




What role can health policy and systems research play in supporting responses to COVID-19 that strengthen socially just health systems?

Lucy Gilson ^{1,*†}, Bruno Marchal^{2,†}, Irene Ayepong³, Edwine Barasa⁴, Jean-Paul Dossou ⁵, Asha George⁶, Ryan Guinanan⁷, Daniel Maceira⁸, Sassy Molyneux⁹, NS Prashanth¹⁰, Helen Schneider ¹¹, Yusra Shawar¹², Jeremy R Shiffman¹², Kabir Sheikh¹³, Neil Spicer¹⁴, Sara Van Belle¹⁵ and Eleanor Whyte¹⁶

¹Section Editor Health Policy Processes, Health Policy and Systems Division, University of Cape Town, South Africa, ²Section Editor Health Systems Research, Health Policy and Planning and Institute of Tropical Medicine, Belgium, ³Ghana Health Service, Ghana, ⁴Kenya Medical Research Institute-Wellcome Trust Research Programme, Nairobi, Kenya, ⁵Centre de Recherche en Reproduction Humaine et en Démographie (CERRHUD), Benin, ⁶Health Systems Global and University of the Western Cape, South Africa, ⁷Benguet State University, The Philippines, ⁸University of Buenos Aires, Argentina, ⁹Kenya Medical Research Institute-Wellcome Trust Research Programme, Kilifi, Kenya and Oxford University, UK, ¹⁰Institute of Public Health, Bengaluru, India, ¹¹University of the Western Cape, South Africa, ¹²Section Editor Health Policy Processes, Health Policy and Planning and Johns Hopkins University, USA, ¹³Section Editor Health Systems Research, Health Policy and Planning and Alliance for Health Policy and Systems Research, Geneva, Switzerland, ¹⁴Section Editor Health Systems Research, Health Policy and Planning and London School of Hygiene and Tropical Medicine, UK, ¹⁵Institute of Tropical Medicine, Belgium and ¹⁶University of Cape Town, South Africa

*Corresponding author. Health Policy and Systems Division, Falmouth Building, Faculty of Health Sciences, University of Cape Town, Anzio Road, Observatory 7925, South Africa. E-mail: lucy.gilson@uct.ac.za

†These authors contributed equally to this study

Accepted on 21 August 2020

Introduction

To say that we live in turbulent times is a massive understatement. COVID-19 ruthlessly exposes the fault lines of health services and systems, and the responses put in place to prevent its spread or mitigate its effects may affect people more than the actual infection. The outbreak in Wuhan quickly grew to a pandemic that has affected countries and regions all over the world in many, and as of yet, little understood ways. This is a global infectious disease outbreak of a scale not seen since the Spanish Flu. For many countries, it is an extreme stress test of the health system and of society at large. All over the world, people, patients, providers, health service managers, health and other sectoral policymakers and politicians, are dealing with high levels of uncertainty and severe challenges to the resilience of their systems. The governance not only of health, at national and global levels, but also of trade, communication and globalization itself is under scrutiny. The virus exposes, yet again, the structural

determinants that lead to health inequalities (Shadmi *et al.*, 2020), including racism and colonial legacies. Many see this as a key moment of reckoning, nationally and globally: the pandemic and its responses have precipitated unprecedented economic, social and health crises that may shape the decades ahead. At the same time, the role of health systems in responding to COVID-19 and the need to (re-)invest in these systems through the state offers transformative opportunities.

In the light of this, we outline how health policy and systems research (HPSR) can both address current short-term challenges, and support the system transformations needed to strengthen people-centred and equitable health systems over the long term. The HPSR community has responded to the COVID-19 pandemic quickly, following the wave of publications on epidemiological and clinical aspects of the disease. Initial studies have included those describing the capacity of hospitals, intensive care units and first line health

services required to respond to the disease, and those reporting specific experiences at community and local levels, including the denial of care and the inequitable effects of disease control measures. Many commentaries and calls for action have been published (COVID-19 Clinical Research Coalition, 2020; English *et al.*, 2020; Shamasunder *et al.*, 2020).

