

# How do we design and evaluate health system strengthening? Collaborative development of a set of health system process goals

Maria Paola Bertone<sup>1,2</sup> | Natasha Palmer<sup>3</sup> | Krista Kruja<sup>3</sup>  |  
Sophie Witter<sup>1,2</sup> | On behalf of HSSEC Working Group 1

<sup>1</sup>Institute for Global Health and Development, Queen Margaret University, Edinburgh, UK

<sup>2</sup>ReBUILD for Resilience Research Consortium, Edinburgh, UK

<sup>3</sup>Independent Consultant on Behalf of Itad Ltd, Hove, UK

## Correspondence

Sophie Witter, IGHD, Queen Margaret University, Edinburgh EH21 6UU, UK.  
Email: [switter@qmu.ac.uk](mailto:switter@qmu.ac.uk)

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## Abstract

Strong health systems are widely recognized as a key requirement for improving health outcomes and also for ensuring that health systems are equitable, resilient and responsive to population needs. However, the related term Health Systems Strengthening (HSS) remains unclear and contested, and this creates challenges for how HSS can be monitored and evaluated. A previous review argued for the need to rethink evaluation methods for HSS to examine systemic effects of HSS investments. In line with that recommendation, this article describes the work of the HSS Evaluation Collaborative (HSSEC) in the development of a framework and tool to guide HSS monitoring, evaluation and learning by national and global actors. It was developed based on a rapid review of the literature and iterative expert consultation, with the aim of going beyond a focus on the building blocks of health systems and on health system outputs or health outcomes to think about the features that constitute a strong health system. As a result, we developed a list of 22 health system process goals which represent desirable attributes for health systems. The health system process goals (or rather, progress towards them) are influenced by positive and nega-

Members of HSSEC Working Group 1 are listed in [Appendix](#) section.

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tive, intended and unintended effects of HSS interventions. Finally, we illustrate how the health system process goals can be operationalised for prospective and retrospective HSS monitoring, evaluation and learning, and how they also have the potential to be used for opening a space for participatory, inclusive policy dialogue about HSS.

**KEYWORDS**

evaluation and learning, health system strengthening, health system strengthening monitoring, health systems, low- and middle-income countries

**Highlights**

- Better articulation of desired attributes of 'strong' health systems is needed
- We developed a tool to guide Health Systems Strengthening (HSS) design and evaluation using such attributes
- In initial testing the tool supported participatory dialogue around HSS
- Each HSS intervention should aim to advance these goals or at least do no harm

## 1 | INTRODUCTION

Strong health systems are widely recognized as a key requirement for improving health outcomes and ensuring that health services are equitable, high-quality, resilient and responsive to population needs, in the short and long term. While the term Health Systems Strengthening (HSS) is often used in global health discourse, its precise definition remains contested. The term emerged in a context where global health actors were investing in 'vertical' programmes and initiatives. This style of investment has raised concerns about systemic impacts.<sup>1,2</sup> Definitions of what constitutes HSS and how health systems can best be strengthened are still being debated, posing challenges for designing, monitoring, evaluating and learning on HSS. An evidence review published in 2019<sup>3</sup> and updated in 2021<sup>4</sup> aimed to address the question of what works, where and when for HSS, and a summary Perspective was published in this journal.<sup>2</sup> The challenges relating to the lack of consensus around what HSS means and how it should be assessed were discussed, and a definition proposed for use by funders, implementers, researchers and evaluators. The review also found that there was a dearth of literature examining systemic effects of HSS investments, and a tendency to focus on narrowly defined interventions and outcomes, highlighting a need to pay increased attention to 'organic' (internally driven) HSS, longer term outcomes and intermediating factors such as trust in relationships and leadership processes and values.<sup>2</sup>

Building on the existing HSS literature and its recommendations, the HSS Evaluation Collaborative (HSSEC) was created in 2021, with the aim of bringing together stakeholders at national and international levels to reconsider approaches to HSS evaluation and work collectively to build and execute a shared agenda to improve HSS evaluations. The HSSEC includes members from donor agencies, governments and academia, all of which need to be represented to move forward the debate on this topic.<sup>5</sup> The original paper observed that there is no agreed framework for describing how a health system is strengthened and some initial ideas were presented to indicate what a 'strong

health system' might look like.<sup>2</sup> The HSSEC aimed to take this forward as one part of its work, consulting on and building a more detailed framework for HSS. In line with the 2019 paper, HSS interventions are defined to include (a) consideration of scope (with effects cutting across building blocks in practice, even if not in intervention design, and also tackling more than one disease), (b) scale (having national reach and cutting across more than one level of the system), (c) sustainability (effects being sustained over time and addressing systemic blockages), and (d) effects (impacting on outcomes, equity [including gender equity], financial risk protection, and responsiveness, even though these impacts may occur after a time lag). The group reached consensus that an HSS intervention should aim not just to provide inputs, but to change relationships within the health system, intentionally incorporating systems thinking and contextual understanding, and reinforcing the roles of local institutions.

