# D9.2 Report on reflection and learning on the use of a scale-up framework and strategy

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*Improving health workforce performance*

# Table of Contents

# List of abbreviations

| | |
|---|---|
| **ANC** | Antenatal Care |
| **AR** | Action research |
| **CAO** | Chief Administrative Officer |
| **CHAG** | Christian Health Association of Ghana |
| **CRT** | Country Research Team |
| **CW** | Consortium workshop |
| **DC** | District Council |
| **DG** | District Group |
| **DHMT** | District Health Management Team |
| **DHO** | District Health Officer |
| **DDHS** | District Director of Health Services |
| **EC** | European Commission |
| **GHS** | Ghana Health Service |
| **HRH** | Human resources for health |
| **HRM** | Human resource management |
| **LSTM** | Liverpool School of Tropical Medicine |
| **MoLG** | Ministry of Local Government |
| **MoLoGRD** | Ministry of Local Government and Rural Development |
| **MoPS** | Ministry of Public Service |
| **MOH** | Ministry of Health |
| **MSI** | Management Strengthening Intervention |
| **NGO** | Non-governmental organisation |
| **NSSG** | National Scale-up Steering Group |
| **OPD** | Outpatient Department |
| **P2S** | PERFORM2Scale |
| **PI** | Principal investigator |
| **PP** | Paired partner |
| **PY** | Project year |
| **QI** | Quality improvement |
| **QA&I** | Quality Assurance and Inspection |
| **QMD** | Quality Management Directorate |
| **RT** | Resource Team |
| **TWG** | Technical Working Group |
| **TB** | Tuberculosis |
| **ToC** | Theory of Change |
| **TORs** | Terms of References |
| **WHO** | World Health Organization |
| **UHC** | Universal Health Coverage |
| **UNICEF** | United Nations International Children's Emergency Fund |
| **USAID** | United States Agency for International Development |

# Executive summary

**Introduction**

Improving health workforce performance is critical to achieving Universal Health Coverage (UHC). A management strengthening intervention (MSI) for district health managers to improve health workforce performance was tested in three African countries (Ghana, Tanzania and Uganda) during the PERFORM project between 2011 and 2015. Management teams solved workforce performance problems, within existing resource constraints, that improved service delivery and helped them to become better managers. To have a wider impact, and thus contribute to UHC, it was recommended at the end of the PERFORM project that this MSI should be scaled-up. A proposal, based on the results of the PERFORM pilot, was submitted to the European Commission in April 2016 involving two of the countries who had taken part in PERFORM (Ghana and Uganda), plus Malawi where the management of health services was being decentralised to district level. The proposal was supported by the Ministries of Health in all three countries. The overall aim of the project, which started in January 2017, was to develop and evaluate a sustainable approach to scaling-up a district-level management strengthening intervention (MSI) in different and changing contexts.

PERFORM2Scale adapted a systematic approach for scale-up that has been developed by ExpandNet and WHO and tested in many contexts. We used this framework and strategy to steer the scale-up in the three countries. The project planned both process and outcome evaluation activities to identify lessons about implementing and scaling-up the MSI in line with the project's Theory of Change and its underlying assumptions. We used a range of quantitative and qualitative methods to answer our research questions. From 2018 to 2021, we implemented the MSI, expanding it across geographical areas in each country. At the same time, we worked to operationalise the scale-up framework in each country and developed country-specific scale-up strategies to institutionalise the MSI in national policy, plans, guidelines or curricula.

The objectives of this report are:

- To reflect on and learn about the generic PERFORM2Scale scale-up framework and strategy, and how and why this was adapted in each country during the project.
- To produce a set of lessons on using a scale-up framework and for transferability to similar innovation implementations in other countries.

**Methods**

The reflection and learning, or validation, process included several steps.

*Step 1: Review of scale-up journey in each country:* We reflected on the scale-up frameworks and strategies in each country by reviewing the scale-up frameworks' strategies and implementation, scale-up reports, and process and outcome evaluation data. A storyline was developed which described each country's scale-up journey - what happened and why, identifying key questions and points to discuss with country stakeholders.

*Step 2: Workshop with stakeholders in each country:* Between December 2021 and February 2022, we conducted a workshop in each country. Stakeholders who were directly involved in the scale-up process were invited, as well as others who were aware of the project but not directly involved. We

presented the original PERFORM2Scale scale-up framework, followed by what actually happened with regard to the scale-up process in the country. Participants' experiences and perceptions of the scale-up of the MSI were gathered through discussions. We also identified lessons for the future scale-up of complex health interventions. The workshops were recorded, notes taken, and reports written up.

*Step 3: Workshop with global stakeholders*: In March 2022, we brought together five external actors who are involved in scale-up in many countries, but who had not been involved in PERFORM2Scale. These invited actors reflected on our scale-up frameworks and strategies and identified lessons for future scale-up. The workshop was recorded and notes taken of the participants' questions and discussion.

*Step 4: Synthesising learning from the reflection and learning process:* Drawing on the outputs from the four workshops, as well as other documents, we compared the generic PERFORM2Scale framework and strategy with what has happened in each country. We then identified the key lessons and guidance on how to use and adapt the framework and strategy in different contexts.

**Findings**

The findings are presented according to the   elements of the scale-up framework and strategy: innovation, user group, Resource Team, types of scale-up (including vertical, horizontal, diversification and spontaneous), changes in the environment, dissemination and advocacy, resources, and monitoring and evaluation.