Inevitably, however, due to the acute nature of the crisis, few papers have yet focused on how health systems are coping with or adapting to the pandemic, or how health policy-making and decision-making has (or has not) changed in this time of crisis. Yet, there is an urgent need to develop a structured research agenda to inform health policy and system responses to COVID-19 that can move us beyond the current crisis, and into the future. This commentary makes proposals towards such an agenda. In line with the audience of *Health Policy and Planning*, we specifically focus on low- and middle-income country (LMIC) HPSR needs, drawing on our collective experience as a group of HPS researchers based around the world. The Health System Research and Health Policy Processes section editors initiated the process and purposefully sought inputs from HPS researchers in a range of LMICs. The process was also supported by both the Alliance for Health Policy and Systems Research and Health System Global. We organized an online consultation process, whereby the first authors invited the co-authors to identify research priorities, questions and themes. In a second round, these were compiled and categorized in themes and sent out for further comment. In a final round, the issues and questions within each theme were examined and gaps and overlaps eliminated.

We consider, first, key dimensions of the overall approach of HPSR to frame the further work needed, and second, in an annex, we suggest an initial categorization and listing of possible research topics. We present these ideas to prompt wider reflection—and we conclude by proposing ways of engaging further with these ideas, acknowledging the fast-changing nature of the pandemic and the need to review research priorities regularly.

HPSR lenses and areas of focus

We start by reviewing how the defining features of HPSR, including the systems approach, multi-disciplinarity and the emphasis on policy and power may be applied to the pandemic.

One defining feature of HPSR is its systems approach. This frames COVID-19 and the responses to it in a critical-analytical perspective, zooming out from specific experiences to seek the root causes of the differential impact of the pandemic across individuals and population groups as a function of society's power structures and dominant cultures—as reflected in their social, political and economic position, and their race, gender, caste, class and more. Groups that become vulnerable due to systemic and structural inequities include those living in informal settlements in cities or in geographically isolated areas, informal workers, migrant and refugee communities, people without citizenship rights, sex workers, single-women households, LGBTIQ+ communities and indigenous peoples. The systems lens equips HPS researchers to understand how, for such groups, health system fault lines interact with the histories of discrimination and disenfranchisement that underpin other determinants of vulnerability, risks and infection. Some people have already faced worse effects from COVID-19 responses than from (the possibility of) infection itself, due to social exclusion, racism and human rights abuse. Meanwhile, privilege and social networks have largely allowed wealthy elites to avoid the negative social and

economic effects of lockdowns, deepening inequalities. Health systems have, in turn, generally been poorly equipped to respond fast enough either to the medical and psychological demands of the pandemic or to the wider public and social action needed to address multiple disadvantage and vulnerability. HPSR is well placed to contribute in understanding the layered causes and effects of the pandemic on people and systems. Identifying how health system gaps and weaknesses interact with the root causes of vulnerability to COVID-19 is a vital responsibility that HPSR needs to shoulder—not only as an obligation of itself (referring to HPSR's social justice agenda), but also as an opportunity to strengthen health systems in more just and inclusive ways than before.

The multi-disciplinary approach of HPSR will be key to this task because of the complex nature of health and its determinants, as well as of health policies and health systems. This multi-disciplinary approach supports consideration of how agents and systems interact and of the inter-connections among the systems relevant to health. These include community, workplace and government systems; health and other government sectors; local, national and global systems and markets, corporate actors and the private sector in its full heterogeneity. HPSR can assist in distinguishing COVID-19-related challenges that are simple problems, from those that are better considered as complex problems and that demand appropriate context-sensitive response strategies. It can also nurture and sustain the systemic responses to COVID-19 and its impacts that are vital for the long-term. It supports a system-based approach in anticipating the collateral effects of policies aimed at responding to the pandemic, generating ideas about how mitigate the damages and optimize the gains.

The pandemic specifically demands recognition of the interactions of human, animal and ecological systems. The spill-over of the virus from animal to human reservoirs inevitably calls for a critical exploration of how humans continue to interfere with fragile equilibria in the natural world through urbanization, deforestation and more. Beyond 'one health' research, attention should be paid to the dominant economic growth paradigm on health, development, trade, society and the natural world and the role of populist and isolationist ideologies in framing the response.