In this article, we propose a potential framework and operational tool to guide HSS design, monitoring, evaluation and learning. We describe the process that led to its development and the steps taken for its testing and refinement.

## 2 | METHODOLOGICAL APPROACH

First, we conducted a rapid review of the literature on health systems, HSS and HSS evaluation frameworks, with a purposeful, non-systematic approach. The literature search was based on relevant documents which were known to the author group, references of identified documents, and additional searches on organizational websites (for example USAID [United States Agency for International Development], WHO [World Health Organisation], UHC2030, FCDO [Foreign, Commonwealth and Development Office], World Bank). The focus included (i) conceptual frameworks relating to the health system and its elements; (ii) HSS frameworks; and (iii) frameworks for monitoring and evaluation (M&E) of HSS. A total of 39 documents were reviewed. Conceptual elements and frameworks were extracted, as well as key reflections on health systems, HSS and HSS M&E with the aim of developing a framework for HSS conceptualisation and evaluation.

We also held several, iterative rounds of consultation with experts from the HSSEC working groups to present and discuss preliminary findings. Over the course of 2021, the experts who were most closely involved participated in five virtual meetings and provided several rounds of written feedback. These included the 21 members of the sub-group (acknowledged in the Appendix this publication), who were engaged based on their expertise in HSS and involvement in HSS work within bilateral and multilateral donor agencies, academia or as independent experts. Feedback was also collected primarily from HSSEC's Working Group 1 (which focussed on trying to strengthen work on the definitions, boundaries and frameworks of the emerging HSS field) as well as from the authors of the original review, who ensured the relevant literature and all critical health system elements were included in the development of our framework.<sup>2</sup> The final set of draft HSS process goals was also presented to members of the HSSEC's Working Group 2, which was more focussed on the perspective of country stakeholders in HSS evaluation and had a majority of representatives from LMICs.

The review and consultation allowed us to create a synthetic model to illustrate how HSS happens, linking health system inputs to outputs and outcomes, and to identify key gaps in the literature and areas for further theoretical development. The next step of the work consisted in developing a framework and tool to articulate what constitutes a strong health system and, based on that, what are the different elements that can be improved in order to make progress towards strengthening systems. We called these features and elements the "health system process goals". Finally, the health system process goals were applied to two real-life examples, or case studies, of HSS interventions in order to refine the list of health system process goals as a conceptual framework, as well as to test its potential as an HSS monitoring, evaluation and learning tool.

### 3 | STATE OF THE EVIDENCE ON HEALTH SYSTEMS, HEALTH SYSTEMS STRENGTHENING AND HEALTH SYSTEMS STRENGTHENING EVALUATION

Many diverse frameworks to conceptualise health systems and health system strengthening have been developed over the last 3 decades.<sup>6–10</sup> These include influential ones such as the WHO's health system building blocks,<sup>11</sup> guides to systems thinking,<sup>12</sup> reflections on features of health system support compared to HSS<sup>13–16</sup> and the recent conceptualisation of HSS by USAID which formulates health system-level outcomes.<sup>15</sup> Despite progress in this theoretical work, it was already noted in Witter et al., 2019<sup>2</sup> and is more broadly confirmed by this work, that HSS interventions and their evaluation is often organised along the lines of the “building blocks”. It tends to focus on infrastructural and resource-related elements of health systems rather than also consider the impact of HSS interventions on the wider system and capture the intangible, relational elements (such as power, trust, social values and norms). In addition, there is often a focus on health system outputs, health outcomes and impacts, rather than on the system dynamics themselves. Practical and operational guidance to measure these is provided by international organisations, again often along the ‘building blocks’ lines,<sup>16,17</sup> although some more recent guidance moves beyond the building blocks to propose complexity aware methodologies.<sup>18</sup> (A more detailed critical presentation of the literature is included in the report, available online<sup>19</sup>).

