COVID-END global horizon-scanning panel
May briefing note for global panelists
(Last updated 25 July 2021)

Current pandemic context

Confirmed COVID-19 cases are now over 190 million worldwide and there have been over 4 million COVID-19-attributed deaths. Many countries are experiencing an increase in cases once again, with more transmissible variants now circulating widely. Over 3.6 billion vaccination doses have been administered thus far, equal to 47 doses for every 100 people. Stark gaps remain in vaccination rates across countries and continents.

Potential issues for consideration from the scan

To inform panelists' deliberations about emergent issues (or previously missed long-term and recurring issues) that may need to be prioritized, the COVID-END team has prepared the following bulleted summary of issues identified through available documents (e.g., academic journals and magazines), websites (e.g., international organizations and traditional media), and social media (e.g., Twitter), which are organized using the four parts of the COVID-END taxonomy of decisions related to COVID-19 along with some cross-cutting themes.

1) **Cross-cutting**
   - Establishing the governance, financial and delivery arrangements needed to support the global public goods required for combatting future pandemics, climate change, and other societal challenges

2) **Public-health measures**
   - Escalating concerns from scientific bodies regarding the development of vaccine booster shots for use largely in high-income countries in the face of rising global inequities in supply of vaccines in low- and middle-income countries

3) **Clinical management of COVID-19 and pandemic-related conditions**
   - Rolling back self-isolation requirements for healthcare workers, as well as recruiting students and pharmacists to work in hospitals as the health system encounters growing problems with staff shortages
   - Increasing concern that antibiotic resistance will spike as antibiotics are dispensed to treat COVID-19 infections despite the lack of evidence about their effectiveness, as well as the expansion of once-rare opportunistic infections newly acquired by COVID-19 patients

4) **Health-system arrangements**
   - Emerging challenges for vaccination programs related to parental vaccine hesitancy as children become prioritized for vaccination in many countries
   - Re-imagining a primary healthcare system post-COVID that is fit-for-purpose, high-performing and builds on three priorities: 1) multi-disciplinary team-based care, 2) multi-professional workforce, and 3) enabled with strong connections to public health

5) **Economic and social responses**
   - Utilizing the pandemic recovery to advance productivity growth and the equitable distribution of its benefits—specifically through purposeful digitalization strategies
   - Addressing the crisis of caregiving revealed by the pandemic through a new policy agenda that supports and encourages local caring relationships

The team has also prepared a more detailed appendix containing lists of hyperlinked descriptors of the issues addressed in identified documents, websites and social media (Appendix 1).

Potential top priorities for 'living' evidence syntheses where they are currently lacking

To inform panelists' deliberations about top priorities for 'living' evidence syntheses, we are sharing topics prioritized at the April 2021 panel meeting. The following list reflects the re-ordering of topics by panelists, changes to the wording of topics by panelists (highlighted in yellow), and the addition of new topics by panelists (with these new rows added to the bottom of each part of the list and with a blue row header). Topics for which at least some evidence syntheses are available have a light-green row header, and topics for which we are aware of existing or planned living evidence syntheses have a dark-green row header.