Another defining feature of HPSR is its focus on policy, policy-making and how health systems are nested in and influenced by power dynamics and political forces, histories and cultures: the 'p' in HPSR. This is another vital lens for research in the time of COVID-19. It supports inquiry into governance, decision-making and health policy responses in times of crisis, as well as how both to inform and strengthen system change. It encourages consideration of the values driving decision-making and the ethical demands of leadership. In addition, this lens underpins investigation of the political economy of the pandemic response and whether and how health systems and political action align to address the structural determinants of ill health and inequity which COVID-19 exposes. It can expose the lack of accountability towards some marginalized groups and the focus on politically important constituencies, the lack of stewardship/leadership at multiple levels and how efforts towards decentralizing and commercializing health system responsibilities lead to fragmented health systems. It could focus on new forms of sub-national and national governance arrangements and investigate how that deepens community-level and inter-sectoral action for health and societal development. The pandemic forces us to consider governance not only at national level, but also at global level: Should we redefine global health? How can we promote better global leadership to coordinate and enforce efforts across countries, including the need for consideration of global public goods and

global health ethics? Drawing on well-established bodies of knowledge and evidence from other disciplines (e.g. political science, policy studies, public administration, sociology, complexity theory, critical studies), HPSR can make major contributions to learning how better to deal with pandemics.

But HPSR must also do more than help systems absorb future shocks. It must help establish the foundations of more just, equitable and better health systems—health systems that demonstrate resilience through their capacity to be transformative as they respond to shock and stress. Crucial in this effort will be research around how health systems can be transformed for the better during or in the wake of the pandemic. This includes work around adaptive governance as well as on other fundamental system drivers—such as the health workforce, and information and financing systems.

Prioritizing research topics

Prioritizing among research topics is not straightforward. Such prioritization must, first, be informed by the views of vulnerable groups, community groups, health system decision-makers and health policymakers in the broadest sense and be situated in specific settings. Below, we discuss a few waypoints that may help in thinking about HPSR priorities in relation to COVID-19.

As Marquette (2020) has argued for social science more generally, more immediate needs for research are likely to include understanding the root causes of vulnerability to support response activities and limit their negative effects. However, she notes that even mid- to longer-term research to understand secondary effects and long-term impacts and recovery must start now, accompanied by political analysis, and this will be needed to sustain recovery and support the emergence of new and better systems. Critical to this work will be revealing opportunity, agency and resilience, even in the midst of multi-layered challenges.

For HPSR, we can also be guided by our understanding of people-centred health systems. This points, e.g. to the importance of understanding community-level COVID-19 experiences, including the experience of marginalized groups, and considering how system software (including power, trust and values) interacts with other system changes to influence the impacts of COVID-19; examining how health systems and COVID-19 responses may exclude people on the basis of their gender, race, income and other characteristics, and how histories of colonialism and racism underpin such exclusion; analysing the power and influence of ideas and framing, and the role of communication in decision-making at every level; and finally, purposefully considering the political economy influences driving COVID-19 and responses to it.

Our research must offer new ideas for future health systems—building evidence around new ways of organizing, new ways of caring, new strategies of health development.

Ways of doing and being

In responding to COVID-19 and offering new ideas for future health systems, the HPSR community must also consider how to go about doing research. Issues to be reflected upon include the distribution of power within HPSR communities, the balance between global concerns and priorities on one hand and context-sensitivity on the other hand, the challenge of researching what is essentially a fast moving target, the practical problems induced by the control measures (such as social distancing) when collecting data, and finally the issue of research governance.

Power-balancing strategies must be reflected in how the research is done—considering, e.g. with whom and how we collaborate, and what forms of knowledge are valued and enhanced through this work.

Research responding to COVID-19 must also be relevant to the contexts in which it is located, and acknowledge the imperatives of this moment. In the short term, then, it must be conducted quickly to address immediate needs, and be fed-back into decision-making rapidly. Innovative knowledge translation efforts and new models of collaborations between research, policymaking and stakeholder organizations are of special interest.

