

The need to document lessons learnt and exemplary practices of maintaining essential health services during the COVID-19 pandemic

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During the COVID-19 pandemic, countries often needed to divert their human, financial and material resources away from existing health programmes to mitigate the spread of COVID-19. There are numerous reports of global inequities in access to critical care and medical countermeasures exacerbated by the pandemic as a consequence of chronically underfunded and weakened public health systems.^{1–4} Elective procedures were regularly cancelled or postponed and primary health services reported declining trends.^{4–8} Due to these disruptions, additional health emergencies have arisen amidst the pandemic including a global surge in measles cases, a continuing rise in tuberculosis-related cases and deaths, increased cases of HIV and other sexually transmitted infections, climbing malaria deaths and more.^{9–13} Not only do these disruptions have the ability to exacerbate existing health inequities, but they may also undermine overall health system resilience.¹⁴ Weak and unprepared health systems have led to longer paths to recovery from current health crises and placed countries at further disadvantages to prepare for and respond to future health emergencies. Finding ways to strengthen and maintain essential health services (EHS) during public health emergencies is critical to increasing a country's ability to respond to and recover from future health threats.

Over the past 3 years, we sought to identify national practices and policies that may have enabled countries to maintain EHS delivery while responding to COVID-19. Documenting the decision-making process and identifying 'exemplary', or best practices, during a public health emergency allows for the adaptation of policy and practice both within the country of interest and globally. This effort was part of

Gates Ventures' 'Exemplars in Global Health' Initiative which seeks to identify generalisable best practices and policies from low-income and middle-income countries that should be shared with the wider community.¹⁵ The purpose of this analysis was to improve planning for future health emergencies by providing examples of approaches that countries used during COVID-19 to meet the acute health needs of the pandemic and serve the continued EHS needs of their populations. Additional publications in this supplement detail the findings from each country as well as a cross-regional and global analysis to identify potential trends that transcend national contexts. This paper introduces the initial research to identify the countries that would be highlighted for their 'exemplary' practices and the value of conducting such research.

We conducted the project in two phases. Phase 1, detailed in this article, identified countries that showed evidence of maintenance of EHS while responding to the COVID-19 pandemic. Phase 2 entailed deep-dive research efforts to better understand how EHS were maintained and identify the beneficial practices and policies that may have facilitated continuity in such services. The methodology and findings from phase 2 are detailed in the country-specific articles in this supplement.

The core project team, researchers from Johns Hopkins Bloomberg School of Public Health (SPH), Brown University SPH and Makerere University SPH, led phase 1 to select the 'exemplar' countries and in phase 2 supported the research performed by in-country research partners (ICRPs).

For phase 1 selection, we determined that countries would be eligible for inclusion if they were classified as either a low-income country,



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lower middle-income country or upper middle-income country by the World Bank, and had a population of over 3 million people. Island nations were later included in the country screening process if they exceeded the population size criteria of 3 million and had not implemented rigorous border closures or other measures that may not be easily generalisable for non-island nations. The existence of a qualified ICRP capable of undertaking the deep-dive research was also considered.

We identified candidate ‘exemplar’ countries by performing analysis on National Health Service data and national COVID-19 statistics. The COVID-19 indicators included: age-standardised death rate estimates, cases per capita and test positivity rate. Given the lack of reliability of COVID-19 data, a wide range of countries that had performed relatively well on COVID-19 indicators were considered. Accordingly, we considered all nations which fell in the top 50% for at least two of the COVID-19-specific indicators. The changing nature of these data as countries experienced different phases of the pandemic complicated this analysis. We used national diphtheria–tetanus–pertussis (DTP) immunisation rates as a proxy for the maintenance of health services. DTP is a routine, essential vaccine that is frequently identified as a marker of health system performance and has monthly, widely available data coverage. Unfortunately, many of the other indicators considered were either not reliable or routinely available.

The paucity of quantitative data at the global level necessitated a change in our methodology. We supplemented our quantitative analysis with a review of peer-reviewed and grey literature, and key informant interviews with regional health organisations to further understand countries’ experiences during the pandemic. Key informants included representatives from WHO South-East Asia Region (SEARO), WHO Western Pacific Region (WPRO), Pan American Health

Organization (PAHO)/ WHO Region of the Americas (AMRO), Asian Pacific Observatory, Asian Development Bank and regional offices of the Rockefeller Foundation. No patient and public involvement was included for phase 1 of this study.

Following this initial analysis, a selection of countries was shortlisted for consideration in each region. The research team reviewed the shortlist of countries to ensure that there was diversity in the selection and identify the final two countries per region to proceed to phase 2. Priority was placed on countries that represented different governmental structures or systems and different geographical locations within the region (ie, non-neighbouring countries). Countries expressing a willingness to share data or where researchers found readily available data during the scoping literature review were prioritised. ICRPs from existing networks were identified and potential local partners were interviewed for their interest and capacity to collaborate. **Figure 1** outlines the selection process and countries under consideration for Latin America and Asia.