Figure 1 provides the synthetic model of HSS that was agreed upon by the HSSEC members, building on the literature review and their expertise. The model illustrates how health systems develop and highlights essential steps and elements that influence HSS. The model is intentionally generalisable, therefore adaptable to the monitoring, evaluation and learning of different HSS approaches, ranging from specific, narrow HSS interventions (targeting a discrete area, such as health worker training) to broader health system reforms (for example, including reforms which cut across governance, health financing and service delivery).

The model identifies the main elements that affect HSS processes and illustrates their (complex) relations. From left to right, it includes *HSS inputs* which are the intervention made in the health system (for example, a donor investment or health system reform), which activate one or multiple *pathways or mechanisms of change*, through which change in the health system happens. The resulting *effects of HSS on the health system* can be positive or negative, intended or unintended, and are influenced by health system inputs (often spilling over to elements of the health

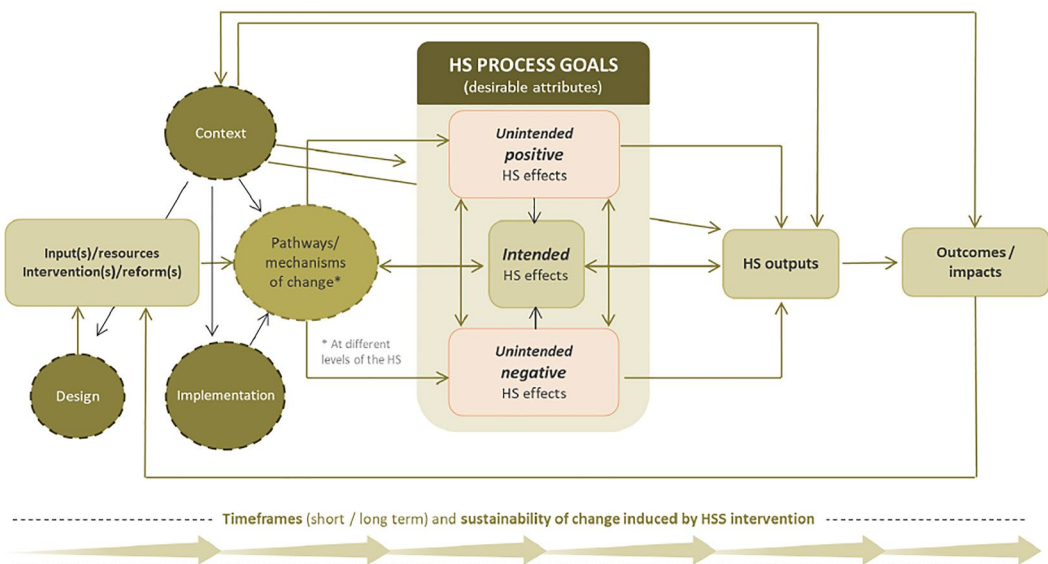


FIGURE 1 Health system strengthening model

system beyond those addressed by the input), as well as context. Finally, *health system outputs* are changes in the structural elements of the health system produced by health system inputs. They are often organised by building block of the health system, and tend to refer to (quantitatively) measurable outputs at health system level, such as quality, safety, availability, accessibility, equity, acceptability, and affordability of health services/service delivery.<sup>16,17</sup> *Outcomes and impacts* are changes observed at the population level (for example, outcomes could include increased service utilisation and coverage, responsiveness, people centredness, efficiency, while impacts could include reduced risk prevalence, improved health outcomes, improved equity in health outcomes, social and financial risk protection, health security and health system resilience). Further elements in the model, represented with dotted lines, are *design, implementation, context, and pathways of change*, which are essential to shaping HSS processes, outputs, outcomes and impact, but are context-specific and therefore multiple and numerous. While recognising their central role and influence, we chose not to unpack them further in this overarching HSS model and shift focus to the middle area and the health system process goals. We believe that the process of building evidence around whether and how health system process goals are reached would also shed light on how elements of the context, design and implementation features and specific mechanisms of change have contributed to that achievement.

