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Protecting essential health services in low-income and middle-income countries and humanitarian settings while responding to the COVID-19 pandemic

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ABSTRACT

In health outcomes terms, the poorest countries stand to lose the most from these disruptions. In this paper, we make the case for a rational approach to public sector health spending and decision making during and in the early recovery phase of the COVID-19 pandemic. Based on ethics and equity principles, it is crucial to ensure that patients not infected by COVID-19 continue to get access to healthcare and that the services they need continue to be resourced. We present a list of 120 essential non-COVID-19 health interventions that were adapted from the model health benefit packages developed by the Disease Control Priorities project.

Summary box

- COVID-19 creates unprecedented disruptions in delivery of routine healthcare.
- It is crucial to ensure continued access to essential non-COVID-19 healthcare.
- A concrete list of 120 essential non-COVID-19 health interventions has been developed based on the Disease Control Priorities-3 highest priority package (HPP).
- Adjustments of HPP was made based on level of urgency of interventions and contextual factors.
- The adjusted HPP could be used by governments and donors as input for discussions about disinvestments and continued investments during the COVID-19 pandemic.

INTRODUCTION

Evidence is accumulating that the COVID-19 pandemic is creating unprecedented disruptions in the delivery of routine health services in many countries of the world. Compounding this problem, economic fallout generated by lockdown policies is putting pressure on Ministries of Health to cut public spending or divert resources to the COVID-19 response and thus compromising other essential and even life-saving non-COVID-19 services. In health outcomes terms, the poorest countries stand to lose the most from these disruptions.[1 2] In this paper, we make the case for a rational approach to public sector health spending and decision making during and in the early recovery phase of the COVID-19 pandemic. Based on ethics and equity principles, it is crucial to ensure that patients non infected by COVID-19 continue to get access to healthcare and that the services they need continue to be resourced. We present a list of 120 essential non-COVID-19 health interventions that were adapted from the model health benefit packages developed by the Disease Control Priorities (DCP) project.[3] These 120 interventions underwent careful scrutiny and were selected in part based on the probable magnitude of the harms that would occur from interruptions or disinvestments. We argue that the selected interventions are the most essential to deliver and protect, even if substantial resources need to be diverted to the COVID-19 response. Even if it has previously been shown that continued scale-up of all of these interventions are important for countries to achieve the health Sustainable Development Goals (SDG) targets, especially

SDG target 3.8, our scope is more modest. Here, focusing on routine healthcare services, we provide concrete guidance on which interventions policy-makers and donors need to protect from disinvestments. Our model list of interventions can serve as normative guidance to governments and humanitarian agencies working to define national and local guidance for protecting essential routine services in low-income and middle-income countries and humanitarian settings.

THE NEED TO PROTECT ESSENTIAL HEALTH SERVICES

Governments in low-income and middle-income countries and relief agencies need to make clear decisions to not only mitigate the impact of the COVID-19 pandemic but also deliver essential routine services to their populations. This is a clear message from WHO in their operational guidance for maintaining essential health services during an outbreak.[4] While each country will need to define essential services according to their epidemiological profile, health system capacity and available resources, we believe that guidance on the type of essential services required by low-income and lower-middle-income countries is a valuable contribution to inform urgent decision making during health crises.

Since March 2020, routine immunisation services have been disrupted on a global scale putting millions of children at risk of diseases like diphtheria, measles and polio. According to data collected by the WHO, UNICEF, Gavi and the Sabin Institute is likely to affect around 80 million children under 1 year worldwide. Some countries have reported the emergence of new outbreaks of cholera, measles and Ebola, health personnel being absent from facilities because of quarantine, lack of personal protective equipment or fear, and that patients are not seeking care because of perceived risk of infectious spread and the consequences of lockdown (eg, travel restrictions, closure of markets, decrease in income).[5] An important concern is that decline in supply and demand for non-COVID-19 essential routine health services may exacerbate the general health situation and lead to excess mortality beyond what is directly attributed to the pandemic. Studies indicated that excess mortality superseded Ebola deaths during the 2014–2015 outbreak in West-Africa.[6 7]

The selected 120 essential health interventions that should be unconditionally protected and delivered despite the disruptions caused by COVID-19 were extracted from the highest priority package (HPP) for universal health coverage (UHC) developed by the DCP project. The HPP list of interventions was used as a starting point for discussions and adaptation together with national policy-makers in Afghanistan,[8] Ethiopia, Pakistan and Zanzibar. All invited policy-makers in each of these countries had past experience with translating the evidence from the original list of HPP interventions into national health benefit packages, providing an important source of information from diverse contexts. Given substantial resource scarcity, we present a modified highest priority model list of essential services that are urgent for patients and provide the greatest health impact given resource scarcity. Subject to local disease burden and circumstances, access to these services should be protected for all residents irrespective of income, refugee or migrant status, gender and place of residence.

