

Maintains



Research supporting social
services to adapt to shocks

Rapid Literature Review: Health

COVID-19 Series

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About Maintains

Maintains aims to save lives and reduce suffering for people in developing countries affected by shocks such as pandemics, floods, droughts and population displacement. This 5-year programme, spanning 2018-2023, will build a strong evidence base on how health, education, nutrition and social protection can respond more quickly, reliably and effectively to changing needs during and after shocks, whilst also maintaining existing services. Maintains will gather evidence from six focal countries — Bangladesh, Ethiopia, Kenya, Pakistan, Sierra Leone, and Uganda — to inform policy and practice globally. It will also provide technical assistance to support practical implementation.

Maintains is funded by UK Aid from the UK government and implemented through a consortium led by Oxford Policy Management (www.opml.co.uk). For more information about the programme, visit [Maintains Webpage](#) and for any questions or comments, please get in touch with maintains@opml.co.uk.

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1 Introduction

This review focuses on COVID-19's impact on health services in low-and middle-income countries (LMICs), recovery measures, and potential reform policies. It draws on learnings from past disease outbreaks, particularly Ebola in West Africa. Given the current emphasis and abundance of literature available on immediate responses to COVID-19, the review concentrates on the challenges relating to implementing these actions in LMICs, but also discusses the longer-term approaches required for recovery and reform that enhance future health system resilience.

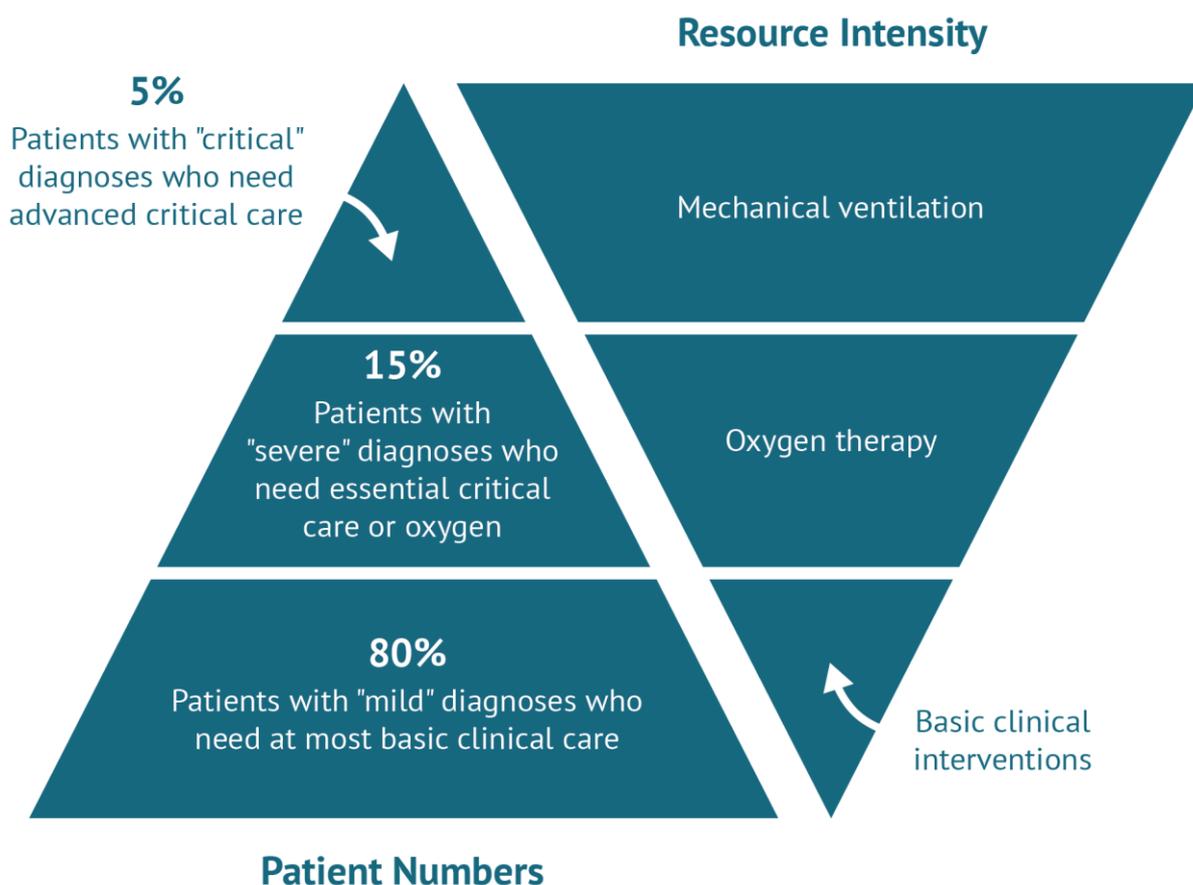
The review is broadly divided into three sections: response, recovery, and reform. Response relates to the immediate service delivery impacts of the shock. In the context of COVID-19, this means the actions taken to get the epidemic under control, minimise direct and indirect loss of life, and maintain basic service delivery. Recovery relates to ensuring how health systems and other sectors (e.g. the economy, education, and social protection) recover and address the impacts of a shock. The goal is to minimise indirect loss of life and maximise the return to normal. Reform relates to ensuring that the country and affected sectors are more able to withstand shocks or future crises, through learning from the experience of the shock, while also taking advantage of any policy spaces that open up due to changed political demands stemming from the shock.