As highlighted by our critical analysis of the literature, for any HSS assessment purposes, it is essential to capture the health system effects in a broad and comprehensive way (not limited to the 'building blocks' or solely to the component(s) targeted by the input or intervention), in order to understand if and how health system strengthening is happening. Similarly, the model highlights the importance of focussing on the middle (shaded) area located between the pathways or mechanisms of change and the health system outputs. In this area we can observe (positive or negative, intended or unintended) *systemic* effects instigated by the HSS intervention in interaction with other elements, including, crucially, the broader context. An important contribution of the framework are the feedback loops, reflecting dynamic relationships which adjust or adapt and potentially contribute to learning.

The health system process goals, which are at the core of our HSS monitoring, evaluation and learning tool, aim to unpack this central area in the model and to represent consensus on the features of a strong system and therefore what norms should be used to judge positive or negative impacts of HSS (and other) interventions on the health system. As further explained below, the health system process goals are intrinsically important as well as providing markers of likely progress towards health outcomes and other health system goals. They also affect longer term capabilities of the health system and consequently performance beyond the discrete boundaries of externally funded support. These capabilities include showing resilience when faced with new population health threats and external shocks, including shifts in external assistance; potential to accelerate gains and sustain the performance of the health system; and being able to learn from implementation and adapt health system structures and procedures over time.

## 4 | HEALTH SYSTEM PROCESS GOALS

By looking at the health system effects of HSS interventions, our aim is to move away from theories of change or evaluation models that focus on building blocks and conceptualise HSS as an (often donor funded) external intervention in a health system, thus 'verticalising' what are in fact systemic HSS interventions. Rather, in line with proposals of the 2019 Perspective,<sup>2</sup> we want to connect HSS to the wider literature on resilience and learning health systems,<sup>15,20-22</sup> which identifies desirable features for strong health systems, such as flexibility and adaptation, collaborative mechanisms, and intelligence gathering, as well as health system characteristics of accountable, affordable, accessible and reliable care. Following this approach, the proposed framework for HSS monitoring, evaluation and learning sets a list of overarching "health system process goals", which capture the desirable attributes of a well functioning health system. The health system process goals (or rather, progress towards them) are influenced by positive and negative, intended and unintended effects of HSS interventions. The underlying assumption is that if HSS interventions

contribute to progress towards the HS process goals, they will improve the health system, its outcomes and the longer term health and social impacts at population level.

An iterative process was followed to define 22 health system process goals based on key references<sup>4,12,15,20,22-26</sup> and expert consultation. The goals are organised under four broad domains, covering 'ownership, participation and accountability', 'learning and resilience', 'use of resources', and 'service delivery' (Figure 2). Appendix 1 sets out illustrative examples of how an HSS intervention might advance or hinder each health system process goal.

Health system process goals are both markers of progress towards health system strengthening and features of a strong health system. They are worded using standardised, aspirational language (i.e., as an active sentence rather than an indicator or an area for assessment) to represent the features which any health system intervention or reform should contribute to advancing.

## 5 | HEALTH SYSTEM PROCESS GOALS AS A TOOL FOR HEALTH SYSTEMS STRENGTHENING MONITORING, EVALUATION AND LEARNING

In order to refine the framework and assess its potential value of a tool for HSS monitoring, evaluation and learning, the health system process goals were applied to two real-life case studies which were purposefully identified, one based on the Global Fund's Service Delivery Innovations Strategic Initiative (at design stage at the time of this work) implemented in five countries of West and Central Africa and focussing on human resource planning, quality improvements through integrated supportive supervision, and leadership strengthening, and the second based on the Inter-American Development Bank's Salud Mesoamerica Initiative implemented in 8 countries in 2011-2021. The development of the case studies was undertaken in parallel to the process of developing the HS process goals list and it aimed to allow for further reflection and refinement of the list and capturing key emerging lessons on its practical applicability, rather than represent an (external) evaluation of the two interventions. The process is detailed in the full report<sup>19</sup> and was carried out based on document review and group discussions by the first author of this paper in collaboration with the group members relevant to the respective HSS initiative (thus a more limited participation than we recommend below, due to time constraints).

