COVID-END horizon scanning global panel
Briefing note
(Last updated 24 July 2020)

Current pandemic context

Confirmed COVID-19 cases are over 15 million worldwide, and the number of cases identified daily is still increasing. A closer look at the pandemic suggests it can currently be characterized in two distinct ways:
1) in many western countries, as well as parts of Asia, the first wave of the pandemic has passed and these countries are largely focused on testing and contacting tracing as well as how to carefully re-open business and services in ways that minimize public-health risk from the pandemic and the economic and social burdens arising from the pandemic response; and
2) much of the U.S. and global south are squarely in the first wave, with cases and deaths still climbing, and in these countries the focus remains on 'flattening the curve.'

Potential issues for consideration

To inform panelists' deliberations about potential long-term and emergent issues that 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:

1) **Public-health measures**
   - Leveraging digital innovations and behavioural scale-and -spread techniques to address current challenges related to COVID-19 testing, contact tracing and other elements of the public health response
   - Understanding and addressing privacy challenges related to contact tracing by putting into place policies and procedures related to transparency, third-party data sharing and legislation that ensures the right to be forgotten

2) **Clinical management of COVID-19 and pandemic-related conditions**
   - Understand the effects of COVID-19 and related public health measures on maternal, fetal and infant health (including mother-to-child transmission, still births, premature births) as well as effective and responsive antenatal care to prevent harms and understanding differential impacts based on race, ethnicity and other types of diversity
   - Examining particular clinical SARS-CoV-2 syndromes suffered by children and young people, such as MIS-C and indirect clinical impacts of the pandemic on children and young people due to a lack of access to regular preventive care and treatment (e.g., immunizations) and other effects of other public-health measures with mental and physical impacts (lack of social and emotional support, family violence, etc.)

3) **Health-system arrangements**
   - Re-organizing services (such as surgeries and other 'elective' health care services) post-first-wave to address backlogs but also as an opportunity to advance evidence-informed innovations in care design and delivery such as single entry models, team-based care, blended virtual and in-person service delivery, and effective adaptations and implementation of other technological solutions
   - Identifying priorities for research, rapid learning and improvement and evaluations using a learning health system approach to address new and emergent challenges related to COVID-19, in areas such as: a) system adaptation, b) care coordination, c) resource allocation ethics, d) rapid reviews and comparative policy analysis, e) workforce needs, training and policies, f) virtual care and other uses of technology and data, g) long-term consequences of COVID-19, and h) public and patient engagement, experience and outcomes.

4) Economic and social responses
    a) Cross-sectoral, education, and broader human services
- Recognizing the importance of schools as a vehicle for health, education, nutrition and social and emotional well-being in young people and the impact of the pandemic response in furthering existing inequalities and creating some new ones (based on differential access to remote learning, lack of socialization opportunities, lack of access to food programs, etc.)
- Using this disruption to education to redesign the future of schools to be hubs of health promotion and sustainable development to address the climate crisis and improve the future resiliency of society

    b) Social policy
- Documenting the role of the pandemic in exposing the cracks in social fabric of systems and encouraging a shift in the response to the pandemic to one that is people centred, humanitarian and caring, that could also be sustained over time

    c) Economic policy
- Understanding the unprecedented disruption to exchange rates and global capital flows and the several policy responses that have been, and may continue to be, implemented to maintain stability
- Appreciating the implications of the accelerated automation and the use of robots as part of the direct response (e.g. enforcement of public health measures in airports for support COVID-19 testing) and indirectly (for industries such as shipping) and understanding their role and how they will be implemented effectively (using strategies such as taxation)

    d) Environmental and energy policy
- Shaping the economic stimuli being injected into economies around the world to address the impacts of COVID-19 in a way that address the SDGs and focuses on a 'green' recovery

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. In future briefs, the team will also note where the identified issue has been addressed by an existing evidence synthesis in COVID-END's soon-to-be released inventory of 'best evidence syntheses' or whether there is a gap that may need to be addressed if panelists prioritize the issue.