Section 2 begins by looking at the impact of pandemics on essential healthcare (2.1) and maintaining core services during a health crisis (2.2). This is followed by two brief sub-sections on the unintended consequences of a health-focused response (2.3) and intersectoral dependencies (2.4). Section 3 addresses the recovery of health systems after a pandemic, while Section 4 focuses on reform measures and Section 5 concludes by focusing on how Maintains can potentially be engaged in a technical and advisory capacity for health policy reform.

2 Responding to a pandemic

The World Health Organization (WHO), in addition to providing guidelines to find, isolate, test, treat, and trace the spread of COVID-19, is also encouraging public health interventions to ‘flatten the curve’ by slowing transmission and reducing peak capacity needs. Modelling studies are already showing the impact on community transmission of non-pharmaceutical interventions such as physical distancing, banning of mass gatherings, closing of schools and universities, and work-from-home measures (WHO, 2020c). Such measures have been implemented to buy time in high-income countries, so that hospital intensive care unit (ICU) capacity can be rapidly built up to meet the demand of large numbers of sick patients (Ismail *et al.*, 2020). However, in LMICs bed capacity in ICUs is limited to a few specialised centres in each country (Ismail *et al.*, 2020). The figure below summarises the resource requirements of clinical support options for COVID-19 patients at different levels of severity. As shown in the diagram, the clinical support needed for patients in the more critical conditions is highly resource-intensive and unlikely to be available at sufficient scale in most LMICs.

Figure 1: Breakdown of patients with identified COVID-19 (left) and the spectrum of clinical intervention options focusing on breathing support (right)



Source: (Ismail *et al.*, 2020).

Moreover, many public health interventions involving lockdown and distancing regulations may be ineffective or infeasible in LMICs where people live in densely populated houses and

neighbourhoods and earn a daily wage. Therefore, response measures need to be refocused to adapt to local availability and need. The following recommendations are highlighted in the literature and include actions within the health system and in related sectors, reflecting the intersectoral nature of the response (additionally, see Section 2.4 on intersectoral dependencies):

1. **Basic clinical interventions:** Prioritising simple hospital interventions that do not rely on ICU-focused models. These include use of appropriate antibiotics, and emphasising emergency and critical care when necessary, and using locally appropriate clinical criteria and tools to guide effective care (Ismail *et al.*, 2020).
2. **Prioritising and protecting community health workers:** Recruiting community members with basic training for health promotion and care delivery is a critical measure to boost last-mile connectivity and supplement health staff during a health disaster in LMICs. These health workers are disproportionately at risk of infection and death without adequate protective equipment (Gage and Bauhoff, 2020). Community health workers need to be priority recipients of personal protection equipment to ensure their safety first (Glassman *et al.*, 2020).
3. **Community engagement:** Meaningful community engagement was crucial in addressing the Ebola epidemic in Liberia. Strategies included the formation of community-based surveillance teams and treating communities as active participants in – as opposed to passive recipients of – health response efforts (Barker *et al.*, 2019). While engaging community participants cannot replace qualified specialists in providing advanced care, community engagement can support emergency care and help spread awareness of safe practices and counter the misinformation and stigma accompanying the COVID-19 outbreak (Ismail *et al.*, 2020).
4. **Water, sanitation, and hygiene (WASH):** In lower-income countries, water and soap for frequent handwashing are in short supply and sources of water supply are far away from the house (Gharib, 2020). There are limited septic tanks and sewage systems, and untreated sludge is often emptied directly into the environment (Gharib, 2020). Effective promotion of handwashing and other hygiene and sanitation behaviours therefore requires simultaneous investment in increasing access to safe water and other hygiene supplies, for example through small-scale solutions like public handwashing stations as set up in public buildings and markets in Liberia and Sierra Leone during the Ebola outbreak (Gharib, 2020). The simpler the technology, the better.
5. **Cash transfers to enable social distancing:** Cash transfers are a minimum requirement to enable ‘stay at home’ distancing policies in countries where the majority of the workforce is in the informal sector (Glassman *et al.*, 2020). Digital cash transfer programmes were introduced early as a response measure to the Ebola outbreak in Liberia to ensure that health workers were paid and health centres were staffed (Dumas *et al.*, 2017). However, unconditional cash transfers were soon used as a modality to tackle the food security crisis rising from distancing regulations and market closures in both Liberia and Sierra Leone (Dumas *et al.*, 2017). Studies found that cash transfers were initially spent on food and later on health, schooling, and shelter as priorities changed with the seasons and the development of the outbreak (Kelly, 2020).

2.1 Impact of a pandemic on core healthcare services

Pandemics affect population health not just directly but also through their impact on routine services, particularly in LMICs where health systems are already strained and the burden of disease is high in relation to communicable diseases. Reduced coverage of essential health and nutrition services such as maternal, newborn, and child healthcare, prevention and management of communicable diseases, and treatment of chronic diseases leads to secondary health impacts, while reductions in preventive services such as immunisation increase the risk of future disease outbreaks. This risk of vaccine-preventable disease outbreaks due to disruption of routine immunisation was seen in West Africa during the Ebola outbreak, where diseases such as measles led to increased morbidity and mortality among vulnerable populations (Madhav *et al.*, 2017). Additionally, lack of routine care for malaria, HIV/AIDS, and tuberculosis led to an equal a number of deaths to those directly caused by Ebola (Madhav *et al.*, 2017).