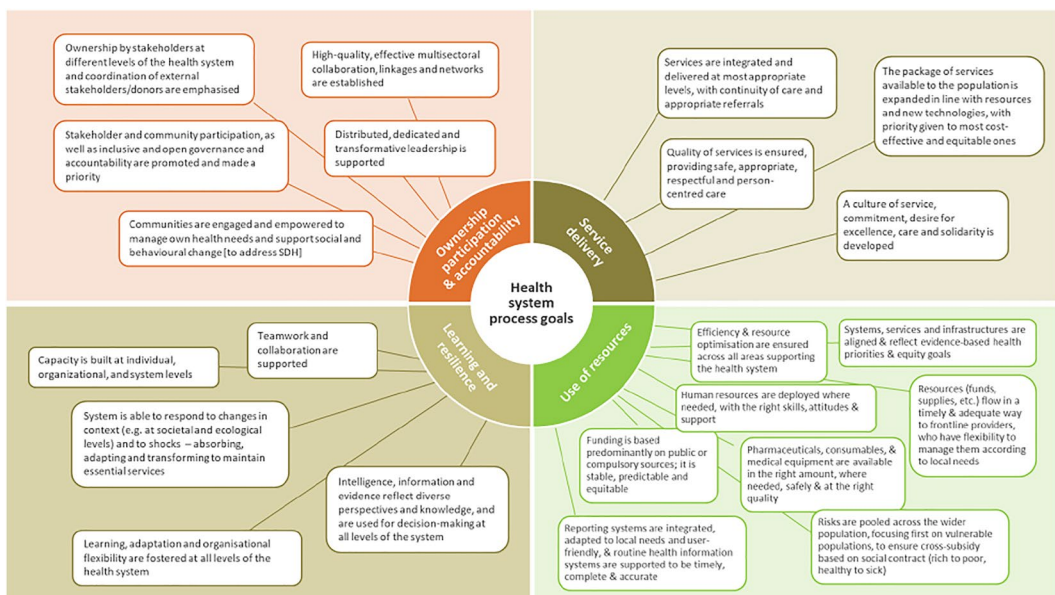


FIGURE 2 Health system process goals

From the case-study application and the iterative expert consultations, we learnt that the health system process goals can be effectively used for both the *retrospective* evaluation of concluded or ongoing HSS interventions, as well as the *prospective* design, monitoring, learning and adaptation of future or ongoing interventions. Indeed, because the health system process goals are aspirational, the core of the exercise is in establishing the direction of change towards the desirable features of a strong health system—was progress made in a positive direction for all/most areas covered by the health system process goals? How much progress was made, and what can still be done? And how was progress made? Which activities, project components, pathways led to (positive/negative/partial) impact on each goal?—including unintended or spill-over effects and mechanisms that were triggered by specific contextual elements.

While some goals might sound unrealistic for discrete HSS interventions, the aim is not to assess whether the goal has been fully achieved or not. Rather, the aim is to provide information on the direction of change and trigger dialogue around findings. Similarly, because the health system process goals are high-level and systemic, rather than programme- or intervention-focussed, it is possible that some might be less relevant or directly influenced than others for each specific intervention. However, the purpose of explicit health system process goals is to question interventions' implicit models and certainties, which makes them vulnerable to unintended negative systemic effects. So promoters and implementers of HSS interventions and national stakeholders should avoid the temptation to too rapidly dismiss a process goal as not relevant for their efforts.

In some cases, it might be possible that other interventions (with a different focus) exist which work in a complementary way to ensure comprehensive progress towards health system process goals. While these complementarities should be considered, each HSS intervention should aim to advance each of the goals, or at least *do no harm*, that is, not advancing some goals at the expense of hindering progress towards goals which are less prioritised by the intervention. For example, studies of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS)-focussed vertical programing have demonstrated harmful effects of the narrow focus by increasing staff workload and encouraging staff to leave public sector jobs in favour of higher-paid roles within HIV/AIDS programmes.<sup>27</sup> An advantage of using the health system process goals to guide HSS evaluation is that it looks at markers of progress and performance that happen earlier than health system outputs, outcomes, and impacts, which means a more rapid assessment of whether and how HSS is happening. In addition, by focussing on broad dimensions of HSS with reference to processes across the health system, the health system process goals move beyond the building blocks and a functional, programme-specific approach to capture HSS more comprehensively. This also allows identifying spill-over effects of interventions (and early intervention to address them, if needed), their contribution to meeting overarching health system process goals and therefore ensuring health system strengthening.