The selection process for the African region differed slightly, and therefore is not covered in this analysis. Four countries—Democratic Republic of Congo, Nigeria, Senegal and Uganda—were pre-identified by Makerere SPH for ‘sprint’ research studies to understand the impact of the pandemic and inform the response. While Uganda was selected to continue to phase 2, further review of other countries in the region was needed to identify the second exemplar country. An internal review by Makerere SPH on the COVID-19 response and EHS capacities of countries in the region determined that Ghana would also be included in phase 2.

The countries selected for deep-dive research include Costa Rica and Dominican Republic for Latin America, Sri Lanka and Thailand for Asia, and Uganda and Ghana for Africa.

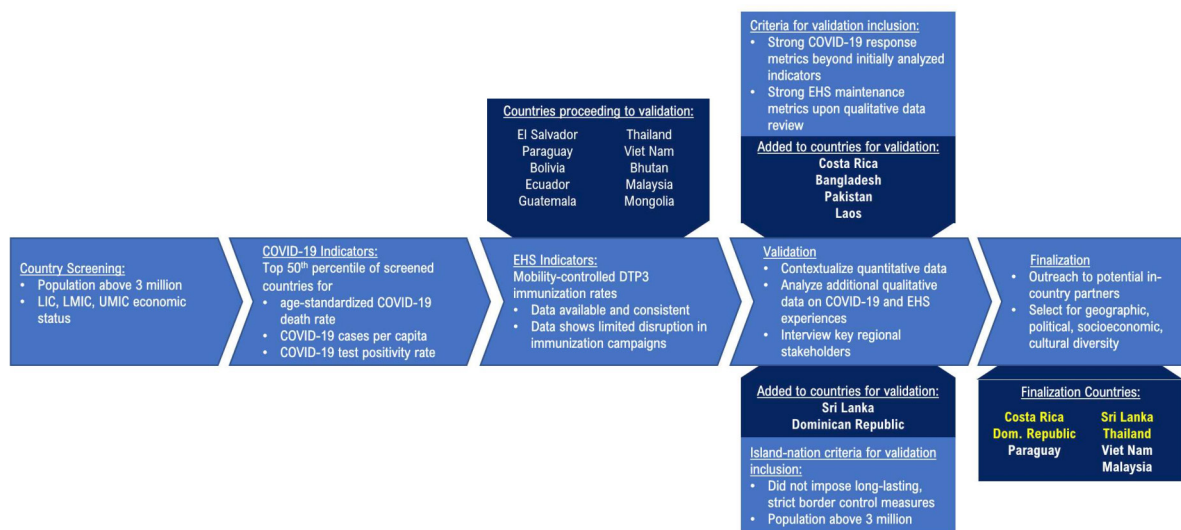


Figure 1 Outline of the selection process and countries under consideration for Latin America and Asia. DTP, diphtheria–tetanus–pertussis; EHS, essential health services; LIC, low-income country; LMIC, lower middle-income country; UMIC, upper middle-income country.

Establishing exemplary practices in global health is challenging, particularly identifying countries that should be considered ‘exemplars’. First, the paucity of comparable, reliable data at the global level makes it difficult to identify countries that may demonstrate exemplary practices. Second, the selection process was complicated by the lack of agreement about which health services should be considered essential. Third, while this study sought to identify practices and policies that had evidence of being beneficial, the specific cause and effect of these practices could not be ascertained through this mixed-methods, ecological analysis. Finally, due to the protracted nature of the COVID-19 pandemic and the changing policies and context in country, finding a country that performed ‘exemplary’ throughout the entirety of the pandemic in terms of both their COVID-19 response and maintenance of EHS was impossible. As countries faced different waves of the pandemic at different times and changed their policies over the duration of the pandemic, those that appeared to adopt more isolationist policies in the beginning may have initially responded well to the pandemic but then struggled in later surges as more transmissible variants were introduced to their naïve populations. Countries that changed policies, focusing more on contact tracing, vaccination and mask use after initial lockdown measures, appeared stronger; however, as countries experienced waves at different times, comparisons between countries were hard to make.

A strength of this research project was its early engagement and reliance on ICRPs to provide additional context and insight to the quantitative data during the selection process. This also allowed for relationships to be built early which strengthened phase 2 of the project where ICRPs would lead local research efforts. Engaging with local government policymakers and practitioners yielded important operational insights that may not have otherwise been captured in peer-reviewed literature and created a pathway for dissemination of this project’s research findings. This research also enabled south–south learning as ICRPs interacted with each other throughout the project.

While it is important to respond to the evolving needs of a health emergency, ensuring accurate and routine reporting of data is equally vital to inform an adequate and tailored response. By compiling findings from evidence-based response strategies, the deep-dive research offers specific guidance and actionable recommendations to be considered globally. However, this cannot be done unless countries are initially identified that display overarching successes and can be pioneered for their ‘exemplary practices’. Developing and employing a standard methodology to review various countries to identify those that most align to the ideas of conducting a robust response to COVID-19 while maintaining their EHS allow for confidence in the ‘exemplary’ practices identified in the follow-on analysis.

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