Being systematic and rigorous will always be important, but we must capture current experience even as we also develop longer-term research activities. To support such work, COVID-related HPSR can build on and deepen new ways of doing research. These include embedded research approaches (Olivier *et al.*, 2017), participatory action research (Loewenson *et al.*, 2014), action learning processes (The RESYST/DIAHLS Learning Site Team, 2020), insider research and prospective policy analysis and deliberative processes (Buse, 2008). All value multiple forms of knowledge and provide opportunities for researchers to learn through partnership with others in supporting the COVID response in real time. They represent ways of working that open up opportunities for HPSR to help shape the world after COVID-19. At the same time, in assessing the response to COVID-19 it always remains important to consider the ethical dimensions and relevance of ethical principles and methods.

In the short-term, we will also need to think about research methods and data collection approaches that can be adapted to physical distancing and still engage vulnerable groups (Samuels, 2019), building—among others—on opportunities offered by online survey tools and online interviews. Learning from people's own experiences, as they report them, their own stories, is essential, and social media could be a relevant source. Arts-based research forms offer other new ways of gathering and sharing such experience (Brady *et al.*, 2019). Reflecting other initiatives,¹ an online repository of methods, tools and exemplar studies could be developed to support the HPSR community. Analysis of secondary data and simple survey work can also bring important, immediate insights about social lockdown and contact tracing among other experiences. Wider evidence synthesis, drawing on both qualitative and quantitative data and evidence, is needed.

Stretching into the longer-term, longitudinal and process tracing research (Mahoney, 2015) will be important to tease out the patterns of experience. Historical analysis is also needed both to understand the current experience and draw lessons from similar, past experience (Olivier, 2019). Ethnographies, autoethnographies and detailed case study work can offer rich insights into the experience of particular groups and into particular responses to inform future action (Mathew, 2020). The application of multi-level methodologies will support understanding of system complexity, whilst purposeful sub-national or cross-national analyses can throw light, e.g. on critical governance influences over responses. Intersectional analyses of experience will also always be important to understand the layered vulnerability of people and systems, and the privilege, agency and ability to act, and must become a hallmark of HPSR (Larson *et al.*, 2016).

Finally, it is critical now to set up and transform research governance processes at all levels to ensure important, ethical, timely research that supports social justice is possible and is supported, and to identify and limit potentially harmful research. We must also track if and how research governance processes, and the research that is undertaken, are themselves impacted by COVID-19 and

responses to it. Who produces the research of today and is credited for it is part of this impact: will journals ensure not only high-quality work but also papers led by women and led by LMIC researchers? At another level, how can we contribute to decolonize global health (research)? Who speaks for whom in the current research on COVID-19?

Conclusion

COVID-19 challenges HPSR researchers to think and act differently in producing research that contributes to creating new health systems fit for the future. HPSR that addresses current needs and experiences will offer important insights and understandings both about how COVID-19 impacts on our societies, and about the responses to the pandemic. It can help interrogate how these responses exacerbate existing vulnerabilities and fragilities or open up new opportunities for strengthening socially just health systems.

The HPSR done now in LMICs simply must support long-overdue shifts in the place and capacity for people- and nationally driven, responsive research, with appropriate international engagement. Health and research institutions in LMICs must play leading roles, and, as needed, be strengthened to do so. Research alliances for change must also include communities, patients, providers, health service managers and health and other policy makers, in addition to civil society and media. De-colonizing HPSR must be an ongoing imperative, as it is for global health more broadly, and these are steps in that process.

Recognizing the current moment, a new COVID-19 stream has just been announced for the sixth Global Symposium on Health Systems Research, the bi-annual gathering of the HPSR community. Abstracts are welcomed within its overarching theme of 're-imagining health systems for better health and social justice' and for any of the three sub-themes: Engaging political forces; Engaging social, economic and environmental forces and Engaging technological, data and social innovation.

In the annex, we also present a set of emerging HPSR themes and topics addressing the areas of importance we have already flagged. These range from studies investigating the differential impact on people, disadvantage and agency, to those focused on the impacts on health systems, including studies on governance and system level levers of health system change towards better and socially just health systems.