The impact on routine services involves both supply and demand. In relation to supply, health systems often lack resources to provide routine care as well as reorganise routine care when responding to an outbreak, and their capacity may be reduced through disruptions related to the outbreak. Several health system pillars may be affected. The following are the main supply-side factors identified in the literature:

1. **Diversion of resources:** In the face of an unexpected health shock, attention and resources to provide routine care are often diverted to the immediate fight against the disease. Hospitals face staff shortages, treatments are unavailable, and salaries are missing (MSF, 2019). In 2014, according to United Nations Development Programme (UNDP) records, lack of funds, medical resources, and personnel led to a 30% decrease in routine childhood immunisation rates in Ebola-affected countries (Madhav *et al.*, 2017). Global data from COVID-19 has already shown a severe impact on access to sexual and reproductive care and information on family planning services, which has in the past and continues to see its funding diverted to short-term crisis response measures (Ahmed and Sonfield, 2020). The Ebola epidemic at its peak saw 300 to 400 cases reported every week in Liberia. Meanwhile, the same period also saw neglect of healthcare facilities, lack of isolation capacity, and turning away of other patients who did not have Ebola. Some facilities stopped providing services altogether (Barasa *et al.*, 2017).
2. **Strain on health workers:** Healthcare services are disrupted by a significant drop in the number of healthcare workers as they are the first ones facing exposure and thereby infected almost immediately. Usually, the majority of the health workforce are women and rules of distancing and isolation, in addition to taking care of affected family members, add a further strain on their diminished numbers (O'Donnell *et al.*, 2020). A study by Siekmans *et al.* (2017) found that the absence of regular supervision of health workers during the Ebola outbreak in Liberia impacted the quality of routine primary healthcare, evidenced by inconsistencies in treatment decisions and referral patterns recommended by community health workers (Palagyi *et al.*, 2019). Around 8% of doctors, nurses, and midwives died due to Ebola in Liberia in 2014 (Madhav *et al.*, 2017). Maternal, infant, and under-five mortality rates increased across West Africa due to a loss in health-worker numbers following health-worker mortality and morbidity (O'Donnell *et al.*, 2020). The break in delivery of reproductive and child healthcare

services led to lower respect for and trust in community health workers in West Africa (Miller *et al.*, 2018). Most significantly health workers, despite being at the centre of the health system, faced severe stigmatisation and difficulties in reintegration into society. A study conducted by Raven, Wurie, and Witter in Sierra Leone (2018) revealed that health workers were isolated from their families, were at the receiving end of distrust from communities, and were constantly living in fear of being infected and undergoing trauma from watching colleagues die, in addition to facing economic hardship and an increased workload (Raven *et al.*, 2018).

3. **Disruption of supply chains:** Commodities and supply chains of medical equipment, medicines, sanitary napkins, and contraceptives are severely affected due to slowdown in international shipping, clearances, and movement restrictions. The logistics of getting supplies like vaccines and protective equipment to the regions where they were most needed were extremely challenging during the Ebola outbreak, not only due to lack of roads but also because of armed groups who attacked healthcare professionals and suppliers (Dionne and Seay, 2019). Impact data from COVID-19 has already shown the lack of availability of contraceptives and condoms in Myanmar and Mozambique among other countries, since most of these products are manufactured in Asian factories that are mostly under lockdown (Purdy, 2020).

On the demand side, uptake of services may be affected by trust and acceptability as well as physical and financial barriers to access. Sierra Leone saw a decrease in utilisation of health services during the Ebola outbreak, which translated to 3,600 additional maternal, neonatal, and stillbirth deaths between 2014 and 2015 (Evans, 2020). The following are the main demand-side factors identified in the literature:

1. **Economic barriers:** Health expenses such as out-of-pocket payments for private facilities and even medication become unaffordable during a health shock (Clarke and Le Masson, 2017) and as physical distancing and isolation policies cause an economic downturn (Sullivan and Chalkidou, 2020). This is a particular problem for daily wage earners, for whom loss of income means an inability to afford any form of preventive or treatment measures, as was the case in Liberia in 2014. With public facilities shut down during the outbreak, this meant no access to care (Clarke and Le Masson, 2017).
2. **Physical barriers:** Mandatory curfews, border closures, and disruption of transportation routes made obtaining medical services and continuing drug therapy challenging in West Africa during the Ebola epidemic (Parpia *et al.*, 2016).
3. **Lack of trust:** According to a study done by Kruk *et al.*, some communities in Liberia resisted surveillance and disease control efforts due to a belief that Ebola was purposely introduced by the government and foreign institutions to gain profits from emergency response activities (Kruk *et al.*, 2017). Trust in the government broke down further due to the inadequate response from the Ebola task forces and help hotlines (Kruk *et al.*, 2017). A public health campaign that ran a message beginning with 'Ebola kills' backfired when people started avoiding treatment in health facilities and waited to die in their homes. The message was later changed to say, 'The earlier you report Ebola, the more likely you are to survive' (Kruk *et al.*, 2017). Studies have also mentioned the distrust of health workers in their leadership's ability to provide them with protective gear and resources, which contributed to their reluctance to examine patients with fever during the 2009 H1N1 influenza pandemic in Ghana, nurses abandoning their posts during the Ebola

epidemic in Uganda in 2000, and nursing staff considering leaving their jobs during the 2003 severe acute respiratory syndrome (SARS) outbreak in Taiwan (Palagyi *et al.*, 2019).