*Innovation:* The MSI was justified as an innovation to be scaled-up as it met the CORRECT criteria for determining whether an intervention is scalable or not. Key aspects of these criteria were 'relevance', 'relative advantage' and 'simple to install' which, it was assumed, would make the innovation attractive for scale-up. A MSI toolkit was mostly followed to guide implementation, with some appropriate variations made, such as adjusting the implementation period to fit the country's annual planning cycles, and changing the structure, timing and duration of elements of the cycle to meet needs. All DHMTs experienced challenges when using 'reflective diaries', but it was clear that reflection did take place in other ways. In the Ghana and Malawi post-project scale-up plans, there is some fidelity to the original MSI. However, in Uganda the plan is more radical, with the health workforce aspect of the MSI merged into the existing quality improvement cycle, but this may ensure sustainability.

*User group:* Following a stakeholder analysis in 2017, we identified user organisations - these were the Ministries of Health (MoH) in all three countries, as well as Ghana Health Service and the Ministry of Local Government and Rural Development in Malawi. We developed a structure called the National Scale-Up Steering Group (NSSG) which represents the user organisations and is made up of five senior representatives of organisations that deliver or manage health care services and who have decision-making authority. The NSSG oversees the scale-up of the intervention during the project and beyond. The functionality  of the NSSG was limited in all three countries so some adaptations were made; in Uganda that meant the appointment of a focal person and the use of existing Technical Working Groups, and there are plans for a Regional Scale-up Steering Group in Ghana. The NSSGs supported the initial strategy for horizontal scale-up but did not lead the development of funded plans for further scale-up beyond the end of project.

*Resource Team:* While the NSSG was meant to support scale-up at the strategic level, the Resource Team (RT) was intended to function at a more operational level; overseeing the institutionalisation

of the scale-up (for the vertical process) and facilitating the MSI – first together with the project's Country Research Team (CRT) and then eventually taking over the role. There were different levels of seniority of RT members across the three countries, but all can facilitate the MSI. In Malawi and Uganda, the RT played an important role in facilitating vertical scale-up. Now that the project has ended, RT roles are unclear in Ghana and Malawi, and different roles would be needed to support the quality improvement programme in Uganda.

*Vertical scale-up:* This is the institutionalisation of the MSI through policy, political, legal, budgetary or other health systems changes. Draft scale-up strategies were developed in all countries, but not until later in the project as most attention was paid to the horizontal scale-up. The process was largely driven by CRTs, instead of NSSGs and RTs. CRTs held discussions with NSSGs or RTs in all settings to discuss areas of the strategy. However, no monitoring mechanisms, milestones or indicators, and limited stakeholder engagement and advocacy plans are included. In Ghana, there are no concrete plans to integrate the MSI into a policy document, budget, training curriculum or guidelines, but discussions are ongoing, with ideas to develop a Regional Scale-up Steering Group to oversee the MSI in regions with links to the NSSG, and to then move to another region and integrate the MSI into regular refresher trainings of DHMTs and regional directorates. In Malawi, the CRT, alongside the NSSG and RT, are in negotiation with the Quality Management Directorate (QMD) to include the MSI in QMD's satellite offices' work and DHMT quarterly review meetings. In Uganda, the strategy describes how the human resource management component of the MSI is included in the new national Quality Improvement Framework, with existing quality improvement and assurance structures providing governance oversight at the national level and implementation support at regional level.

*Horizontal scale-up:* The project achieved significant horizontal scale-up, with the MSI implemented in 27 districts across three countries over a period of four years. The decision-makers were able to plan the horizontal scale-up process in a rational way. However, the COVID-19 pandemic prevented MSI support activities taking place and diverted DHMT's attention.

*Diversification scale-up:* There was some diversification of the scale-up process based on discussions between researchers, the NSSG and RT and based on evidence from the context, process and outcome evaluation. For example, there were adaptations to the MSI, and modifications to the functioning and roles of the NSSG and RT.

*Spontaneous scale-up:* There were no examples seen of diffusion of the innovation without deliberate guidance.

*Changes in the environment:* The countries were selected because of their decentralisation of health services potentially leading to greater 'decision space' for managers at district level. In two countries, decentralisation is still dynamic, requiring continual observation and analysis. As we developed a greater understanding of the role of local government in supporting health service delivery, this required greater involvement of these stakeholders in the MSI. COVID-19 provided challenges for the MSI and scale-up – notably, access to key stakeholders.

*Dissemination and advocacy:* We planned stakeholder identification and analysis in year 1 at global, country and sub-national levels; development of country stakeholder engagement plans and a global communications strategy; identification of champions who would advocate for the scale-up; annual national workshops to update stakeholders about the project and scale-up; and the development of products to share with stakeholders. MSI lessons were documented in workshop reports, scale-up reports and briefs, but costing data was not available early in the project. Opportunities for

stakeholder engagement were not always optimised to share evidence around the MSI. The vision for scale-up was developed late in the project, and without this it was difficult to engage stakeholders as champions. Champions emerged but only from a small circle close to the project; a clearer 'picture' of what a champion is was needed earlier, and more stakeholder engagement would have been beneficial.

*Resources:* The cost of implementing the MSI in a group of three districts was considered to be relatively low at to an average of €28,000 per district per cycle. Scale-up plans are still under development in Ghana and Malawi and funding has not yet been identified. The Ministry of Health in Uganda is seeking funding for its whole quality improvement strategy, which would cover the modified PDSA (Plan, Do, Study, Act) cycles.