We welcome responses to our ideas and proposals for a COVID-provoked HPSR agenda, in the form of blogs to be published in Health Policy and Planning Debated. We also envisage a future call for papers for a 2021 special issue of this journal that may include:

- Papers outlining and assessing the COVID-19 pandemic and the responses developed at global, national, sub-national and 'district'-level, as well as emergent responses by people, communities organizations, health and social providers, decision-makers including community and religious leaders, NGOs, etc.—preferably from a forgotten/neglected perspective;
- Papers analysing COVID-19 responses in terms of health and social impact, including equity and intersectional analyses;
- Papers providing insights on the innerworkings of decision-making in a time of crisis;
- Papers presenting methodologies to document the emerging impact of the pandemic and the responses developed at global, national, sub-national and 'district'-level through e.g. multi-level

methodologies, ethnography, comparative studies, policy and decision-making analysis, etc.

Endnotes

1. Doing Fieldwork in a Pandemic—crowdsourced document of resources: <https://docs.google.com/document/d/1clGjGABB2h2qbduTgfqribHmog9B6P0NvMgVuiHZCl8/edit?ts=5e88ae0a>; No Panic in the #Phdpandemic: curated links to helpful resources and strategies—<https://www.virtualnotviral.com>; Overseas Development Institute live repository—<https://www.odi.org/publications/16977-primary-data-collection-covid-19-era>

Conflict of interest statement. Kabir Sheikh is a staff member of the World Health Organization and is himself alone responsible for the views expressed in the article, which do not necessarily represent the views, decisions or policies of the World Health Organization.

Ethical approval. No ethical approval was required for this study.

References

- Brady L, De Vries S, Galloway R *et al.* 2019. Paramedics, poetry, and film: health policy and systems research at the intersection of theory, art, and practice. *Human Resources for Health* 17: 64.
- Buse K. 2008. Addressing the theoretical, practical and ethical challenges inherent in prospective health policy analysis. *Health Policy and Planning* 23: 351–60.
- COVID-19 Clinical Research Coalition. 2020. Global coalition to accelerate COVID-19 clinical research in resource-limited settings'. *The Lancet* 395: 1322–5.
- English M, Moshabela M, Nzinga J *et al.* 2020. Systems and implementation science should be part of the COVID-19 response in low resource settings'. *BMC Medicine* 18.
- Larson E, George A, Morgan R, Poteat T. 2016. 10 Best resources on... intersectionality with an emphasis on low-and middle-income countries. *Health Policy and Planning* 31: 964–9.
- Loewenson R, Laurell AC, Hogstedt C, D'Ambruso L, Shroff Z. 2014. *Participatory Action Research in Health Systems: A Methods Reader*. Harare: TARSC, AHPSP, WHO, IDRC Canada, Equinet.
- Mahoney J. 2015. Process tracing and historical explanation. *Security Studies* 24: 200–18.
- Marquette H. 2020. *On COVID-19 Social Science Can Save Lives: Where do We Start?* Blog post. <https://oxfamblogs.org/fp2p/on-covid-19-social-science-can-save-lives-where-do-we-start/>
- Mathew B. 2020. *Engagement and Responsibility: Ethical Challenges of Doing an Ethnography on the Streets of Delhi*. Blog post. <https://www.internationalhealthpolicies.org/featured-article/engagement-and-responsibility-ethical-challenges-of-doing-an-ethnography-on-the-streets-of-delhi/>
- Olivier J. 2019. *LMIC Health Systems in Danger of Losing Their Own History*. <https://www.internationalhealthpolicies.org/featured-article/lmic-health-systems-in-danger-of-losing-their-own-history/>
- Olivier J, Scott V, Molosiwa D, Gilson L. 2017. Embedded systems approaches to health policy and systems research. In: De Savigny D, Blanchet, K, Adam, T (eds). *Applied Systems Thinking for Health Systems Research: A Methodological Handbook, Chapter 2*. London: Open University Press, pp. 14–52.
- Samuels F. 2019. *Tips for Collecting Primary Data in a COVID-19 Era*. London: Overseas Development Institute.
- Shadmi E, Chen Y, Dourado I *et al.* 2020. Health equity and COVID-19: global perspectives. *International Journal for Equity in Health* 19: 104.
- Shamasunder S, Holmes SM, Goronga T *et al.* 2020. COVID-19 reveals weak health systems by design: why we must re-make global health in this historic moment. *Global Public Health* 15: 1083–9.
- The RESYST/DIAHLS Learning Site Team. 2020. Learning sites for health system governance in Kenya and South Africa: reflecting on our experience. *Health Research Policy and Systems* 18: 1–12.