4. **Fear:** Fear of contracting the disease plays a large role in lack of access to and avoidance of routine healthcare (Madhav *et al.*, 2017). In rural Liberia, almost 60% of respondents of a study cited fear of contracting Ebola within a healthcare facility as a major barrier to accessing healthcare (McQuilkin *et al.*, 2017). Studies conducted by Thiam *et al.* in 2015 found that the use of personal protective equipment by health workers during village-level infection control activities generated fear in the community, and heightened mistrust of 'western medicine' (Palagyi *et al.*, 2019). Such negative reactions can be attributed to a lack of appropriate community-led education and awareness programmes on infection prevention and control (Palagyi *et al.*, 2019).

2.2 Maintaining core healthcare services during a pandemic

The collective goal of every country during a health crisis must be to maintain equitable access to essential service delivery, limiting direct mortality and avoiding increased indirect mortality (UNICEF, UNFPA, WHO, 2020). A health system's ability to maintain delivery of core essential services depends on four broad criteria:

1. **Baseline capacity of key health system pillars**, including human, infrastructural, and financial resources and service delivery.
2. **Existing burden of diseases**, including current levels of communicable and non-communicable diseases.
3. **Transmission context and whether the outbreak involves sporadic cases, clusters of cases, or community transmission** (WHO, 2020b). Where disease transmission involves few and sporadic cases, health systems are more likely to be able to maintain routine services in addition to managing the outbreak cases. However, COVID-19 has entered stage III – i.e. community transmissions – in most countries that have reported the disease, requiring strategic shifts to maximise population benefit with limited resources (WHO, 2020b).
4. **Maintaining the trust of the population in health services and public health advice** (UNICEF, UNFPA, WHO, 2020). This is essential when individuals face a choice about whether to cooperate with response efforts, such as voluntarily reporting for medical testing, understanding when certain services are deemed non-essential and postponed, or even honouring a quarantine (Christensen *et al.*, 2020). Studies by Kruk *et al.* (2017) incorporated trust as one of the several preconditions for health system resilience during a health crisis.

The WHO COVID-19 Operational Guidance for Maintaining Essential Health Services During an Outbreak succinctly analyse learnings from past pandemics to provide targeted actions for implementation at national, regional, and local levels (WHO, 2020b). This review has supplemented the WHO guidelines with how these measures have been contextualised in India (Government of India, 2020).

1. Establishing simplified governance and coordination mechanisms such as monitoring ongoing services and identifying gaps, and phased reallocation of services where need

- be. In India, the government guidelines recommend that states should decentralise operations as much as possible and enable separate dedicated COVID-19 teams to work independently within decentralised geographic units.
2. Determining context-specific essential services and phased reduction of non-essential services, which should be adapted locally and reformed depending on the duration of the outbreak period. Recent studies by Wilkensen et al in 2017 and Rohwerder in 2020 have suggested that anthropological approaches that take into consideration context-specific knowledge surrounding healthcare practices, ethnic minorities, gender, etc. received better outreach and reception. Such engagement helped when working with certain populations who were involved in hunting and selling food linked to the Ebola transmission in DRC (Kelly, 2020).
 3. Countries must prioritise essential sexual, reproductive, maternal, neonatal, child, and adolescent health services. Depending upon the local situation of the outbreak and the health system capacity, these services could be modified and reorganised depending upon the needs of the population. Any diversion of skilled health providers of maternal and newborn care to COVID-19 response work should be discouraged (UNICEF, UNFPA, WHO, 2020).
 4. Optimisation of service delivery settings including re-purposing of facilities based on need, mapping facilities including private, public, and military systems, and ensuring public awareness of access to these services. Ideally this includes the designation of separate blocks within existing facilities to provide COVID-19-related services, allowing for the remaining blocks within the facility to continue providing non-essential care. Mobile medical units could be utilised for delivery of follow-up services.
 5. Countries could also involve the non-profit and private sectors in the provision of non-COVID essential services. For example, changes to referral services, continued presence of non-governmental organisations, and health workers working in a targeted manner to take care of routine measures like reproduction services helped balance the disruption caused by Ebola in Sierra Leone (Kelly, 2020).
 6. Mechanisms for effective patient flow such as disseminating information on self-care, establishing referral protocols for patients, ensuring acuity-based triage, and establishing isolation mechanisms at care sites. While there are curated pieces on critical care triage in high-income settings, there is limited material available from LMIC health professionals and systems. Locally developed guidelines would be most ideal for maximum efficiency (Glassman *et al.*, 2020). The Government of India has stated that protocols of triaging are evolving and therefore health facilities as well as prospective patients must use the most up-to-date information on the website of the health ministry.
 7. Redistribution of health workforce capacity by initiating rapid training mechanisms for key capacities, creating a roadmap for phased interventions and mapping health-worker requirement as needed, and ensuring timely payment of salaries. Training community health workers to generate awareness of the temporary health system changes and optimise repetitive home visits as much as possible are recommended strategies. During home visits, health workers should be alert to the possibility of increased gender-based violence and inform the appropriate department official of perceived cases. Challenges of shortage should be overcome by expediting hiring processes, redeploying staff from non-affected areas and other services, and utilising non-allopathic doctors as well as fit retirees.