*Monitoring and evaluation:* As this was a research project, process and outcome evaluation took place throughout the scale-up process during the life-time of the project. We also used the project's Theory of Change as a monitoring and evaluation method of the scale-up process. The annual country scale-up reports brought together MSI implementation, scale-up progress and challenges. Annual consortium workshops and regular webinars were held where findings on the MSI and its scale-up were shared. All of these approaches informed changes to the scale-up process.

**Key lessons about using the PERFORM2Scale framework for scale-up:**

1. From the beginning of your pilot keep your end point in mind to avoid loss of momentum when accessing funding to support the scale-up.
2. First, identify the roles and functions needed to support the horizontal and vertical scale-up and then identify appropriates structures to support those roles. This approach is likely to ensure sustainability of the roles and functions.
3. Include a framework for the scale-up strategy from the beginning – do not assume that standard formats for developing strategies will be available – and establish a process to monitor the progress of scale-up.
4. Use the 'CORRECT' test for innovations to scale-up and re-test at regular intervals, as the context may change.
5. Recognise that there is a trade-off between maintaining the integrity of the intervention and adaptation to changing circumstances.
6. Do not just focus on horizontal scale-up – vertical scale-up is essential for sustainability.
7. The use of evidence and advocacy to support the scale-up is essential from the beginning; this requires thinking politically to identify potential champions and windows of opportunity.
8. Use costing data – even if only basic information – to support the advocacy for the innovation, especially if low cost has been identified as a relative advantage.
9. Be aware of the changing context and associated opportunities and threats, and adapt the scale-up strategy accordingly.

**Conclusion**

The scale-up framework and strategy we developed, based on the ExpandNet model, was undoubtedly a useful guide to steer the scale-up of the MSI. While providing a common framework across the three study sites, it also allowed for country-specific adaptations based on the team's experience of what seemed to work and changing contexts in each setting.  The scale-up, with initial support from the project, was relatively successful in expanding coverage of the innovation. However, expanding the scale-up of the innovation further, supported by sustainable funding, has proved a much greater challenge. Lessons identified from this experience have been developed to assist with the future scale-up of complex health systems innovations to support UHC.

# Introduction

Improving health workforce performance is critical to achieving Universal Health Coverage (UHC). A management strengthening intervention (MSI) for district health managers to improve health workforce performance was tested in three African countries (Ghana, Tanzania and Uganda) during the PERFORM project between 2011 and 2015. Management teams solved workforce performance problems, within existing resource constraints, that improved service delivery and helped them to become better managers. Based on the PERFORM project findings, the MSI (which can be classed as a complex health systems intervention) met the CORRECT criteria (credibility, observability, relevance, relative advantage, simple to install, compatibility and testability) (Glaser et al, 1983) for determining whether an intervention is scalable or not (Martineau et al. 2018).

To have a wider impact, and thus contribute to UHC, it was recommended at the end of the PERFORM project that this MSI should be scaled-up. A proposal, based on the results of the PERFORM pilot, was submitted to the European Commission in April 2016 involving two of the countries who had taken part in PERFORM (Ghana and Uganda), plus Malawi where the management of health services was being decentralised to district level. The proposal was supported by the ministries of health in all three countries. The overall aim of the project, which started in January 2017, was to develop and evaluate a sustainable approach to scaling-up a district-level management strengthening intervention (MSI) in different and changing contexts.

PERFORM2Scale has adapted a systematic approach for scale-up that has been developed by ExpandNet and WHO and tested in many contexts (WHO/ExpandNet 2010). This is described in Deliverable 1.1: Framework and Strategy for Scale-up (PERFORM2Scale Consortium 2017) and is illustrated in Figure 1. The different elements and processes will be explained in the findings section, including how and why they were adapted.

*Figure 1. The PERFORM2Scale framework for scaling-up (adapted from ExpandNet/WHO)*
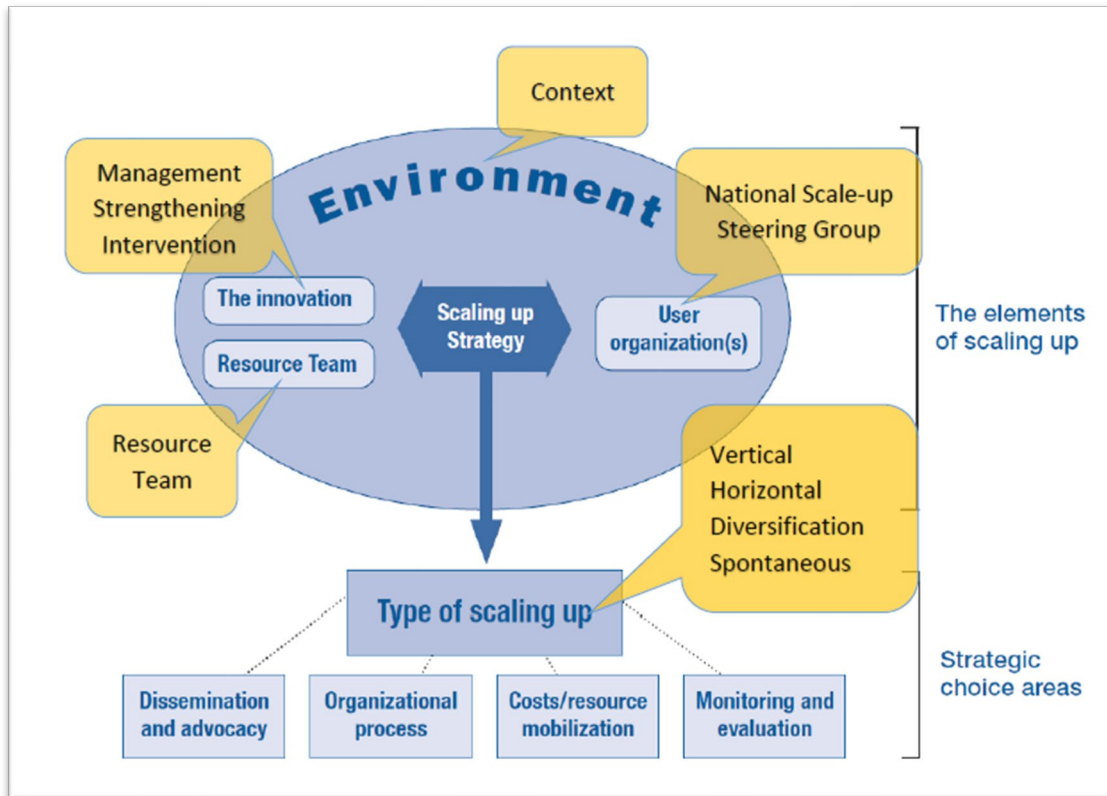