Rank	Prioritized topics from panel
Cross-cutting	
1	Understanding real-world comparative **vaccine effectiveness** (in addition to trials data about safety and efficacy), including in relation to variants of concern, and the implications for public-health measures (e.g., vaccine substitution, mixing of doses and timing for second dose; changes to infection prevention and control measures; and when herd immunity will be reached) and health-system arrangements (e.g., PPE, cohorting, and HVAC) *** *see health-system arrangements for vaccine roll-out* ***
2	Engaging vulnerable groups in society to develop and customize packages of public-health measures, clinical-management approaches, health-system arrangements, and economic and social responses that are sensitive to **equity, diversity and inclusion** considerations and that address inequalities in COVID-19 burden
3	Integrating **data systems** and monitoring and evaluation mechanisms to support pandemic response
4	Supporting **coordination** across government sectors and across non-governmental organizations, citizen groups, academia, and others, including 'non-typical' stakeholders (both in general and specifically to avoid future cycles of lockdowns and re-openings) and increasing capacity for policy learning across jurisdictions
5	Understanding the impact of **global** health **inequities** in the pandemic response (e.g., effects of vaccine nationalism, distribution of supplies, and variable government support for response) and the long-term global consequences
6	Understanding the 'pipeline' of **SARS-CoV-2 variants**, the conditions under which they become 'variants of concern,' their transmission characteristics, and their implications for public-health measures (e.g., vaccine choice and sequencing, double masking, quarantine length, border closures, and other risk-mitigation strategies) and for health-system arrangements (e.g., capacity planning, PPE, cohorting, and HVAC systems)
7	Documenting and addressing the long-term **impacts** of the pandemic **on children** (e.g., nutrition, obesity, sport participation rates, education, employment prospects, and social impacts)
8	Optimizing **packages of responses** (public-health measures, health-system arrangements, and economic and social responses), including combinations of centralized and decentralized approaches, in terms of both their health benefits and their economic and social costs
9	Capturing **lessons learned** from this pandemic from the perspective of **individual citizens/households** in clear and concise ways in order to effectively apply them in future
Public-health measures	
1	Supporting **adherence to public-health measures**, including addressing barriers to adherence (e.g., safe transportation to testing and vaccination sites, paid time off work, and publicly funded isolation facilities), recognizing pandemic fatigue, optimizing public messaging about individual- and household-level measures (and using creative formats to convey these messages), and using appropriate behavioural interventions to overcome vaccine hesitancy
2	Adapting strategies for **testing** that optimize the use of existing capacity and incorporating neighbourhood-based approaches like sewage testing to identify outbreaks
3	Evaluating the use of **self-testing kits** as they become more publicly available and monitoring for **fraudulent testing sites**

Rank	Prioritized topics from panel
4	Understanding patterns in and consequences of the greater **geographic dispersion** of infections, including the role of internal and international migration and of tourism in transmission, and of case fatality rates
5	Building **rapid-response mechanisms** to support interdisciplinary outbreak studies (and addressing litigation and other concerns related to sharing information about outbreaks), to ==avoid duplication of work==, and to support timely study appraisals and interpretation (and finding other ways to avoid preprints inappropriately driving action before their quality has been determined)
New	Communicating and supporting **adherence to public health measures** for those who have received at least one dose of **vaccine**
Clinical management of COVID-19 and pandemic-related conditions	
1	Documenting and addressing **long-haul symptoms of COVID** (also known as 'long COVID'), ~~among people without severe COVID (~~including the long-term effects of COVID-19 on the body)~~) and/or long-term sequelae of severe COVID~~, and refining treatment and support strategies ==based on the benefits for patients== and in relation to other health-system needs
2	Screening for and managing emergent **mental health and substance use** issues, ==including trauma, for the general population, and for specific population groups (health care workers in particular)==, and understanding the links between substance use and pandemic-related increases in domestic violence and suicide
3	Understanding the protective effects of antibodies (e.g., duration of protection) and the role of **auto-antibodies** in ~~more severe~~ illness
4	Understanding COVID-19 as a '**syndemic**' that co-occurs with a range of other communicable and non-communicable diseases that differentially affect population groups, and adjusting supports accordingly
5	Optimizing **packages** of COVID-19 treatments including drug treatments, respiratory support (including pulse oximetry), and physical interventions such as proning
Health-system arrangements	
1	Optimizing **vaccine roll-out**, including securing and distributing a reliable supply of vaccines and ancillary supplies, allocating vaccines and ancillary supplies equitably, communicating vaccine-allocation plans and the safety and effectiveness of vaccines (and addressing the factors that contribute to vaccine hesitancy in particular population groups), administering vaccines in ways that optimize timely uptake (including tailoring vaccine messaging appropriately to racialized and vulnerable groups and ==considering incentives to encourage vaccine uptake), adapting vaccine-dosing strategies in response to variants of concern== and surveillance, monitoring and evaluation, and reporting (including the documentation of vaccination status and adverse events)
2	Addressing in an agile way **health worker** shortages, motivation and wellbeing, including strategies to build resilience, manage burnout, and recruit and retrain staff
3	Leveraging **primary care** as the foundation for the health-system response to COVID-19
4	Restoring **non-COVID services** after surges (including prioritizing and sequencing service restoration based on risk) and addressing the effects of **interrupted care** on people with chronic conditions, including those with rare diseases
5	Consolidating and optimizing the value achieved through shifts in **virtual care** (including developing or updating of legal frameworks and policies)
6	Strengthening health-system **governance** (including by addressing corruption and avoiding the politicization of decision-making processes ==and developing adaptive governance and learning capacity==)
7	**Strategic purchasing** of supplies and equipment (e.g., personal protective equipment and liquid nitrogen for vaccine storage) ==made with environmental considerations in mind, as well as respectful and environmentally considerate disposal of supplies and equipment==
Economic and social responses	
1	Economic development and growth – Embracing new approaches to **public financing** that support fairness and equity (especially for women and other vulnerable populations) while avoiding fiscal cliffs (expiring tax cuts and government spending cuts) and debt traps