8. A mechanism to maintain availability of medical supplies by creating a platform for reporting inventory and redistribution of supplies (WHO, 2020b). The Government of India has suggested the possibility of hiring local youths – provided with IDs and protective equipment – to pick up medicines from district warehouses or primary health centres (as per the local context) and supply them to health workers.
9. Telehealth services: Suspected COVID-19 patients should be encouraged to utilise and self-monitor using tele-platforms such as phone- or web-based applications, video calls, and hotline services, to determine the need to visit a health facility to avoid overcrowding at hospitals and prevent transmission during travel to or at a facility. These could be augmented by creating web-based platforms to provide training to health workers.

2.3 Unintended consequences of a health-focused response

Public health measures designed to mitigate a disease outbreak such as social distancing and travel restrictions can have short- and long-term socio-economic consequences.

Short-term economic impact: The highest economic impact of COVID-19 is rising from ‘aversion behaviour’ and actions that people are taking to avoid catching the virus (Evans and Mead, 2020). Severe distancing measures and the establishment of country-wide lockdowns including the closure of factories and businesses and halting of non-essential movement is affecting LMICs. The majority of the population in LMICs fall within rural or daily wage earner categories, with COVID-19 restrictions causing a complete breakdown of their livelihoods. According to news reports, at least 90% of India’s workforce is employed in the informal sector, working in roles like security guards, cleaners, rikshaw pullers, street vendors, garbage collectors, and domestic help (Singh, 2020). Most do not have access to pensions, sick leave, insurance or even bank accounts, relying on daily wages and cash to meet their needs (Singh, 2020)

Long-term economic downturn: At present, most of the available data on long-term economic impacts stem from production and export stoppages from China (Evans and Mead, 2020). These projections include an OECD report (OECD, 2020) that forecasts a halving of the global economy and Bloomberg hypothesising lost output of US\$ 2.3 trillion (Evans and Mead, 2020). According to the World Bank, 24 million fewer people will escape poverty across East Asia and the Pacific in 2020. The Economic Commission for Africa estimates that ‘Africa may lose half its GDP’ (UN Africa Renewal, 2020), with food and drug shortages, slowdown in investments and record levels of unemployment (Sullivan and Chalkidou, 2020).

Food security: Even before COVID-19 hit, 113 million people on the planet were already struggling with severe acute food insecurity due to pre-existing shocks or crises (Burgeon, 2020). The Global Alliance for Improved Nutrition noted that malnourished individuals with compromised immunity are more at risk and susceptible to the spread of the virus (Tiensin *et al.*, 2020). The market shutdown in Liberia in 2014 meant that people did not know where to get their food from. As supplies decreased, demand and consequently the price for food increased. Agricultural activities including communal food sharing came to a standstill due to quarantine measures. With the shift of focus to Ebola response, nutrition-related activities came to a halt as well, leaving children and other vulnerable populations consuming fewer

meals in a day. Refugee populations and prison inmates were also left vulnerable to starvation in the absence of adequate food supplies.

Gendered impact: Gender inequality comes into even starker focus in the context of health emergencies. Key issues include:

1. **Increased risk of gender-based violence:** China, the US, the UK, Brazil, Tunisia, France, Australia, and India are among many countries that have reported cases of increased domestic violence and intimate partner violence since the outbreak of COVID-19 (Kumar *et al.*, 2020). This information unfortunately aligns with existing research on past pandemics and disease outbreaks. Such an increase can be attributed primarily to an increase in poverty-related stress, poor coping strategies and unemployment, and living in close proximity under conditions of duress for extended periods of time – especially in humanitarian assistance zones and urban slum areas (O'Donnell *et al.*, 2020). Between early March and the beginning of April, the National Commission of Women in India received 310 reports of domestic violence and 885 complaints of other forms of violence such as dowry harassment, dowry-related-death, and bigamy. These reported numbers may only be a sample of the actual rise in domestic violence, predominantly because women locked in with their abusers may not have access to telephones, the internet, the post, or even to the local police station to register their complaint or ask for help (Kumar *et al.*, 2020).
2. **Burden on female health workers:** In a study of 104 countries, women were seen to form 67% of the health workforce. As the pandemic spreads, the toll on these women health workers will likely be significant. The loss of these health workers would indirectly lead to higher maternal, neonatal, and infant mortality rates for years to come (Evans, 2020).
3. **Increase in adolescent pregnancies and reproductive health risks:** In response to lockdown regulations to mitigate COVID-19 transmission, service providers are being forced to suspend some sexual and reproductive services that are not classified as essential such as abortion care, thereby denying people a time-sensitive and potentially life-saving service (Riley *et al.*, 2020). Studies revealed that the Ebola outbreak resulted in sharp declines in contraceptive use and family planning visits in Guinea, Liberia, and Sierra Leone (Riley *et al.*, 2020). Sierra Leone saw an increase in adolescent pregnancies due to the closure of schools following the outbreak (Evans, 2020). Disruption in regular health services, particularly in relation to reproductive health, left these girls more vulnerable to health complications. Most adolescent mothers and girls who had started earning an income through transactional sex did not return to school even after the pandemic (Evans, 2020). Data on coverage of essential sexual and reproductive health services during the COVID-19 outbreak in LMICs estimates a 10% proportional decline in use of short- and long-acting reversible contraceptive methods in LMICs due to reduced access. This is predicted to result in an additional 49 million women with an unmet need for modern contraceptives and an additional 15 million unintended pregnancies over the course of the year. Even a modest decline of 10% coverage of pregnancy-related and newborn healthcare would leave an additional 1.7 million women who give birth and 2.6 million newborns experiencing major complications. There would be 28,000 maternal deaths and over 160,000 infant deaths (Riley *et al.*, 2020).