Appendix

1) Public-health measures

Theme	Innovations in testing and understanding COVID-19 spread
Taxonomy component	Public health
Source(s)	• Creating online marketplaces as a way to scale COVID-19 'assurance' testing, as current approaches are failing (magazine - Harvard Business Review) • In order to get people to actually use contact tracing apps, employ a targeted approach with just a small community, ensure broad local adoption, drive engagement, build critical mass, and then gradually scale (magazine - Harvard Business Review) • Framework for the application of digital technologies in pandemic response, highlighting ways in which successful countries have adopted these technologies for pandemic planning, surveillance, testing, contact tracing, quarantine, and heath care (journal - The Lancet Digital Health)

Theme	Privacy and contact tracing
Taxonomy component	Public health Citizenship – Civil-rights violations; Infrastructure - Cyber-security protocols for governments and businesses
Source(s)	• Identifying mechanisms to improve the balance between privacy concerns and the public benefit for contact tracing apps, such as legislation addressing the right to be forgotten and making applications open source to improve transparency (website - TechRepublic) • Outline of policy concerns from analysis of 108 COVID-19 apps in 41 countries finding that some developers and governments failed to follow best practices with respect to transparency, security, requests for permissions and third-party data-sharing (website - The Hill)

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

Theme	Reproductive care
Taxonomy component	Antenatal care and childbirth
Source(s)	• It is possible to transmit SARS-CoV-2 from mother to fetus through the placenta (first confirmed case documented in France) (newspaper - The Guardian) • A study of one hospital in the UK showed a higher incidence of stillbirth during the pandemic period when compared with a pre-pandemic period (journal - JAMA) • In India, a woman in labour is turned away from eight hospitals due to COVID-19 resulting in her and her baby dying (magazine - New York Times) • A summary of existing guidance from the US on caring for women who are planning a pregnancy, pregnant, or postpartum during the COVID-19 pandemic (journal - JAMA) • Most pregnant women admitted to hospital with SARS-CoV-2 in UK had good outcomes with uncommon transmission to the infant, however, the higher proportion of black or ethnic minority groups admitted than expected raises equity concerns (journal - JAMA) • At least two countries (Ireland and Denmark) have separately noted a compelling reduction in the number of premature births during the pandemic (magazine - New York Times)

Theme	Pediatric care and other impacts on children and young people
Taxonomy component	Multisystem inflammatory syndrome in children (MIS-C) Clinical management of pandemic-related impacts on health more generally

Source(s)	• Description of the emergence of a new SARS-CoV-2 related disorder in children - Childhood Multisystem Inflammatory Syndrome as a new challenge for the pandemic (journal - NEJM)
	• Children who were treated for MIS-C in France ranged in age but had similar clinical symptoms, and notably, many were of African ancestry (journal - BMJ)
	• Outlining the risks of the pandemic on children including more monetary poor households, exacerbating the learning crisis through digital exclusion, threats to survival and health and risks to safety from witnessing or suffering violence and abuse (website - Unicef)
	• Children and young people will likely experience a high level of indirect physical, social and mental health effects related to reduced nonurgent care and general pandemic control measures (journal - CMAJ)

3) Health-system arrangements

Theme	Reorganizing non-COVID-19 health service delivery
Taxonomy component	Service planning for the ongoing management of other conditions
Source(s)	• Confronting the COVID-19 surgery crisis through transformations in care that involve single-entry models and team-based care to reduce wait times, improve patient experience and physician work environments (journal - CMAJ)
	• Description of how one health system has combined telemedicine and hands on care to continue to deliver complex spine surgery and care during the pandemic (magazine - Harvard Business Review)
	• Pivoting innovations in care technology in Canada to COVID-19 resulting in the development of a home COVID-19 health monitoring app (newspaper - Waterloo Chronicle)