The project planned both process and outcome evaluation activities to identify lessons about implementing and scaling-up the MSI in line with the Theory of Change and its underlying assumptions. We used a range of quantitative and qualitative methods to answer the research questions as outlined in Table 1.

*Table 1. PERFORM2Scale research questions and methods*

| Research questions | Methods |
|---|---|
| **Initial context analysis** | |
| 1. How could political and economic structures influence scale-up of the MSI?<br>2. How could stakeholders and relations between these stakeholders influence scale-up of the MSI? | • Document review<br>• Reflection with Country Research Team<br>• Interviews with stakeholders, eg MoH, DHMTs, local government |
| **Process evaluation** | |
| 3. How is the MSI implemented?<br>4. How is the MSI scale-up strategy implemented?<br>5. How do factors, processes and initiatives facilitate or hinder implementation of the MSI?<br>6. How do factors, processes and initiatives facilitate or hinder implementation of the scale-up of the MSI? | • Tracking MSI and scale-up implementation<br>• Scale-up assessment with Resource Team, National Scale-up Steering Group<br>• Interviews with DHMTs<br>• Reflection with Country Research Team |
| **Outcome evaluation** | |
| 7. What are the effects of MSI on management strengthening, workforce performance and service delivery?<br>8. What are the outcomes/effects of scaling-up the MSI?<br>9. What are the costs of the MSI?<br>10. What are the costs of scaling-up the MSI? | • Tracking and costing of MSI and scale-up implementation<br>• District situation analysis and HMIS synthesis<br>• Management competency survey with DHMTs<br>• Decision space assessment with DHMTs<br>• HR strategies survey with health workers |

We developed a general/non-country specific scale-up strategy (figure 1) and conducted the initial context analyses in each country in 2017. From 2018 to 2021 we implemented the MSI, expanding it across geographical areas in each country. At the same time, we worked to operationalise the scale-up framework in each country and, together with the user organisations, we developed country-specific scale-up strategies to institutionalise the MSI in national policy, plans, guidelines or curricula. Research activities, including process and outcome evaluation, ran throughout this period. Figure 2 shows the timeline of activities.

*Figure 2. PERFORM2Scale timeline of activities*
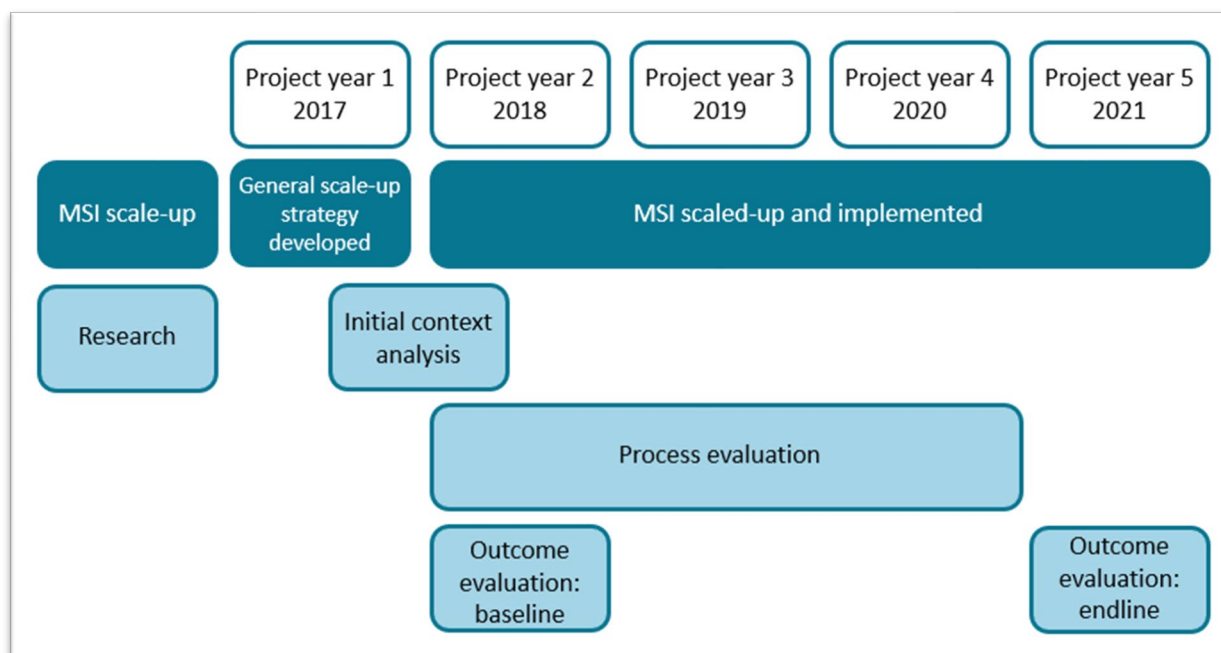