Annex—Towards an HPSR agenda for COVID-19 and beyond: themes, topics and questions

Studies assessing the differential impact of COVID-19 and the response on disadvantaged groups and identifying the root causes of vulnerability

- What is the effect of the pandemic and the response on the availability and utilization of first line services for and by vulnerable groups (incl. people with chronic diseases and the elderly), reproductive and sexual health services, response services for gender-based violence and LGBTIQ+ service provision?
- What is the differential impact of COVID-19 on livelihoods and how does it affect the health of poor people, and low-income wage earners, people who cannot work from home, etc.
- What are the gendered impacts of COVID-19 containment measures? How to advance sex disaggregation in surveillance and monitoring systems to understand the gender implications of COVID-19?
- How to adapt COVID-19 containment measures to reduce undesired impacts on vulnerable groups, such as those living in informal settlements, refugee camps, the elderly and the disabled?
- What are the drivers of stigmatization and how can stigmatization of those who test positive for COVID-19 and those who have recovered from COVID-19 (including health workers) be offset?
- How (if in any way) is stigmatization linked to trust and mistrust of government/the official response to a disease outbreak?

Studies exploring power dynamics and political forces, histories and cultures, the p in HPSR

- How does power play out in the governance of COVID-19 responses and within new forms of governance and organization that emerge?
- How do pre-existing power relationships and public-private identities condition the COVID-19 response?
- Which and whose evidence and knowledge is being used in decision-making around COVID-19?
- What is the balance of political and technical/bureaucratic leadership, and how do governance histories and structures shape this balance?
- Whether and how bureaucratic and organizational cultures resist or limit necessary change over the longer-term, and how to address this constraint?
- Is COVID-19 changing global health agendas (and donor funding in LMICs), e.g. more emphasis on global health security and away from universal health coverage? What will COVID-19 change in the global political economy of health?
- Is COVID-19 changing attitudes to multilateralism and collective approaches to addressing global health problems? Is it leading to entrenchment of bilateral approaches and coloniality?
- Which knowledge and whose voices are influencing COVID-19 responses, how does this differ between countries, and what is influencing this?

Health system governance and decision-making at national and global levels

- How is cross-sectoral coordination within government and with private agents impacted and enabled, and what are longer-term gains/losses for action on the social determinants of health?
- Which experts are invited to support the response, using what evidence and how is that changing and contested over time? What histories and structures shape these experiences? Who is held responsible for what and who is invited as an expert and who is not?
- Is there policy coordination or confusion through rapid policy change in COVID-19 responses?
- What is the role and influence of bottom-up flows of experience for decision-making, including personal narratives and stories from communities and frontline health workers?
- What is the role of mis-information and fake news, and the impact on communication of the politicization of information?
- What is the practice of policy communication in a time of crisis, including the framing of messages, the role of scientific leaders/advisors ('chief scientists') and scientific differences and controversy, and the consequences for trust in COVID-19 responses and in government?
- What innovative policies or programmes that support or protect vulnerable populations in COVID-19 responses have been implemented, and what decision-making dynamics led to the prioritization of these groups?
- What is the impact on the role of WHO in global health governance?
- How is geopolitics shaping the global response? What new forms of global leadership are emerging that can assist in coordinating and enforcing efforts across countries, including the need for consideration of global public goods and global health ethics?

Studies exploring how (local) health systems are impacted by and support COVID-19 responses

System-wide effects

- What is the impact of national/global COVID-19 responses on attention to and implementation of solutions to other pressing health issues, including onehealth approaches? What crowding-out effects are occurring and how can these be mitigated?
- How can critical non-COVID-19 services be maintained alongside the COVID-19 response in resource-poor settings?
- What is the impact of COVID-19 on the physical and mental health of the health workforce, and of rapid change in ways of working?
- What is the impact of COVID-19 on the position of (frontline) health workers in the political/social arena in countries (power, gender-related issues, work conditions, etc.)?
- What is the role of community-based services, including Community Health Workers, in the COVID-19 response?