In countries where the response to the COVID-19 pandemic leads to substantial limitations of resources, the scarcity of health services will affect healthcare seeking behaviour and all patients' health, including those with life-threatening conditions requiring prompt medical attention. Fair allocation of resources that prioritises the value of maximising benefits applies across all patients who need healthcare. There should be no difference in allocating scarce resources between patients with COVID-19 and those with other equally serious medical conditions.

OBJECTIVES OF THE PRIORITISATION PROCESS

Service providers and decision-makers are now amidst processes aiming to identify which essential services to protect, identify areas where resources can be reallocated to the COVID-19 response, mitigate the effect of the COVID-19 pandemic on the effectiveness of routine services, and restore trust of the public vis-à-vis health services.

Beyond the specific response to the COVID-19 pandemic, decisions need to be made about allocation of the limited resources between continuation of routine services, adjustment of routine services and postponement of non-essential services. Decisions will also need to be made on shifting the platform of delivery of some interventions based on health system capacity (eg, shifting some interventions from community to health centre considering the level of workload of community health workers in contract tracing).

CRITERIA AND PROCESS FOR SELECTING INTERVENTIONS

These further prioritisation decisions need to be made based on evidence and transparent selection criteria on fair priority setting widely accepted by policy-makers, practitioners and academics, such as impact on mortality and morbidity, urgency (ie, impact on patient health of delaying services), cost-effectiveness, protection of politically sensitive interventions, financial risk protection and public acceptability. The members of the global and country DCP teams, coauthors of this paper were consulted through group meetings and online tools to comment on the essential list of health services.

Standard principles for selection are based on humanitarian and UHC principles[9–11]:

- Treating people equally (non-discrimination).
- Maximising the benefits produced by scarce resources (saving the most individual lives or saving the most life-years by giving priority to patients likely to survive longest after treatment).

- Giving priority to the worst off (in terms of poverty or in terms of health: the sickest or those who will have lived the shortest lives if they die untreated).

These principles can be combined with other goals and principles relevant for governments and agencies (eg, the humanitarian principles of humanity, impartiality and neutrality).

Our recommendations first emerged from the 115 HPP interventions proposed by DCP3 in 2018.[12] Originally, interventions in HPP were identified after wide consultations considering evidence on burden of disease, implementation feasibility, and value for money.[3] Value for money includes considerations of cost-effectiveness, priority to the worst off and financial risk protection. We modified the original HPP and added three considerations of particular relevance under the present circumstances:

1. Context-specific relevance (revisions made by national policy makers in Afghanistan, Ethiopia, Pakistan and Zanzibar).
2. Urgency (for patient) (high-impact interventions for which delays would substantially increase mortality and morbidity).
3. Non-urgency (important services where delayed provision (3–6 months) would not affect the health impact).

The original HPP list was informed by wide consultations and actual data and analysis. However, this revised list was informed by extensive deliberations on how contextual factors and urgency (1–3 above) could justify inclusion or exclusion, or revision of delivery platform, of each HPP intervention. Country DCP teams from Afghanistan, Ethiopia, Pakistan and Zanzibar were included in this COVID-19 revision of the HPP because all of these countries have experience with using the DCP3 framework and the HPP in detailed revisions of national essential healthcare packages. Even though they represent diverse settings, all low-income and middle-income settings are not represented here. Implementation of the revised HPP list therefore needs to be adapted to context and resources available.

SCOPE OF THE PRIORITY LIST OF ESSENTIAL SERVICES

The priority list of 120 essential services is mainly designed for low-income and middle-income countries and humanitarian settings. For countries not hard hit by COVID-19, the full range of HPP health services is still relevant, even if not fully implemented in every country for reasons of resource constraints.