**Purpose of this report**

We are defining validation, or reflection and learning, as 'appraising that the scale-up framework and scale-up strategies produce the intended results and are experienced by stakeholders as contextually logical'. We are reflecting on and learning about the generic PERFORM2Scale scale-up framework and strategy which we developed at the start of the project, and how and why this was adapted in each country during the project. In this reflection and learning process, we will bring together evidence from the country reports and the evaluation findings of the project in order to produce a set of lessons on using a scale-up framework for transferability to similar innovation implementations in other countries. This knowledge will be useful for national and regional managers and practitioners of government, NGOs, private for-profit and faith-based organisations running health services, international health agencies, and international and national health systems research communities.

## Methods

The reflection and learning, or validation, process included several steps.

**Step 1: Review of scale-up journey in each country**
We reflected on the scale-up frameworks and strategies in each country by reviewing the scale-up framework strategies and implementation, scale-up reports, and process and outcome evaluation data. A storyline about each country's scale-up journey was developed, describing what happened and why, and identifying key questions and points to discuss with country stakeholders. We then planned the country workshops.

**Step 2: Workshop with stakeholders in each country**
Between December 2021 and February 2022, a workshop was conducted in each country. Stakeholders who were directly involved in the scale-up process were invited, as well as others who were aware of the project but not directly involved. We presented the original PERFORM2Scale

scale-up framework, ie what we anticipated might happen, and then described what actually happened. Through discussion we gathered participants' experiences and perceptions on the scale-up of the MSI. We also identified lessons for the future scale-up of complex health interventions. The workshops were recorded, notes taken, and reports written up.

**Step 3: Workshop with global stakeholders**

In March 2022, we brought together five external actors who are involved in scale-up in many countries but who had not been involved in PERFORM2Scale. The purpose of this workshop was for those invited actors to reflect on our scale-up frameworks and strategies and to identify lessons for future scale-up. We first provided a brief introduction to the PERFORM2Scale project, and then described the scale-up journeys in each country, including the formation and functioning of the different structures, adaptations made, the horizontal scale-up process and outcomes, and the status of the vertical scale-up. We then facilitated a discussion around four key questions:

1. To what extent did we follow or deviate from the ExpandNet framework?

2. Is it clear why these adaptations were made?

3. What were the intended and unintended effects of the scale-up journey?

4. What new knowledge has been developed for scale-up of complex interventions?

The workshop was recorded and notes taken of the external actors' questions and our discussion.

**Step 4: Synthesising learning from the reflection and learning process**

Drawing on the outputs from the four workshops outlined above, as well as the synthesis report (D9.1), the country reports, case studies, and country scale-up journey reports, we have compared the generic PERFORM2Scale framework and strategy (D1.1) with what has actually happened in each country. We then identified key lessons and guidance on how to use and adapt the framework and strategy in different contexts.

## Findings

In this section we describe the elements of the generic PERFORM2Scale framework and strategy, discuss what occurred in each country, and reflect on how and why these elements were adapted, as well as their effects on the scale-up process.

The elements of the scale-up framework and strategy are: innovation, user groups, Resource Team, types of scale-up (including vertical, horizontal, diversification and spontaneous), changes in the environment, dissemination and advocacy, resources, and monitoring and evaluation. We end with a summary table of both generic and country adaptations to the scale-up framework.

**Innovation**

The management strengthening intervention – known as the MSI – evolved during the PERFORM project, during which it was used across the three countries for one 'cycle'. The MSI process was captured in a toolkit comprising general guidelines for each of the stages of the action research cycle and detailed tools, such as workshop programmes, observation checklists, PowerPoint presentations and reporting formats. The recommendations from the PERFORM project included that further research should be carried out on "How to scale-up the programme to other districts while maintaining fidelity to the action research approach?" (PERFORM consortium 2015, p15). This was

agreed with Ministries of Health in Ghana and Uganda who had experienced the project, and in Malawi where the project was new but seen to be supportive of strengthening management at district level. Supportive letters were provided by Ministries of Health in all three countries in early April 2016. However, the process of reviewing the research proposal and issuing the contract, though relatively fast, meant that the project was not able to start until January 2017. As the aim of the project was to learn about the scale-up process, research protocols needed to be developed and agreed by ethics committees in the UK and each study country. Also, the baseline data needed to be collected and analysed. So, it was not until mid-2018 – nearly three years after the MSIs were completed in Ghana and Uganda – that the MSI process was re-started in Ghana and Uganda (and started for the first time in Malawi).

The MSI was justified as an innovation to be scaled-up as it met the CORRECT criteria (Glaser et al, 1983) for determining whether an intervention is scalable or not (PERFORM2Scale consortium 2016; Martineau et al. 2018). Key aspects of these criteria were 'relevance', 'relative advantage' and 'simple to install' which, it was assumed, would make the innovation attractive for scale-up.

The toolkit was slightly revised for PERFORM2Scale to improve clarity and ensure that gender was considered at many points in the cycle, but in particular during problem analysis and strategy development stages (PERFORM2Scale, 2018).  It was agreed amongst consortium partners that for the first cycle in each country the MSI would follow the guidelines in the toolkit; adaptations could be made thereafter. Facilitator training for the CRTs was provided at Consortium Workshop 3 in February 2018. Resource Team (RT) members largely picked up the facilitator roles 'on the job'.

