Weekly Evidence Report

Health Technology Assessment Philippines

6 - 12 August 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Division reviewed for the period of 6-12 August 2022. The HTA Division reviewed a total of 11 studies for the said period.

Evidence includes 1 study on Epidemiology; 2 studies on Vaccines; 2 studies on Drugs; 1 study on Transmission; 2 studies on Equipment and Devices; 0 studies on Medical and Surgical Procedures; 1 study on Traditional Medicine; 2 studies 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=CjwKCAjwjtOTBhAvEiwASG4bCOmLzFMQIjh8DX_VVSGA-HmO0Pt5_CscykID7xZv4zqlXG5vm9PM2xoC27QQAvD_BwE

Date	Author/s	Title	Journal/ Article Type	Summary
10 August 2022	WHO Global	Weekly epidemiological update on COVID-19 - 10 August 2022	*WHO Global Situation Report*	• Globally, the number of new weekly cases remained stable during the week of 1 to 7 August 2022, as compared to the previous week, with over 6.9 million new cases reported. • The number of new weekly deaths decreased by 9%, with over 14 000 fatalities reported, as compared to the previous week. • As of 7 August 2022, 581.8 million confirmed cases and 6.4 million deaths have been reported globally.

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
9 August, 2022	Kreuzberger et al.	Immunity after COVID- 19 vaccination in people with higher risk of compromised immune status: a scoping review	*Cochrane/ Scoping review*	• High efficacy in terms of protection from severe COVID- 19 has been demonstrated for several SARS- CoV- 2 vaccines. However, patients with compromised immune status develop a weaker and less stable immune response to vaccination. Strong immune response may not always translate into clinical benefit, therefore it is important to synthesise evidence on modified schemes and types of vaccination in these population subgroups for guiding health decisions. As the literature on COVID- 19 vaccines continues to expand, the researchers aimed to scope the literature on multiple subgroups to subsequently decide on the most relevant research questions to be answered by systematic reviews.