Table 1 provides the proposed list of essential services within each programme area. Only a few interventions from the original HPP list were not included in the current revised list. The five interventions that should be postponed during the time of COVID-19 are: (1) Mass media messages concerning healthy eating or physical activity; (2) Management of osteomyelitis, including surgical debridement for refractory cases; (3) Cataract extraction and insertion of intraocular lens; (4) Elective surgical repair of common orthopaedic injuries (eg, meniscal and ligamentous tears) in individuals with severe functional limitation and (5) Repair of cleft lip and cleft palate.

We have conducted a minor revision of the original HPP because most of the HPP interventions have high levels of urgency. An immediate interruption of these services, due to COVID-19 disinvestments, may have serious negative impact on individual patients and population health. Immediate interruption of any of the, for example, emergency care interventions, obstetric or neonatal interventions, surgery interventions or mental healthcare interventions will most likely worsen the prognosis for all patients currently receiving this type of care (or patients that would receive this type of care if there were no COVID-19 pandemic). Therefore, and since all the original HPP interventions are best buys to begin with, it is hard to justify a substantial reduction in number of interventions to protect from disinvestments.

In order to protect patients and community health workers, and considering the additional workload of community health workers busy in COVID-19 contact tracing and surveillance, several HPP interventions were shifted from community to health centre level: Postgender-based violence care, including counselling, provision of emergency contraception, and rape-response referral (medical and judicial); iron and folic acid supplementation to pregnant women and adolescent girls; provision of food or caloric supplementation to pregnant women in food insecure households; identify and refer patients with high risk, including pregnant women, young children and those with underlying medical conditions. COVID-19 presents an opportunity to introduce digital tools in delivery of healthcare. Tools like telemedicine, mobile consultations or digital consultations may serve as useful supplements to existing delivery platforms, as documented on the COVID-19 humanitarian platform.[13] Digital or mobile consultations still need to be anchored within existing delivery platforms at the community, health centre or hospital level.

Coverage of the remaining essential services should be, at least, unchanged during the COVID-19 pandemic and still provided to patients irrespective of income, refugee or migrant status, gender and place of residence. These services must still be subsidised by domestic and external funding as much as possible. The promotive, preventive, curative and rehabilitative interventions included in the priority package are considered the minimum that people can expect to receive through the various healthcare delivery mechanisms and facilities available at various levels of the health system (community, health centre and hospital levels (first level and referral hospitals)). Countries where these interventions are either not available or have low coverage should strive to deliver them, and in countries where they are already implemented, they should be maintained and protected during times of pandemics. The public should be informed, through public media campaigns, that these services will

Table 1 Programme areas and examples of essential routine services per delivery platform to be unconditionally protected during the COVID-19 pandemic

Programme	Interventions	Delivery platform*
Sexual and reproductive health		
	Provision of condoms and hormonal contraceptives	Health centre
	Modern contraceptives **of client choice, long lasting**	First-level hospital
	Medical abortion	Health centre
	Surgical abortion	First-level hospital
	Postgender-based violence care, including counselling, provision of emergency contraception, and rape-response referral (medical and judicial)	Health centre
Maternal and newborn health		
	Antenatal care	Health centre
	Early detection and management of syphilis, hypertension, pre-eclampsia, diabetes and other pregnancy complications	Health centre
	Detection and treatment of bacteriuria	Health centre
	Tetanus immunisation	Health centre
	Basic emergency obstetric care	Health centre
	Assisted vaginal delivery (including vacuum extraction)	Health centre
	Administering antibiotics, uterotonic drugs oxytocin and anticonvulsants (magnesium sulphate)	Health centre
	Manual removal of the placenta	Health centre
	Removal of retained products following miscarriage or abortion	Health centre
	Comprehensive emergency obstetric care	First-level hospital
	Surgery (eg, caesarean sections, hysterectomy)	First-level hospital
	Safe blood transfusion	First-level hospital
	Forceps extraction, if properly trained	First-level hospital
	Antenatal corticosteroid for preterm labour, including early detection and referral at health centres	First-level hospital
	Induction of labour (beyond 41 weeks)	First-level hospital
	Management of pregnancy induced hypertension, including pre-eclampsia/eclampsia	First-level hospital
	Ectopic pregnancy case management	First-level hospital
	Management of maternal sepsis	First-level hospital
	Basic neonatal care	Health centre
	Basic neonatal resuscitation care (with bag and mask)	Health centre
	Thermal protection for all babies, especially preterms	Health centre
	Hygienic cord care	Health centre
	Kangaroo mother care and additonal feeding support (eg, with nasogastric tube/cup feeding) for small preterm babies	Health centre
	Comprehensive neonatal care	First-level hospital
	Management of newborn complications, neonatal meningitis and other very serious infections	First-level hospital
	Neonatal acute respiratory infection detection and treatment (intravenous antibiotics, oxygen therapy and respiratory support)	First-level hospital
	Newborn sepsis-injectable antibiotics	First-level hospital
	Management of jaundice	First-level hospital
Child health		