Implementation of the MSI began in mid-2018, initially involving one District Group (DG) comprising three DHMTs in each country. By the end of the project three DGs of nine DHMTs had been reached in each country (27 districts in total). Each DHMT has completed one or two MSI cycles with the except of DG1 in Uganda which had covered three cycles. Through the experience of conducting the MSI cycles, the CRT and RTs found ways of modifying the MSI to make it more appropriate to the context and the needs of the DHMTs. It had been envisaged that a MSI cycle would take a full year to complete and include approximately eight months for implementing the workplans designed as part of the MSI. This was to allow three complete cycles to take place during Project Years 2-4, and to give time for start-up and project completion (including endline evaluation) within the five years of the project. However, to fit with the annual district planning cycles, the workplan implementation period was extended in Ghana and Malawi to 12 months.

One aspect of the 'relevant advantage' of the MSI was that it only took the DHMTs out of their districts for project meetings and workshops for about six days in the whole cycle. All CRTs found that they needed more time – especially for the problem analysis and workplan design workshops – and extended the workshops by 1-2 days, thus increasing the number of days the DHMTs were away from their routine work. The Malawi team also added extra support visits by the CRT. However, when DHMTs wished to continue with the same problem in the second cycle, CRTs merged the workshops or the final inter-district meeting and the first workshop of the second cycle, thus reducing the time the DHMTs spent away from their districts.

All CRTs experienced challenges with the 'reflection' stage of the action research (AR) cycle. WhatsApp groups were established in Uganda, and the Ghanaian CRT set up an E-diary for reflection. Other small modifications were also introduced: the Ghana team involved the subdistricts in the MSI; the Uganda CRT tried to hold meetings outside the three districts to avoid disturbance of the 'host' DHMT as had been experienced in the past; they also introduced a process of self-assessment of confidence in implementing the MSI during the inter-district meetings. Otherwise, no major

adaptations of the MSI were made during the implementation period. However, the MSI activities in all three countries were disrupted because of COVID-19 from March 2020 (see the section on Changes in the Environment), though most were re-established during 2021.

The clearest modification of the MSI in the post-project scale-up period has been articulated in Uganda. There is a perceived similarity between the PERFORM2Scale AR cycle and the PDSA[1] cycle. Also, the Ugandan Quality Assurance and Improvement framework was being revised and the Quality Assurance (QA) programme had the potential infrastructure for implementation at regional level. Together, this opened the door for PERFORM2Scale's emphasis on health workforce performance to be incorporated into the QA cycle.  It is assumed that the reflection part of the AR cycle will be incorporated into the PDSA cycle, and that henceforth the MSI will no longer continue as a standalone innovation, but that some of its key aspects will be incorporated into the QA programme.

The plans for how the MSI will continue to operate and expand in Ghana and Malawi are unclear at the time of writing. In Ghana, the proposal is that the format of the MSI would continue at district level and be run by the DHMTs themselves. The capacity for new DHMTs to conduct the MSI would be built into regular DHMT refresher training sessions, and it is proposed that the expansion of the MSI to new districts would be managed by the regional directorate. If these plans are carried out, the MSI would remain much as planned. In Malawi, the desire is to maintain the MSI and to operate it through the Quality Management Department's Zonal offices (covering 4 – 6 districts) and through adding extra days to the quarterly meetings for the DHMTs. Separately, data items on human resources, health financing and gender information from the situation analysis of the MSI have now been incorporated into the Integrated Supportive Supervision tool used at district level.

**User Group and National Scale-up Steering Group**

At the start of the project in 2017, we conducted a stakeholder analysis to identify the user organisation that would adopt and widen the scale-up process after the project ends. The user organisations were the Ministries of Health (MoH) in all three countries, as well as Ghana Health Service and the Ministry of Local Government and Rural Development (MoLGRD) in Malawi.  At an early stage it was unclear where the project in Malawi should be situated in the MoH or MoLGRD because of the fluidity of the decentralisation process, however, in the end the collaboration was with the MoH.

We developed a structure called the National Scale-Up Steering Group (NSSG) which represents the user organisations and oversees the scale-up of the intervention during the project and beyond. It was envisaged that the NSSG would be composed of around five senior representatives of organisations that deliver or manage health care services who have decision-making authority. The main responsibilities of the NSSG were to develop the initial strategy for scale-up within the project lifetime, identify sites for the district groups, identify members of the Resource Team, review progress with the scale-up and revise the strategy regularly, and - perhaps the most important function - to develop funded plans for further scale-up beyond the project end.

Following stakeholder analysis and engagement activities, where organisations and individuals were identified who were interested and influential with regard to the scale-up of the MSI, NSSGs were established in the three countries in 2017 and 2018. The NSSG membership in each country showed wide representation from different government ministries and departments.

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[1] Plan, Do, Study, Act

However, there were challenges with the functioning of the NSSGs in all countries. Difficulty in bringing members together to think strategically about scale-up, infrequent meetings, and limited engagement with some individual members continued throughout the project. Several reasons for this emerged. NSSG members were very senior people, had many competing priorities, and were unable to give time to this project. The NSSG was seen as an unofficial or parallel structure developed by PERFORM2Scale rather than owned by the user groups, without clear reporting mechanisms to senior management within the Ministry of Health. In Malawi, power dynamics between the different members and their departments or ministries provided challenges to the functioning of the NSSG. In Ghana, frequent turnover of NSSG members also contributed to the limited functioning of the NSSG.