System responses

- How effective is e-learning/online learning for health human resources?

- How do COVID-19 responses impact on the interaction of system hardware and software, and with what consequences for system functionality?
- How is the national–sub-national coordination happening in decentralized systems (pooling, division of tasks, oversight, coordination)?
- How prepared are local and national governments for a pandemic as opposed to natural disasters?
- Is the COVID-19 pandemic challenging our views on resilience?
- What is the impact on changes in global financing patterns and flows in national health systems?
- What are the changes in funding and global investment in health, in health security, in health system strengthening?
- What is the role of public finance management in the pandemic response?
- What are the successes and failures of global pandemic financing mechanisms?

To note: whilst HPSR particularly emphasizes the system level issues, we include in this category some issues related to the service-level, emergency preparedness and logistics that are currently important.

Service-level responses

- What are the interfaces and gaps between levels of care (community/primary care level/hospital) during the response?
- Are preventive services recentralized during COVID?
- What are the role private sector actors in service responses?
- How can an optimal balance of care be maintained within the health system under pressure?
- How to strengthen workplace safety/occupational health for the health workforce?
- How to support/care for the carers, acknowledging anxiety, stress, fear?

Public health surveillance and emergency preparedness

- What is the place of public health surveillance within the wider health system, and how can it be strengthened?
- What is the role of national health institutes in managing the COVID-19 response within LMICs?
- What is the place of laboratories in the health system and in the COVID-19 response? The issues of biosafety, infection prevention and control mechanisms in the rush to build and accredit laboratories
- What is the effectiveness of health information systems in contributing to COVID-19 responses (e.g. Trackers, GIS mapping)?
- Can mathematical models and infectious disease models be improved with HPSR insights, such as by integrating health systems factors and questioning the dominant assumptions underlying models?
- What are the ethical pros and cons of community based or bottom up surveillance processes?

Technology, equipment and therapy needs for the COVID response

- The equipment, infrastructure, etc. required to implement an effective COVID-19 response, and the challenges of inadequate preparation and supply lines

- The challenges of procurement and distribution of medical equipment in the light of global and local supply chains of equipment and supplies
- The spike in demand for telemedicine and information technology use in health in LMIC
- Intellectual property regimes (patent laws, regulatory bodies etc.) and access to COVID-19 therapies and vaccines
- How to address gender biases in Personal Protection Equipment (PPE), for whom is PPE designed and who gets access?
- The ethics of digital tracking: Whose privacy and data is trespassed and with what consequences?
- Health technology assessment during a pandemic

Studies exploring how the pandemic can inform the foundations of more just, equitable and better health systems

- Whether, how and which new forms of enabling governance and leadership emerge at local or other levels, supporting work with community organizations and engaging mid-level and front-line actors, and if and how they are sustained or undermined over time?
- New strategic purchasing arrangements—what is the potential for system-wide gains post COVID-19 from, e.g. price-capping for tests or beds secured from the private sector
- Are regional health actors and agendas strengthened and how, with what consequences?
- What is the role and place of community-level action for health—including approaches to engaging with and responding to community/public priorities and concerns, and beyond health?
- How can initiatives that have been transformative for vulnerable populations be embedded and sustained through health policy and system change into the longer-term?
- What forms of local level intersectoral collaboration develop that address food, housing, transport, school, social safety nets, i.e. the social determinants of health: what are the lessons learned for more people-centred systems?
- How does the pandemic inform and energize wider action on onehealth and climate change?

Research governance

- What is the role of national and international academic and research institutions in sudden and rapidly evolving global health crises like COVID-19?
- How can research governance processes during crises such as COVID-19 support important, ethical, timely research that supports social justice?
- How is COVID-19 impacting on who is submitting and publishing articles?
- What is the role of multilateral organizations, international banks, global donors in supporting CPVI-19 research and setting research priorities?
- What innovative knowledge translation efforts and models of collaborations between research, policymaking and stakeholder organizations emerge during COVID?