et al.	Discovery of honokiol thioethers containing 1,3,4-oxadiazole moieties as potential α-glucosidase and SARS-CoV-2 entry inhibitors	*Elsevier/ Experimental study*	• Honokiol, isolated from a traditional Chinese medicine (TCM) Magnolia officinalis, is a biphenolic compound with several biological activities. To improve and broaden its biological activity, herein, two series of honokiol thioethers bearing 1,3,4-oxadiazole moieties were prepared and assessed for their α-glucosidase and SARS-CoV-2 entry inhibitory activities. • Among all the honokiol thioethers, compound 7l exhibited the strongest α-glucosidase inhibitory effect, which was superior to the reference drug acarbose. Some interesting results of structure-activity relationships (SARs) have also been discussed. Moreover, honokiol thioethers 7e, 9a, 9e, and 9r exhibited potent antiviral activity against SARS-CoV-2 pseudovirus entering into HEK-293 T-ACE2. Additionally, the potent honokiol thioethers 7l, 9a, and 9r displayed relatively no cytotoxicity to normal cells. • These findings will provide a theoretical basis for the discovery of honokiol derivatives as potential both α-glucosidase and SARS-CoV-2 entry inhibitors.

Evidence on Transmission

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

Evidence on Medical and Surgical Procedures

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

Evidence on Other Health Technologies

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