As a result, modifications to the NSSG were made or are planned. In Uganda, a focal person of the NSSG was appointed who facilitated the engagement of the Country Research Team with the existing MoH Technical Working Groups who provided technical and stakeholder guidance on scale-up. The focal person became pivotal to all scale-up processes. However, the forum for discussing and planning the scale-up strategy was limited, with most discussions taking place with only the NSSG focal person. The Resource Team also took on some of the roles of steering the 'scale-up'.

In Malawi, because of the challenges with the NSSG, the Resource Team largely took on the NSSG role of championing the scale-up of the MSI.

In Ghana, in addition to the NSSG, it was felt that a Regional Scale-up Steering Group should be established, as regional actors were seen as being more engaged and could feed information to the NSSG. Regional actors often move into more senior positions at the national level, and therefore can influence scale-up at national level.

**Resource Team**

While the NSSG was meant to support scale-up at the strategic level, the Resource Team (RT) was intended to function at a more operational level; overseeing the institutionalisation of the scale-up (for the vertical process) and facilitating the MSI – first together with the CRT and then eventually taking over the role.

In Ghana, the CRT was expected to nominate members of the erstwhile PERFORM project to act as facilitators. However, there was only one DHMT member who had experience the PERFORM project left in any of the three districts, so this person was automatically appointed as an RT member. Initially, there were three RT members with the Regional Director of Health Services as the leader. The number of RTs was increased by selecting active members from earlier District Groups, as they are able to share hands-on experience of participating in the MSI during workshops and meetings.

Selecting RT members in Malawi, which had no history of the PERFORM project, was more challenging. This was partly because it was unclear with which department within the MoH the project and the MSI should be aligned. Once it was agreed that the MSI should be aligned with the Quality Management Department (QMD) of the MoH (because of the similarity of the AR cycle to the quality improvement cycle), it was clear that QMD staff from the headquarters and Zonal QMD staff should act as RTs. QMD staff at the Zonal level will continue to support the MSI as RTs.

The selection of RTs in Uganda was done in conjunction with the NSSG members who wanted RTs to be selected from their departments so they could be appraised of the progress of the MSI. The RTs initially seemed that they might be too senior and therefore too busy to work with the CRTs as facilitators. However, the CRTs were able to work with the four RTs in pairs to address problems of

availability.  Because of their seniority, some of the RTs were able to provide very useful and up-to-date technical advice to the DHMTs – particularly in the area of human resource management. The RTs worked well with the CRTs in facilitating the MSIs and managing the horizontal scale-up. Even though some RTs were moved to different posts – even outside the MoH – they managed to arrange to continue in their roles as RTs. However, they made it clear they would not be able to continue in the role after the end of the project. With the incorporation of elements of the MSI into the Quality Assurance and Improvement framework, the role of the facilitators is likely to be somewhat different from that of running the MSI and will be managed by Community Health Department personnel at the Regional Referral Hospitals.

**Type of scale-up: vertical scale-up**

In the PERFORM2Scale framework and strategy we defined vertical scale-up as 'the institutionalisation of the MSI through policy, political, legal, budgetary or other health systems changes'. We anticipated working with the NSSGs to oversee the scale-up, so that they might take ownership and control of scaling-up the MSI, including sustainable resourcing. The aim was to monitor the scale-up process, mainly through the process evaluation, and this was to be reported in the Annual Scale-up Reports developed for each country.

In the three countries, draft scale-up strategies for scale-up of the MSI beyond the end of the project were developed. More attention had been paid to the horizontal scale-up of the MSI, and work on these strategies started quite late in 2019. This was driven largely by the CRTs instead of the NSSGs and RTs, partly because of the limited functioning of the NSSGs. The CRTs discussed with the NSSGs or RTs about: the vision for scale-up over the next five years; adaptations to the MSI; scope for horizontal scale-up, such as numbers of districts and pace of scale-up; strengthening of the steering group; plans for embedding the MSI into existing structures, policies and plans; identifying and working with stakeholders and champions for scale-up support; resources required and mobilisation strategy; and monitoring and evaluation. COVID-19 hampered our ability to have face to face consortium workshops and meetings in country to develop the strategies further. The draft strategies include some of the elements listed above, but no monitoring mechanisms, milestones or indicators, and limited stakeholder engagement and advocacy plans are included in relation to the vertical scale-up.

In Ghana, there are no concrete plans to integrate the MSI into a policy document, budget, training curriculum or guidelines, but discussions are ongoing to align the MSI to specific policy or strategic goals, as well as to integrate the MSI into regular refresher training sessions of DHMTs and regional directorates.

In Malawi, the CRT, alongside the NSSG and RT, is in negotiation with the Quality Management Directorate to include the MSI in the satellite offices' work and DHMT quarterly review meetings. As reported above, parts of the PERFORM2Scale situation analysis tool have been incorporated into the nation-wide Integrated Supportive Supervision tool.

In Uganda, the strategy describes how the human resource management component of the MSI is included in the new national Quality Improvement Framework. It also describes the existing quality improvement and assurance structures that provide governance oversight at the national level and will implement the Quality Improvement cycles at regional and district levels.

**Type of scale-up: horizontal scale-up**

It was envisaged that the plan for horizontal scale-up in each country would be developed by the NSSG, CRT and RT in Year 1. This was to start with facilitating the MSI cycle 1 in three nearby districts (District Group 1 (DG1)), moving successively into MSI cycle 2 and MSI cycle 3. The plan was that as the DHMTs go through each cycle, facilitation by the CRT and RT becomes less and less, so that the DHMTs start to lead this process themselves, and therefore the MSI becomes embedded in their work practices. While DG1 was embarking on a second cycle, the plan was to start up the MSI in District Group 2 (DG2) and the RT would take more of the lead in facilitating the MSI, and then the MSI is started in District Group 3 (DG3). As the scale-up process continues, it was planned that the RT and facilitators from the districts would take on more responsibility for the implementation of the intervention. By the end of the project, the intervention might have been scaled-up in 12 districts with a total of 30 MSI cycles in each country, with the NSSG having taken on responsibility for and funding of the activities in Project Year 5.