Rank	Prioritized topics from panel
2	Education - Benefits and risks to students, educators and families arising from **school** closures, re-openings, **changes to operations** (e.g., school-year adjustments) and pedagogical innovations (e.g., e-learning) that can support ongoing education
3	Financial protection – Enhancing **economic security** by addressing pandemic-related job losses and adjusting 'safety nets' (and keeping in mind differential impacts on women and other vulnerable populations) and enhancing workforce development (in healthcare, charities and private businesses)
4	Citizenship - Linking **citizen and community participation** in pandemic planning, policymaking and response with outcomes and capturing innovations in government approaches
5	Food safety and security – Addressing food supply-chain challenges and **food insecurity**, including both community-based and nationally led actions
6	Community and social services - Promoting children's resilience and recovery via social policy
7	Culture and gender – Understanding the additional risks of **gender-based and domestic violence** arising from restrictions and identifying appropriate ways to address such violence
8	Culture and gender – Confronting pandemic-induced or pandemic-exacerbated **racism**
9	Transportation - Safely re-opening the **tourism and travel** industry and managing the related risks (e.g., through testing protocols) and spill-over effects on other countries (e.g., testing requirements before travel)
10	Climate action – Maximizing the opportunity for synergies between the COVID-19 response and **climate action**, including exploring a 'green recovery'
11	Economic development and growth – Understanding and addressing the impacts of the abrupt shift toward **nationalism** as a governing strategy for the economy and of the 'new economy' imposed on many countries by COVID-19
New	Understanding the role of **vaccine passports** in restricting or enabling a broad range of activities (such as use in workplaces, travel, large crowd events, etc.) and the related ethical, legal and equity considerations

Appendix 1: Emergent issues (or previously missed long-term and recurring issues) for consideration, as identified from the monthly scan

1) **Cross-cutting**

Theme	**Establishing the governance, financial, and delivery arrangements needed to support the global public goods required for combatting future pandemics, climate change, and other societal challenges** • Elaboration on an existing issue—Understanding the impact of global inequities in the pandemic response (e.g., effects of vaccine nationalism, distribution of supplies, and variable government support for response) and the long-term global consequences
Taxonomy component	N/A
Source(s)	• One of the key proposals of the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response is to make the financing of global public goods part of the core mandate of the international financial institutions. Link (Report – G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response) • Establishing binding international rules that would ensure future pandemic vaccines are treated as global public goods would help ensure they are available to all and avert some of the suffering and injustice associated with the COVID-19 pandemic. Link (Journal – New England Journal of Medicine) • There is a strong case for, and capacity to advance, a global public goods agenda for education that takes advantage of digital advances to put children, parents, and educators first. Link (Blog – Brookings Institution)

2) **Public-health measures**

Theme	**Development of COVID-19 vaccine booster shots for use largely in high-income countries in the face of global inequities in supply of vaccines in low- and middle-income countries** • New issue
Taxonomy component	Infection prevention – Vaccination
Source(s)	• Recommendations coming from public health officials backed by data, not pharmaceutical companies, should lead the conversation on when and whether booster shots are needed in the near future, especially in the face of global vaccine access and supply inequities. Link (Website – STAT News) • World Health Organization, among a number of scientific bodies, have expressed concerns related to emerging developments from Pfizer and other vaccine manufacturers that are focused on booster shots when instead the focus should be on supplying vaccines to low- and middle-income countries. Link (Website – STAT News) • Governments around the world, including Canada, are preparing for the potential development and roll-out of vaccine booster shots given the emergency of variants of concerns, however many public health experts and healthcare professionals have expressed equity concerns around lack of access and supply of first vaccine doses in low- and middle-income countries. Link (Magazine – Maclean's)