Social, emotional, and mental trauma: Lockdowns and isolation will have a deep and long-lasting consequence on the social fabric of society, particularly for older people, the vulnerable, and certain ethnic groups (Rohwerer, 2020). Social abandonment, disconnection from familial support and care, as well as the inability to access existing healthcare needs, are leaving people and patients locked away from support (Evans and Mead, 2020). This is not only affecting patients in need of immunisation services, reproductive care, cancer treatments, and other illnesses, but also increasing morbidity from mental illnesses as well. Most prominent among these is stigma rising against particular ethnic groups, identified COVID-19 patients, and even toward healthcare workers (Evans, 2020).

2.4 Intersectoral dependencies

WASH: Provision of safe water, sanitation, and hygienic conditions plays an essential role in protecting health during all infectious disease outbreaks by reducing the risk of transmission. WASH measures have to be followed not only in healthcare settings where there is constant interaction with patients but also in the home environment. The following actions are particularly important to ensure a clean environment at all times (UNICEF, 2020):

1. Functional hand hygiene practices, which would mean washing hands at regular intervals particularly after interacting with a patient, after visiting public spaces, touching soiled objects, and before eating;
2. Well-planned sanitation and plumbing such as sealed bathroom drains and standardised waste-water treatment;
3. Regular cleaning of surfaces with disinfectants; and
4. Safe management of healthcare waste.

Mass media behavioural campaigns tailored to induce effective WASH practices can impact behavioural change in the short and long term. The World Bank is partnering with government ministries in DRC and Sri Lanka to support public awareness campaigns to promote the importance of hygiene (World Bank, 2020). Similarly, the WHO has announced a global campaign titled 'Clean Care is in Your Hands' promoting clean hands among nurses and midwives (WHO, 2020a).

Financial services and social protection: Many people in developing countries have little or no financial reserves to fall back on as they remain locked out of employment opportunities as part of government safety measures to mitigate transmission. As of April 17, 2020, 133 countries had introduced or adapted social protection and employment programmes in response to COVID-19. These include social assistance, social insurance, and labour market interventions (Gentilini *et al.*, 2020). Conditional and unconditional cash transfers have always found success in improving development outcomes around the world. In crisis situations, cash transfers and other such benefits provide a rapid and cost-effective way to ensure basic needs like food, shelter, and paid healthcare when the economy is unstable and employment unavailable (see Section 2.05 for examples of cash transfer programmes as a response to Ebola). Hong Kong and Singapore are already rolling out one-time universal transfers, while other countries like Brazil, China, and Indonesia are planning additional payments as part of existing social assistance programmes. The US and India have announced plans to send cheques to individuals (Datta *et al.*, 2020). However, delivering these programmes to those without bank accounts and reaching the most

vulnerable populations, particularly where digital payments are unheard of, would require governments to work consistently to implement them (Gelb and Mukherjee, 2020).

3 Recovery of health systems after a pandemic

Recovery relates to ensuring how countries, and different sectors (including the community and connected systems), recover and address the impacts of a shock. Steps to recover from COVID-19 will have to be tailored to the requirements of LMICs and to their individual contexts to enable a successful ‘build back better’ policy. This will include:

1. **Designing an exit strategy:** Once the harms of COVID-19 suppression policies begin to outweigh their benefits, there must be a swift switch from lockdowns and curfews to more practical measures tailored to the realities facing many LMICs (Clarke *et al.*, 2020).
2. **Minimising risk of resurgence:** Studies have proven that even after the spread of a pandemic has been stopped, the virus may remain latent in the region. Therefore, recovery programmes must integrate systems and processes to ensure an improved disease surveillance network. For this to happen, effective communication and information management, along with decentralised health delivery systems, are critical (UNDP, 2015).
3. **Restoring and strengthening capacity:** This is key for decentralised district health systems focusing on primary healthcare and for the community healthcare system. Governments – while increasing the number and efficiency of qualified health personnel, including community workers and midwives – must permit early transition into more effective equitable, transparent, and accountable governance of health systems (UNDP, 2015).
4. **Building on existing assets:** Reports from the Centre for Human Leadership state that rather than creating parallel health systems, COVID-19 presents an opportunity for humanitarian organisations to strengthen national health systems (Konyndyk and Saez, 2020). At times, however, parallel systems are unavoidable and lead to the creation of multiple assets, including trained and semi-trained health personnel and volunteers, surveillance systems, medical and laboratory equipment, supplies, and facilities. These assets should be rapidly integrated into the regular health system, particularly at the community level (UNDP, 2015).
5. **Building confidence in health services:** After an outbreak of chaos and distrust it will be imperative to rebuild trust in government healthcare among vulnerable populations. This requires building and maintaining partnerships with non-governmental organisations and community-based organisations who function as an effective interface between health systems and communities, particularly in hard-to-reach areas (UNDP, 2015). Recovery will be dependent on the interpersonal trust between the patient and provider, the institutional trust between communities and the health system or government, as well as the trust of health workers in the local health leadership and government (Palagyi *et al.*, 2019). Ebola response studies conducted by Christensen *et al.* in Sierra Leone proved that social accountability interventions such as community monitoring of public health services and service providers and provision of non-financial incentives to service providers can improve health systems and health outcomes by increasing the perceived quality of care and by building trust and confidence in health providers (Christensen *et al.*, 2020). Individuals in the treatment area of the study reported Ebola infection more (and tested both positive and negative) and, of the positive Ebola-reported cases, fewer