From a methodological perspective, while some of the health system process goals could be assessed quantitatively, others are difficult to measure or subjective. The development of indicators could be the focus of future work. However, at this stage, the list remains a conceptual framework the main aim of which is to highlight the areas and elements that should be considered during HSS evaluations. In this sense, applying the health system process goals for monitoring, evaluation and learning related to HSS interventions requires a qualitative, (self-)reflective exercise based on observations of the HSS intervention and its intended and potentially unintended positive and negative effects on each process goal. Importantly, (unlike the approach we took in our own testing) we think that the health system process goals are best applied in a *participatory, contextual and dynamic* manner - ideally, at multiple points during design and implementation stages, and by a group reflecting multiple views and perspectives (e.g., national managers, funders, implementers, external evaluators, health workers at different levels of the health system, and beneficiaries). In this way, its application can open an inclusive space for dialogue and constructive debate, furthering its potential as a collective learning tool.<sup>28</sup> However, we note that the lack of standardised indicators prevents the comparability between applications of the health system process goals, especially when applied to different interventions or different contexts.

## 6 | CONCLUSION AND WAYS FORWARD

Based on gaps and needs identified in the literature and through expert meetings, we have developed 22 health system process goals as a tool that can be used for planning, monitoring, research, formative evaluation and learning on HSS interventions, all of which are foundational for progress in HSS.

The application of the health system process goals has the potential to be used for opening a space for participatory, inclusive policy dialogue about HSS at and across national and international levels. Compared to existing tools, it has the advantage of being applicable in the design phase and/or during initial stages of implementation, without having to wait for effects to be evident on health system outputs, outcomes or impacts. Importantly, qualitative, participatory assessment carried out using the health system process goals can complement quantitative approaches that focus on process, outputs and/or outcome indicators.<sup>16,18,29</sup> Health system process goals can also complement qualitative approaches such as 'outcome harvesting' and 'contribution analysis' by identifying where a particular intervention is likely to have an effect and therefore shaping the harvest question or the central question for the contribution analysis.<sup>30,31</sup>

There is a shared responsibility, and sometimes a power imbalance, between external funders and in-country stakeholders in the performance and outcomes of the health system. Ultimately, the path ahead with improving HSS evaluation will be about how citizens, scientists, governments and all stakeholders better question their own approaches and how the external support they receive supports (or not) the expansion of the capabilities of their health systems in the long term. External investors and implementers of HSS can support this process by being more rigorous about how they ask this question themselves.

Future work could be pursued to further test and refine the list of health system process goals, as well as to develop quantitative indicators or qualitative measures for (some of) its key concepts. Guidance could be developed to better operationalise the list, including on how to apply it in conjunction with other approaches for HSS evaluation and on how to structure participatory discussions.

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### CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### ETHICS STATEMENT

Not applicable.

### ORCID

Krista Kruja  <https://orcid.org/0000-0003-3130-8908>



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## AUTHOR BIOGRAPHIES

**Maria Paola Bertone** is Reader at the Institute for Global Health and Development, Queen Margaret University, Edinburgh. She is a health system researcher working on ReBUILD and the political economy of UHC in franco-phone Africa. Her interests include health systems strengthening, health financing, health workforce and political economy analysis.

**Natasha Palmer** is a health systems/ health economics researcher. She has a PhD in health economics from LSHTM and her interests include health systems strengthening, health financing and working with non-state providers to deliver public services. She has worked in academia, for NGOs and donor organisations and as a consultant.

**Krista Kruja** is an independent consultant and director of Evidence Link, a consultancy which facilitates the use of evidence for better decision-making. She has worked on research, evaluation and policy initiatives for various clients aiming to strengthen health systems, national research systems, promote access to medicines and improve public health.

**Sophie Witter** is Professor of International Health Financing and Health Systems at the Institute for Global Health and Development, Queen Margaret University, Edinburgh, and co-Research Director of ReBUILD for Resilience consortium. Her interests include financial access to health care, provider payment incentives, health systems strengthening and evaluation of complex interventions.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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## APPENDIX

Anwer Aqil, USAID; Abdallah Bchir, University of Tunis; Maria Petro Brunal, GFATM; Grace Chee, John Snow International; Emily Dansereau, BMGF; Lucy Gilson, University of Cape Town, LSHTM; David Hotchkiss, Tulane University, School of Public Health and Tropical Medicine; Jo Keatinge, UK FCDO; Rachel Marcus, USAID; Sjoerd Postma, Khulisa Management Associates; Anna Rapp, BMGF; Diego Rios Zertuche, InterAmerican Development Bank; Alex Rowe, GFATM; Eric Sarriot, GAVI; Kabir Sheikh, Alliance Health Policy and Systems Research; Francis Wafula, Open Phences Hub, Strathmore University; Nicola Wardrop, UK FCDO.