Continued

Table 1 Continued

Programme	Interventions	Delivery platform*
	Routine childhood vaccines (diptheria, pertussis, tetanus, polio, Bacillus Calmette-guerin (BCG), measles, hepatitis B, Hib, rubella)	Community
	Pneumococcus vaccination	Community
	Rotavirus vaccination	Community
	Tetanus toxoid immunisation among schoolchildren	Community
	Integrated community case management of childhood illness	Community
	Integrated management of childhood illness	Health centre
	Full supportive care for severe childhood infections	First-level hospital
HIV and sexually transmitted infections (STIs)		
	Community-based HIV education and testing services	Community
	Provision of condoms to at risk populations	Community
	Cotrimoxazole prophylaxis	Community
	HIV treatment	Health centre
	Provider HIV, STI, Hepatitits testing and linkage to care	Health centre
	Prevention of mother to child HIV transmission (option B+) and syphilis	Health centre
	Antiretrovirals for tuberculosis (TB)/HIV co-infection	Health centre
	Syndromic management of sexually transmitted infections	Health centre
Malaria		
	Indoor residual spraying in high endemic settings	Community
	Insecticide-treated bednets for pregnant women and children	Community
	Malaria treatment with artemisinin-based combination therapy preceded by rapid diagnostic tests if feasible	Community
	Malaria chemoprophylaxis in high endemic season (p. falciparum dominant)	Community
	Intermittent malaria prevention in infancy	Community
	Intermittent malaria prevention during pregnancy	Community
	Comprehensive management of severe malaria	First-level hospital
TB		
	Active case finding followed by treatment when needed in HIV +individuals and other high-risk groups	Population based
	TB, contact tracing	Community
	TB diagnosis and treatment (including extrapulmonary)	Health centre
	Referral of cases of treatment failure for drug susceptibility testing; enrollment of those with multidrug resistant TB for treatment per WHO guidelines (either short or long regimen)	First-level hospital
Neglected tropical diseases		
	Sustained vector management for chagas disease, visceral leishmaniasis, dengue, and other nationally important causes of nonmalarial fever	Population based
	Mass drug administration for lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiases and trachoma, and foodborne trematode infections	Community
	Early detection and treatment of Chagas disease, human African trypanosomiasis, leprosy, and leishmaniases	First-level hospital
Infections in general		

Continued

Table 1 Continued

Programme	Interventions	Delivery platform*
	Pharyngitis treatment	Health centre
	Fever evaluation and basic management, clinically stable, WHO Integrated Management of Adolescent and Adult Illness/Integrated Management of Childhood Illness (IMAI) guidelines, with referral of unstable individuals	Health centre
	Fever evaluation and comprehensive management, clinically unstable, WHO IMAI guidelines	First-level hospital
	Refractory febrile illness including etiologic diagnosis	Referral hospital
Cancer		
	Human Papilloma virus vaccine	Community
	Early detection of cancer symptoms	Health centre
	Early detection and treatment of early-stage cervical cancer	Referral hospital
	Treatment of early stage breast cancer, multimodal approaches (including generic chemotherapy), curative intent	Referral hospital
	Treatment of early-stage colorectal cancer, multimodal approaches (including generic chemotherapy), curative intent	Referral hospital
	Treatment of early-stage childhood cancers (Burkitt and Hodgkin lymphoma, acute lymphoblastic leukaemia, retinoblastoma, Wilms tumour), curative intent	Referral hospital
Cardiovascular and related disorders (metabolic disorders, kidney failure, etc)		
	Cardiovascular disease (CVD), primary prevention with absolute risk approach (antihypertensives, statins)	Health centre
	CVD, secondary prevention (aspirin, beta blockers, ACE inhibitors, statins)	Health centre
	Secondary prophylaxis for rheumatic fever or established rheumatic heart disease, penicillin	Health centre
	Active case finding and management of diabetes (glycaemic control, antihypertensives, statins, and consistent foot care)	Health centre
	Management of heart failure (diuretics, beta-blockers, ACE inhibitors, and mineralocorticoid antagonists)	Health centre
	Management of acute heart failure	First-level hospital
	Aspirin for all cases of suspected acute myocardial infarction	First-level/referral hospital
Mental health disorders		
	Active case finding of psychosis, depression, anxiety, bipolar disorder and post-traumatic stress disorder (PTSD)	Health centre
	Management of depression and anxiety	Health centre
	Management of PTSD	Health centre
	Management of bipolar disorder	Health centre
	Management of psychosis (schizophrenia)	Health centre
	Management for attention deficit hyperactivity disorder	Health centre
	Basic psychosocial follow-up for suicide and self harm	Health centre
Substance use disorders		
	Opioid agonist treatment and safe needles	Health centre
Neurological disorders		
	Epilepsy treatment	Health centre
Musculoskeletal disorders		
	Combination therapy for moderate to severe rheumatoid arthritis, low-dose corticosteroids, folic acid supplementation, disease-modifying anti-rheumatic drugs (including methotrexate)	First-level hospital
Surgery		