patients died in the treatment area. They also expressed greater confidence in and satisfaction with western medicine (Christensen *et al.*, 2020).

6. **Restoring community resilience:** Community resilience could be rebuilt and strengthened through inclusive dialogue, efforts to enhance accountability, and equitable and harmonised service delivery by local actors who are better places to engage with communities. The community must be a key player in the formulation and implementation of the recovery strategy and seen as part of the solution, not the problem (Konyndyk and Saez, 2020).

The three West African countries that recovered from Ebola were aided by international funding to improve research on emerging viral diseases, evaluate vaccines, and develop new tests and treatments (Green, 2016). Their national strategies focused on rebuilding and strengthening their health systems. The Liberian government saw how despite an investment of US\$ 0.5 billion in the health sector in the 10 years leading up to the crisis, it was not able to respond effectively and meet the needs of the population. The country's recovery plan aimed at improving the health workforce, providing better infrastructure and a strengthened surveillance and response system within a broader package of socio-economic reforms (Green, 2016).

In the longer term, as countries emerge out of the strain that COVID-19 has placed on health systems and the economy, pathways for them to transition away from aid will become longer. Studies suggest that spending on social sectors, including health, will fall in favour of infrastructure development and other non-social sectors. This would be further exacerbated by the incoming economic crisis (Clarke *et al.*, 2020).

4 Reform measures for health system resilience after recovering from a health shock

Reform – as opposed to recovery, which concentrates on minimising indirect loss of life and maximising return to normal in the aftermath of a health shock – relates to ensuring the ability of a country and its health systems to withstand future crises. A shock is an opportunity to build health system resilience in the future and learnings from a crisis can accordingly be used to strengthen the entire system.

However, there remains limited evidence on what it takes to ‘never let a crisis go to waste’ (Zattler, 2020) and, in particular, what will be needed to leverage COVID-19 as a platform to make long-lasting reforms.

Following the Ebola crisis in West Africa, international efforts by governments, multilateral organisations, and financial donors supported the alignment of global health security and health systems strengthening. The Ebola outbreak was thus an enabling event that generated opportunities for actors in the health sector to propose solutions for national health system reforms. Research shows that leadership, financing, and capacity were necessary pre-requisites for windows of opportunity to be taken advantage of (Witter *et al.*, 2016).

In terms of future preparedness, the global literature emphasises the significance of ‘slow variables’ and ‘intangible software’ such as the role played by the public and private sectors and the importance of trust and governance in building ‘planned’, ‘adaptive’ and ‘everyday’ resilience (Kruk *et al.*, 2017). This is, of course, in addition to the ‘input’ building blocks of a strong and shock-responsive health system – i.e. the workforce, supplies, commodities, information systems, and finance.

The points below provide a roadmap of reform measures suggested at global platforms, policies adapted by countries following a health shock, and recommendations for a transformation after COVID-19. The recommendations are categorised broadly into measures that can be undertaken to prevent a health disaster and those that can be developed to ensure an efficient response if a disease were to break out.

Preventing major disease outbreaks:

1. **Health systems strengthening:** In their work on rebuilding health systems, Witter *et al.* suggest that conflict-ridden and fragile contexts are the ‘new normal’ (Matineau *et al.*, 2017). Health systems strengthening and health system preparation for a health shock includes ensuring a strong, committed, well-distributed, and skilled workforce, as well as sufficient supplies, logistics, and infrastructure with emergency stocks and procurement plans (Kruk *et al.*, 2017). Governments need to invest in building such core capacities and mobilising adequate support to supplement their efforts in LMICs, in addition to agreeing to tracking and monitoring the results of their investment (Moon *et al.*, 2015). Multiple international funding bodies and governments contributed billions of dollars to build core capacity and train the health workforce for emergency preparedness following the Ebola crisis in West Africa (Moon *et al.*, 2015). People-centred integrated health

services focused on redesigning the healthcare delivery system based on family- and community-oriented primary care, better coordination with non-state actors, implementing e-health solutions, addressing the stigma of discrimination, and engaging and empowering communities to participate (WHO, n.d.). These included institutional health partnerships built on the approach taken by the WHO African Partnerships for Patient Safety Programmes to develop hospital and technical agency twinning partnerships in support of early recovery efforts that fully aligned with national recovery priorities (WHO, n.d.).