3) Clinical management of COVID-19 and pandemic-related conditions

Theme	**Clinical treatment of COVID-19** • Elaboration on an existing issue
Taxonomy component	Drugs for COVID-19
Source(s)	• EC commits to purchasing five new treatments for COVID-19, including four new monoclonal antibodies and one immunosuppressant Link (Report – European Commission)

Theme	**Increasing concern that antibiotic resistance will spike as antibiotics are dispensed to treat COVID-19 infections despite the lack of evidence about their effectiveness, as well as the expansion of once-rare opportunistic infections newly acquired by COVID-19 patients** • Elaboration on an existing issue
Taxonomy component	Drugs for COVID-19
Source(s)	• One US hospital indicates close scrutiny of treatments like remdesivir has had a spillover effect to other therapeutics, decreasing use of non-indicated antibiotics Link (News - Medscape) • COVID-19 surge in India associated with over 200m excess antibiotic doses, including heavy-hitters like azithromycin, doxycycline, and faropenem, raising concerns for increased antibiotic resistance post-COVID-19 Link (News – PloS One) • Treatment of COVID-19 in ICU in India with high-dose steroids has increased cases of new resistant fungal diseases, like candida auris and albicans Link (News – BBC)

Theme	**Clinical management of pandemic-related impacts on health more generally** • New issue
Taxonomy component	Routine management considerations for chronic and other existing health conditions
Source(s)	• Common seasonal respiratory illnesses, all but gone as a result of COVID-19 restrictions, are now on the rise out of their normal season and show a sharp increase, now that distancing restrictions have been lifted Link (News – the Guardian)

Theme	**Rolling back self-isolation requirement for healthcare workers, as well as recruiting student and pharmacists to work in hospitals as the health system encounters growing problems with staff shortages** • New issue
Taxonomy component	Burnout of health workers

Source(s)	• Italian study finds health workers least familiar with managing infectious diseases (health assistants, nurses) more likely to contract virus at work than emergency department, ICU, infectious disease staff Link (Journal – JAMA Open) • Indonesia recruiting volunteer pharmacists, medical students, radiographers to staff hospitals, as regular staff are either isolating from the virus or are already dead Link (News – Reuters) • NHS waitlists are predicted to increase as staff forced to self-isolate from possible exposures; with up to 1/5 of staff affected, vaccinated staff will likely continue to work and get tested daily instead of self-isolating Link (News – BBC)

4) Health-system arrangements

Theme	**Emerging challenges for vaccination programs related to parental vaccine hesitancy as children become prioritized for vaccination in many countries** • New issue
Taxonomy component	Broad and specific decisions – Approach to COVID-19 vaccine roll-out
Source(s)	• As children aged 12 years and older are entering the queue for vaccination and schools are to reopen, parental hesitancy may emerge as the next public health challenge for vaccination programs. Link (Website – The Conversation)

Theme	**Primary care reform post-COVID opportunity** • New issue
Taxonomy component	Broad and specific decisions – Service planning for 'return to normal'
Source(s)	• Developing an agenda for a re-imagined, fit-for-purpose, high-performing, primary health care system post-COVID that builds on three priorities: 1) multi-disciplinary team-based care, 2) multi-professional workforce, and 3) enabled with strong connections to public health. Link (report – The World Bank)

5) Economic and social responses

Theme	**Taking a strategic approach towards digitalization to foster economic recovery and boost productivity growth** • Elaboration on an existing issue – Enhancing economic security by addressing pandemic-related job losses and adjusting 'safety nets' (and keeping in mind differential impacts on women and other vulnerable populations) and enhancing workforce development (in healthcare as well as private businesses)
Taxonomy component	Economic development and growth—Economic resilience
Source(s)	• Increasing productivity growth, improving digital skills, and fostering digital inclusion require governments and the international community to examine productivity drivers and productivity-enhancing policy options. Link (Report – Italian G20 Presidency)

Theme	**Advancing a policy agenda based on love and caring to take action on the caregiving crisis**
	• New issue
Taxonomy component	Community and social services—Supports for community resilience
Source(s)	• The existing policy discourse rooted in the idea of the 'social contract' and classical economics does not adequately acknowledge the dimensions of love and caring that underpin caregiving work—but taking love and caring seriously in the policy agenda can help in taking action on the crisis of caring for the elderly and the young. Link (Editorial – The Economist)

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