Continued

Table 1 Continued

Programme	Interventions	Delivery platform*
	Drainage of abscess	Health centre
	Drainage of dental abscess	Health centre
	Management of bowel obstruction	First-level hospital
	Appendectomy	First-level hospital
	Colostomy	First-level hospital
	Hernia repair	First-level hospital
	Management of osteomyelitis	First-level hospital
	Repair of peptic ulcer perforations	First-level hospital
	Urinary catheterisation/suprapubic cystostomy	First-level hospital
Emergency care		
	First aid	Community
	Basic life support and first aid for burns, bleeding and wounds and choking	Community
	Basic emergency care	Health centre
	Management of non-displaced fractures	Health centre
	Resuscitation with basic life support measures	Health centre
	Identify and refer patients with high risk including pregnant women, young children, and those with underlying medical conditions	Health centre
	Advanced emergency care	
	Suturing laceration	Health centre
	Traction for fractures	First-level hospital
	Irrigation and debridement of open fractures	First-level hospital
	Resuscitation with advanced life support measures	First-level hospital
	Trauma laparotomy	First-level hospital
	Trauma-related amputations	First-level hospital
	Tube thoracostomy	First-level hospital
	Management of septic arthritis	First-level hospital
	Urgent orthopaedic management of injuries	Referral hospital
Palliative care and pain control		
	Palliative care and pain control	Health centre
	Prevention/relief of refractory suffering and of acute pain	First-level hospital
Nutrition		
	Detection and referral of severe acute malnutrition	Community
	Vit. A and Zinc to children and food for women	Community
	Iron and folic acid supplementation, pregnant women, adolescent girls. Provision of food or caloric supplementation to pregnant women in food insecure households	Health centre
	Promotion of early and exclusive breastfeeding or complementary feeding	Health centre
	Treatment of severe acute malnutrition for cases presenting with or without associated medical complications (eg, Infections)	Health centre and first-level hospital
Water supply, sanitation and hygiene		

Continued

Table 1 Continued

Programme	Interventions	Delivery platform*
	WASH: establish quality WASH facilities in schools, workplaces, public spaces, and healthcare facilities	Population based
	WASH: targeted WASH subsidies to poor and vulnerable groups	Population based
	WASH: enact national standards for safe drinking water and sanitation within and outside households and institutions	Population based
	Media messages on handwashing and air pollution	Community
	WASH behavioural change interventions, such as community-led total sanitation	Community
Health education and behavioural change communication		
	Education on handwashing and safe disposal of children's stools	
Health system services		
	Laboratory services	All facilities

*The delivery platform will vary by country. We suggest here the recommended lowest delivery platform.

be offered in a safe manner, if necessary, in designated locations, free of charge and with acceptable quality.

PROCESS AND IMPLEMENTATION

We propose that governments and agencies that are in the process of defining which essential services should be protected under the COVID-19 crisis use our model list as input for further deliberation with key stakeholders, citizens, funders, local and national decision-makers. Local context may allow for a larger set of services to be provided. International organisations may also adapt the list through a broader, more representative process. We expect that the COVID-19 pandemic will affect the share of domestic resources invested in total health expenditure, considering that economic growth is the main driver for domestic resources for health. This list of priority essential interventions may also become an important source of guidance for the post-COVID-19 period.

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