Evidence on Vaccines *(cont.)*

Date	Author/s	Title	Journal/ Article Type	Summary
9 August, 2022	Kreuzberger et al.	Immunity after COVID- 19 vaccination in people with higher risk of compromised immune status: a scoping review (cont.)	*Cochrane/ Scoping review*	• The researchers included studies that published results on immunity outcomes after vaccination with BNT162b2, mRNA- 1273, AZD1222, Ad26.COV2.S, Sputnik V or Sputnik Light, BBIBP- CorV, or CoronaVac on predefined vulnerable subgroups such as people with malignancies, transplant recipients, people undergoing renal replacement therapy, and people with immune disorders, as well as pregnant and breastfeeding women, and children. The researchers included studies if they had at least 100 participants (not considering healthy control groups); we excluded case studies and case series. • The majority of studies focused on immunogenicity outcomes, especially seroconversion based on binding antibody measurements and immunoglobulin G (IgG) titres (N = 179 and 175, respectively). Adverse events and serious adverse events were reported in 126 and 54 studies, whilst SARS- CoV- 2 infection irrespective of severity was reported in 80 studies. Mortality due to SARS- CoV- 2 infection was reported in 36 studies.
11 August 2022	WHO Global	Interim statement on COVID-19 vaccination for children	*WHO Interim Statement*	• SARS-CoV-2 typically causes less severe illness and fewer deaths in children and adolescents compared to adults. Nonetheless, children and adolescents remain susceptible to SARS-CoV-2 infection and may transmit the virus to others, with the risk of both infection and transmission increasing with age(3). The risk of transmission to and from children also depends on the level of community transmission, the public health and social measures implemented to control the virus as well as biological factors related to the virus itself (i.e., the type of variant circulating) • In Phase 2/3 trials for both mRNA vaccines, efficacy and immunogenicity were similar or higher compared to adults. During the Phase 3 trials in young children aged 6 months to 5 years no safety signal was identified, but the sample size was too small to identify rare events. • There are benefits of vaccinating children and adolescents that go beyond the direct health benefits. Minimizing disruptions to education for children and maintenance of their overall well-being, health and safety are important considerations. Vaccination that decreases SARS-CoV-2 transmission in this age group may reduce transmission from children and adolescents to older adults, and may help reduce the need for mitigation measures in schools. Vaccine impact on transmission is only modest and short-lived.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
09 August 2022	García-Albéniz et al.	Systematic review and meta-analysis of randomized trials of hydroxychloroquine for the prevention of COVID-19	*European Journal of Epidemiology / Systematic Review & Meta-analysis*	• Background: Recruitment into randomized trials of hydroxychloroquine (HCQ) for prevention of COVID-19 has been adversely affected by a widespread conviction that HCQ is not effective for prevention. In the absence of an updated systematic review, we conducted a meta-analysis of randomized trials that study the effectiveness of HCQ to prevent COVID-19. • The pooled risk ratio estimate of the pre-exposure prophylaxis trials was 0.72 (95% CI: 0.58-0.90) when using either a fixed effect or a standard random effects approach, and 0.72 (95% CI: 0.55-0.95) when using a conservative modification of the Hartung-Knapp random effects approach. The corresponding estimates for the post-exposure prophylaxis trials were 0.91 (95% CI: 0.72-1.16) and 0.91 (95% CI: 0.62-1.35). All trials found a similar rate of serious adverse effects in the HCQ and no HCQ groups.
09 August 2022	Lemaitre et al.	Therapeutic drug monitoring and dosage adjustments of immunosuppressive drugs when combined with nirmatrelvir/ritonavir in patients with COVID-19	*Therapeutic Drug Monitoring/ Narrative Review*	• Nirmatrelvir/ritonavir (Paxlovid®) consists of a peptidomimetic inhibitor (Nirmatrelvir) of the SARS-CoV-2 main protease and a pharmacokinetic enhancer (Ritonavir). It is approved for the treatment of mild-to-moderate COVID-19. This combination of nirmatrelvir and ritonavir can mediate significant and complex drug-drug interactions (DDIs), primarily due to the ritonavir component. Indeed, ritonavir inhibits the metabolism of nirmatrelvir through cytochrome P450 3A (CYP3A) leading to higher plasma concentrations and a longer half-life of nirmatrelvir. Co-administration of nirmatrelvir/ritonavir with immunosuppressant drugs (ISDs) is particularly challenging given the major involvement of CYP3A in the metabolism of most of these drugs and their narrow therapeutic ranges. Exposure of ISDs will be drastically increased through the potent ritonavir-mediated inhibition of CYP3A, resulting in an increased risk of adverse drug reactions. While a decrease in the dosage of ISDs can prevent toxicity, an inappropriate dosage regimen may also result in insufficient exposure and a risk of rejection.

Evidence on Drugs (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
09 August 2022	Lemaitre et al.	Therapeutic drug monitoring and dosage adjustments of immunosuppressive drugs when combined with nirmatrelvir/ritonavir in patients with COVID-19 (cont.)	*Therapeutic Drug Monitoring/ Narrative Review*	• The researchers provide some general recommendations for therapeutic drug monitoring (TDM) of ISDs and dosing recommendations when co-administered with nirmatrelvir/ritonavir. Particularly, tacrolimus should be discontinued, or patients should be given a microdose on day-1, while cyclosporine dosage should be reduced to 20% of the initial dosage during the antiviral treatment. Dosages of mammalian target of rapamycin inhibitors (m-TORis) should also be adjusted while dosages of mycophenolic acid and corticosteroids are expected to be less impacted.

Evidence on Preventive & Promotive Health

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
09 August 2022	Edwards, et.al.	An ethics of anthropology-informed community engagement with COVID-19 clinical trials in Africa	Developing World Bioethics/ Ethics Review	• In reviewing current practices across Africa, we distinguish between three distinct roles for community engagement in clinical research that are often conflated: 1) the importance of community engagement for identifying and honouring cultural sensitivities; 2) the importance of recognising the socio-political context in which the research is proposed; and 3) the importance of understanding what is in the interest of communities recruited to research according to their own views and values. By making these distinctions, the current practice of clinical research could draw on anthropology in ways which are sometimes unnecessary to solicit local cultural values, overlook the importance of socio-political contexts and wider societal structures within which it works, potentially serving to reinforce unjust political or social regimes, and threaten to cast doubt on the trustworthiness of the research. We argue that more discerning anthropological engagement as well as wider collaboration with other social scientists and those working in the humanities is urgently needed to improve the ethics of current biomedical and pharmaceutical research practice in Africa.