2. **Governance:** Governance is a 'software' building block of health system resilience that refers to the 'making, changing, monitoring, and enforcing of the rules that govern the demand and supply of health services' (Palagyi *et al.*, 2019, p. 1859). Good governance could be identified as the capacity of governments to maintain close, long-term engagements and partnerships with non-state actors and civil society actors, thereby increasing the ability to rapidly mobilise additional resources and decentralise response activities and management in the event of a health shock while maintaining essential healthcare (Palagyi *et al.*, 2019).
3. **One health approach:** One health or the planetary approach engages biological aspects beyond human health including the well-being of animals, the ecology, and natural systems on which we depend. Of all human diseases, 60% originate in animals (WHO, 2018). Community-led responses are central to addressing 'zoonoses' and potential zoonotic threats – diseases of animals that can jump to humans through cross-species transmission or indirectly impact communities through issues such as malnutrition or loss of livelihood, such as is the case with the COVID-19 virus (Clarke and Le Masson, 2017).

Responding to major disease outbreaks:

4. **Information and knowledge sharing:** Information systems need investment in surveillance infrastructure and early warning systems, the integration of other sector data with health management information systems, and the cultivation of informal and local data sources that can overcome the inherent delays in producing formal data, including reports from frontline providers who can be the first to observe emerging shocks. Investing in stronger health systems, research infrastructure, and knowledge- and data-sharing platforms must form part of responsible reform measures in the face of future threats. In early 2015, the WHO established a task force on the restoration of safe essential health services including knowledge generation and dissemination (the recovery tool-kit), technical support and facilitation during the early recovery phase, and strengthening the coordination among the different technical actors involved in the recovery effort. The WHO and the World Bank have been supporting Guinea, Liberia, and Sierra Leone among other countries by providing technical support for establishing disease control and research organisations, preparing country profiles for participation in the West Africa Regional Diseases Surveillance Systems Enhancement Project, developing national surveillance strategies, and establishing national public health institutions (WHO, n.d.).
5. **Universal healthcare (UHC):** When SARS revealed the weaknesses underlying China's public health system, the country introduced comprehensive and affordable health insurance through the establishment of the New Cooperative Medical Scheme as part of

the broader public health reforms post-SARS (Zhu, 2012). As part of Ebola reform measures, the national health financing policies of the affected West African countries were refocused to effectively contribute to the revitalisation of district health systems while following the guiding principles of revenue collection from prepaid sources such as the budget, pooling of benefits across all population groups, performance- or results-based financing, and setting up of UHC to include the informal sector and poor population groups (WHO, n.d.). COVID-19 has placed a spotlight on how gaps in health insurance threaten global health security and leave patients vulnerable to the disease. For example, Kenya's private insurers responded to the WHO pandemic declaration by announcing that they would not be picking up any bills for COVID-19-related services. Such gaps in coverage lead to missed cases and wider community transmissions undermining all efforts at disease containment (Chalkidou *et al.*, 2020). This presents substantial opportunities for policymakers to revisit health financing plans for achieving UHC and consequently bolstering preparedness for future threats.

5 Recommendations for Maintains

The appropriate role for Maintains during the pandemic response will depend on the context, including the specific needs of the country for additional support and the expertise available to be deployed given travel restrictions and the profiles of the Maintains teams. Given emergent gaps identified in responses, a particular focus on what it takes to maintain basic service delivery may be worthwhile, depending on how different countries are approaching this, as well as providing assistance on ensuring a cross-sectoral approach, particularly addressing concerns of trust building and gender. Rapid sharing of best practices between countries may also be of value. Other potential areas of priority – such as supporting public financial management interventions to create fiscal space for health during the response and recovery phases or on the governance of the response – are covered in the literature reviews.

Given the clear finding that there tends to be a disconnect between the response and recovery phases of a pandemic, which can lead to severe adverse secondary effects, there is likely to be high value in Maintains starting to focus on issues involved with the recovery now so as to bridge gaps in planning. This should build upon the principles set out in Section 3. Some areas of priority may include:

- Supporting the development of exit strategies from the response phase and strategies for dealing with the secondary effects of missed routine service delivery (e.g. how to catch up on missed vaccinations). This could involve supporting countries to contextualise WHO guidelines or focus on specific priority services such as Sexual, Reproductive, Maternal, Neo-natal, Child and Adolescent care (SRMNCH + A).
- Continuing to provide support on cross-sectoral planning to ensure that interdependencies with other sectors (such as nutrition or WASH) are taken into consideration in the design of recovery strategies, along with ensuring that gender concerns are mainstreamed appropriately.
- Undertaking rapid research and providing advisory support on what it takes to build and maintain trust in the health system and between system actors, along with what it takes to promote community resilience, given the criticality of these issues in ensuring successful recovery.

Depending on the appetite of stakeholders, it will be worth investing some time and energy into identifying longer-term reform opportunities and ways to take advantage of them. Governance and finance are two areas of potential priority.

More generally, Maintains could play an important role in knowledge sharing and developing a stronger evidence base. There is limited global knowledge on how to respond to global pandemics like COVID-19, how to recover in a way that minimises secondary effects and pandemic resurgence, and how to leverage the pandemic to strengthen future preparedness. Research and documentation of response and recovery efforts, rapid evaluations of comparative approaches, identification of lessons and best practices may all contribute to improved preparedness for future shocks and to more resilient health systems.

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