Theme	Priorities for health systems and policy research, learning and improvement
Taxonomy component	All health-system arrangements (governance, financial, delivery)
Source(s)	• Canadian priorities for COVID-19 health systems research, including system adaptation, care coordination, resource allocation ethics, comparative policy analysis, workforce, virtual care, long-term consequences and public and patient engagement (journal - Healthcare Policy)
	• US COVID-19-related health systems priorities for rapid cycle evaluations in six domains (website - Academy Health)
	• How the UK created a learning health system to manage uncertainty in a field hospital, including new approaches to standard processes and a novel staff role to source ideas for improvements in clinical practice and to communicate changes (journal - NEJM)

4) Economic and social responses

a) Cross-sectoral, education, and broader human services

Theme	Schools/education during the COVID-19 pandemic
Taxonomy component	Infection prevention – service limitation
Source(s)	• Rethinking the role of the school after COVID-19 to be one that fully incorporates health literacy, with teachers as health promoters as well as a focus on student well-being (journal - The Lancet)

	• Positioning education as a (neglected) social determinant of health and calling for wider understanding of inclusive education with diversity at the core, especially given those rapidly being left behind due to the pandemic policy decisions (journal - The Lancet) • Flagging the social crisis from school closures and increases to child poverty and identifying the immediate need to address students' nutrition, technology and other access limitations, plus the longer-term need to proactively address new learning gaps (journal - The Lancet)

Theme	Education for sustainable development
Taxonomy component	Education – Skill re-development programs, other
Source(s)	• Makes the case to build education back better by focusing on education for sustainable development to address the climate crisis and improve resiliency in the face of future pandemics (website - UNESCO)

b) Social policy

Theme	Meeting people's basic needs during and after the crisis
Taxonomy component	Food safety and security; Citizenship – Community engagement
Source(s)	• Discussion of how COVID-19 has exposed a range of inequalities and 'broken systems' in South Africa and how a people-centred, humanitarian and caring response would look different (newspaper - Maverik Citizen)

c) Economic policy

Theme	Responding to shocks in foreign exchange markets and global capital flows
Taxonomy component	Economic development and growth – Corporate bond buying, Government bond buying, other
Source(s)	• The pandemic has caused unprecedented disruption to exchange rates and global capital flows—particularly in emerging and energy exporting economies; several policy responses have been, and may continue to be, implemented to maintain stability (policy report– OECD)

Theme	Adapting to the accelerating shift to automation and robot workers
Taxonomy component	Employment – Workplace changes; Education – Skill re-development programs; Economic development and growth – Economic resilience
Source(s)	• The pandemic has accelerated automation and will require new approaches from the public and private sector; lessons can be learned from China (magazine – The Economist) • Robots are being used to enforce mask wearing and measure passengers' temperatures at Kigali International Airport (Twitter) • Rapid innovation led to the creation of robotic COVID-19 testing machines; nurturing such research and innovation can enable rapid responses to unprecedented challenges (website – World Economic Forum) • Autonomous marine shipping is emerging, could provide alternate modes of transportation, and can help alleviate labour shortages in the industry; however, certain regulatory and technical barriers exist (magazine – Horizon (EU)) • As automation increases, there are calls for taxation of automated labour; however, some challenges and doubts exist (magazine – Forbes)

d) Environmental and energy policy

Theme	Green new deal/Resilient recovery/Economic system transformation
Taxonomy component	Climate action – Climate-action focused economic stimulus
Source(s)	- Priorities for a 'green' recovery of the UK economy includes focused investments, learning lessons from the pandemic, and preparing for the future (website – Committee on Climate Change) - There is evidence GDP growth, greenhouse gas emissions, and resource use can be decoupled to an extent but to achieve emissions targets unprecedented strategies may be needed (academic report – Environmental Research Letters) - African nations (and their partners) can and should pursue an SDG-focused COVID-19 recovery strategy (newspaper – Ghana Web) - South Korea's COVID-19 stimulus measures to be focused on a 'Green Deal' and transitioning the energy system; the measures have significant public support (magazine – Forbes) - The pandemic response has revealed that urgency and political will can lead to transformational change of the status quo (magazine – Foreign Policy)