Evidence on Preventive & Promotive Health

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
08 August 2022	Santos Faioes, et.al.	Circulation of respiratory viruses during the COVID-19 pandemic in The Gambia	medRXiv/ Systematic Review	• In many countries, non-pharmaceutical interventions to limit SARS-CoV-2 transmission resulted in significant reductions in other respiratory viruses. However, similar data from Africa are limited. We explored the extent to which viruses such as influenza and rhinovirus co-circulated with SARS-CoV-2 in The Gambia during the COVID-19 pandemic. Between April 2020 and March 2022, respiratory viruses were detected using RT-PCR in nasopharyngeal swabs from 1397 participants with influenza-like illness. Overall virus positivity was 44.2%, with prevalence higher in children <5 years (80%) compared to children aged 5-17 years (53.1%), adults aged 18-50 (39.5%) and >50 years (39.9%), p<0.0001. After SARS-CoV-2 (18.3%), rhinoviruses (10.5%) and influenza viruses (5.5%) were the most prevalent. SARS-CoV-2 positivity was lower in children <5 (4.3%) and 5-17 years (12.7%) than in adults aged 18-50 (19.3%) and >50 years (24.3%), p<0.0001. In contrast, rhinoviruses were most prevalent in children <5 years (28.7%), followed by children aged 5-17 (15.8%), adults aged 18-50 (8.3%) and >50 years (6.3%), p<0.0001. Four SARS-CoV-2 waves occurred, with 36.1%-52.4% SARS-CoV-2 positivity during peak months. Influenza infections were observed in both 2020 and 2021 during the rainy season as expected (peak positivity 16.4%-23.5%). Peaks of rhinovirus were asynchronous to the months when SARS-CoV-2 and influenza peaked.

Evidence on Preventive & Promotive Health

Evidence on Screening

Date	Author/s	Title	Journal/ Article Type	Summary
08 August, 2022	Nguyen et al.	A mixed methods study evaluating acceptability of a daily COVID-19 testing regimen with a mobile-app connected, at-home, rapid antigen test: Implications for current and future pandemics	*PLOS One/ Mixed methods study*	• The researchers conducted a mixed-methods study assessing acceptability of and adherence to a daily at-home mobile-app connected rapid antigen testing regimen among employees of a US-based media company. Acceptability was assessed across seven domains of the Theoretical Framework of Acceptability. • Among 31 study participants, acceptability of the daily testing intervention was generally high, with participants reporting high perceived effectiveness, intervention coherence, and self-efficacy; positive affective attitude; acceptable degree of burden and opportunity cost; and assessing the intervention as ethical. 71% reported a preference to test daily using an at-home antigen test than weekly employment-based PCR. Mean adherence to the 21-day testing regimen was 88% with 43% of participants achieving 100% adherence, 48% testing at least every other day, and 10% testing less than every other day. • Despite overall high acceptability and adherence, we identified three implementation challenges that must be addressed for frequent serial testing for COVID-19 to be implemented at scale and have a positive public health impact. First, users need guidance on how and when to adapt testing frequencies to different epidemiological conditions. Second, users and institutions need guidelines for how to safely store and share test results. Third, implementation of serial testing strategies must prioritize health equity and protect those most vulnerable to COVID-19.

Evidence on Preventive & Promotive Health

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
11 August 2022	Santos Faioes, et.al.	Risk of transmission of respiratory viruses during aerosol-generating medical procedures (AGMPs) revisited in the COVID-19 pandemic: a systematic review	BMC/ Systematic Review	• In many jurisdictions healthcare workers (HCWs) are using respirators for aerosol-generating medical procedures (AGMPs) performed on adult and pediatric populations with all suspect/confirmed viral respiratory infections (VRIs). This systematic review assessed the risk of VRIs to HCWs in the presence of AGMPs, the role respirators versus medical/surgical masks have on reducing that risk, and if the risk to HCWs during AGMPs differed when caring for adult or pediatric patient populations. • Exposure to an AGMP may increase the risk of transmission of COVID-19, SARS, and human coronaviruses to HCWs, however the evidence base is heterogenous and prone to confounding, particularly related to COVID-19. There continues to be a significant research gap in the epidemiology of the risk of VRIs among HCWs during AGMPs, particularly for pediatric patients. Further evidence is needed regarding what constitutes an AGMP.

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
11 August 2022	Arora et al.	Giloy: a potential anti-COVID-19 herb with propitious pharmacological attributes: a short review	Journal of Biomolecular Structure and Dynamics/ Short Review	• Plant-based medicine actually restores the balance in the body instead of treating the source of the disease. The strain of coronavirus (SAR-CoV-2) going to be more serious due to the lack of a reliable treatment option. Holistic treatment for this disease is in the form of Ayurveda as traditional medicine. As the infection of coronavirus is spreading like a wildfire, so the one way to fight is 'immunity'. • Building immunity is the only way to stay safe and healthy and prepared themselves for the ongoing pandemic. In the current scenario, good immunity safeguard us from disease progression and prevention from this deadly virus. Giloy herb came into the limelight after the start of the COVID-19 pandemic due to its immunomodulatory and antiviral activity. The genome sequencing of Giloy is proved to be a breakthrough for controlling the COVID-19. • Building immunity is the only way to stay safe and healthy and prepared themselves for the ongoing pandemic. In the current scenario, good immunity safeguard us from disease progression and prevention from this deadly virus. Giloy herb came into the limelight after the start of the COVID-19 pandemic due to its immunomodulatory and antiviral activity. The genome sequencing of Giloy is proved to be a breakthrough for controlling the COVID-19.

Evidence on Equipment and Devices

Date	Author/s	Title	Journal/ Article Type	Summary
10 August 2022	Brandsma et al.	Assessing the use of a micro-sampling device for measuring blood protein levels in healthy subjects and COVID-19 patients	*PLOS One*/ Randomized Clinical Trial	• Self-collection devices have the potential to shift phlebotomy closer to the point of care, supporting telemedicine strategies and virtual clinical trials. The researchers assess a capillary blood micro-sampling device, the Tasso Serum Separator Tube (SST), for measuring blood protein levels in healthy subjects and non-hospitalized COVID-19 patients. • Tasso SST serum protein measurements in healthy control subjects were highly reproducible, but their agreements with matched venous samples varied. Most of the selected proteins were well-correlated between Tasso SST and venous serum with little sample type bias, but concentrations of D-dimer, IL-1B and IL-1Ra were not. Self-collection at home with delayed sample processing was associated with significant concentrations differences for several analytes compared to supervised, in-clinic collection with rapid processing. Finally, Tasso SST serum protein concentrations were significantly elevated in in non-hospitalized COVID-19 patients compared with healthy controls. • Self-collection of capillary blood with micro-sampling devices provides an attractive alternative to routine phlebotomy. However, concentrations of certain analytes may differ significantly from those in venous samples, and factors including user proficiency, temperature control and time lags between specimen collection and processing need to be considered for their effect on sample quality and reproducibility.

Evidence on Equipment and Devices (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
10 August 2022	Jaramillo et.al	At-home ECG monitoring with a real-time outpatient cardiac telemetry system during the COVID-19 pandemic	Journal of Osteopathic Medicine/ Longitudinal study	• During the COVID-19 pandemic, essential in-person electrocardiogram (ECG) recordings became unfeasible, while patients continued to suffer from cardiac conditions. To circumvent these challenges, the cardiology clinic (Long Island Heart Rhythm Center [LIHRC]) at the New York Institute of Technology College of Osteopathic Medicine (NYITCOM) transitioned to a remote real-time outpatient cardiac telemetry (ROCT) service. • Seventeen patients at the LIHRC that required ECGs between March 11 and August 1, 2020, were included in this study. The patients' medical records were de-identified and reviewed for age, gender, ROCT indications, findings, patient comfort, and ease of use. A retrospective analysis of observational de-identified data obtained from the LIHRC was approved and permitted by the NYITCOM Institutional Review Board (BHS-1465). These FDA-cleared medical devices (DMS-300, DM Software, Stateline, NV) were shipped to the patients' homes and were self-applied through adhesive chest patches. The devices communicated with a cloud-based system that produced reports including a continuous 6-lead ECG and many other cardiovascular parameters. Additionally, a patient-activated symptom recorder was available to correlate symptoms to ECG findings. • With the unique challenges of the COVID-19 pandemic, physicians can use this innovative ROCT method to prevent infection and diagnose cardiac diseases. Most patients and staff were able to utilize the system without issues. Therefore, this system may also be utilized to deliver patient-centered care to those with limited mobility when coupled with a telemedicine visit.

Evidence on Medical and Surgical Procedures

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Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
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