By March 2022, the horizontal scale-up had reached the third district group in each country and earlier districts groups had gone through two or more cycles. The NSSG had not taken over responsibility for the continued expansion in Project Year 5 (see Table 2).

*Table 2. Progress in scale-up of the MSI by country, district group and project year (March 2022)*

| District group/ county | Implementation stage | | | | #Districts | #MSI cycles |
|---|---|---|---|---|---|---|
| Project Year | PY2 - 2018 | PY3 - 2019 | PY4 -2020 | PY5 - 2021 | | |
| **Ghana** | | | | | | |
| DG1 | MSI1 | MSI2 | MSI 2 cont'd | MSI 2 cont'd | 3 | 2 |
| DG2 | | MSI1 | MIS1 cont'd | MSI2 | 3 | 2 |
| DG3 | | | | MSI1 | 3 | 1 |
| **Uganda** | | | | | | |
| DG1 | MSI1 | MSI2 | MSI3 | MSI3 cont'd | 3 | 3 |
| DG2 | | MSI1 | MSI2 | MSI2 cont'd | 3 | 2 |
| DG3 | | | MSI1 | MSI1 cont'd | 3 | 1 |
| **Malawi** | | | | | | |
| DG1 | MSI1 | MSI2 | MSI2 cont'd | MSI2 cont'd | 3 | 2 |
| DG2 | | MSI1 | MSI 1 cont'd | MSI 1 cont'd | 3 | 1 |
| DG3 | | | | MSI1 | 3 | 1 |
| **Totals** | **3** | **6** | **7** | **9** | **27** | **15** |

In Ghana, the horizontal scale-up plan for rolling out the MSI in nine districts in the Eastern Region was developed and adopted quickly. The gradual increase in the number of districts covered was appreciated as this facilitates learning across districts. In total, nine districts were covered and 15 cycles were implemented during the project's lifetime.

In Malawi, the horizontal scale-up plan was agreed and rolled out across the country as per the generic plan. The selection of districts in the District Groups took time and composition modified due to different opinions within the MoH and QMD. In total, nine districts were covered and 12 cycles were implemented during the project's lifetime.

In Uganda, the horizontal scale-up plan was also agreed and rolled out across the country as per the generic plan. The district groups were selected by the NSSG, and RTs. Each group included one district that had participated in the original PERFORM project. In total, nine districts were covered and 18 cycles were implemented during the project's lifetime.

The MSI was relatively simple to install, and with the combined efforts of the CRTs and RTs the project was able to provide DHMTs with the capacity to use the MSI approach. We were able to achieve significant horizontal scale-up and conducted the MSI in 27 districts spread across three countries over a period of four years. This included running the MSI through up to three cycles in some of the earliest districts to be engaged. The MSI was seen as sufficiently useful and attractive for DHMTs to want to participate initially and then continue for subsequent cycles. National and subnational (particularly in Ghana) decision-makers were able to plan the horizontal scale-up process in a rational way that met their needs. The major hindrance to the horizontal scale-up was the arrival of the COVID-19 pandemic in March 2020. This both prevented the MSI support activities (workshops, visits, etc) from taking place and understandably diverted the attention of the DHMTs from the implementation of their workplans. Many of the participating DHMTs picked up the momentum for the MSI before the end of the project, implying that the approach was sufficiently embedded in their way of working. This was further demonstrated by the application of the approach to COVID-19 related tasks.

**Type of scale-up: diversification**

This type of scale-up includes adaptations that were as a result of the monitoring and evaluation of the scale-up process. Some adaptations were made to the MSI in Ghana, Malawi and Uganda as described in the innovation section. In Malawi and Uganda, some modifications were made to the composition and functioning of the NSSG and RT. For example, in Malawi we saw the increased role of the RT in steering scale-up (rather than the NSSG) as they were more engaged and understand the project better.  The Ministry of Local Government and Rural Development was also included in the NSSG as they are involved in managing staff at the local level. In Uganda, this involved the use of a NSSG focal person and their interaction with existing MoH Technical Working Groups instead of with the full NSSG. These adaptations appeared to be based on reflections and observations by the CRTs and in discussion with NSSG and RT members.

**Type of scale-up: spontaneous**

This type of scale-up refers to the diffusion of the innovation without deliberate guidance. We were mindful to track whether this happened and explore where, how and why. However, no examples of spontaneous scale-up emerged.

**Changes in the environment**

All three study countries were selected because of their decentralised structures for delivering health services which were deemed necessary to maximise the use of the decision space available to the DHMTs. The decentralisation process in Ghana and Uganda was mature and considered relatively stable. Although the framework for the decentralisation in Malawi was established through the Local Government Act of 1998, the beginning of the shift of responsibilities to District

Councils was relatively recent. It only became clear during the period of the project that the District Councils should play an important role in the MSIs, and the CRTs and RT made special efforts to engage them. The structures in Uganda have continued to evolve, with the continued splitting of districts. The project was affected in District Group 2 with the splitting of Fort Portal City from the local government in Kabarole District, though this was not reported as creating a major problem for the implementation of the MSI. The understanding of the environment at district level also changed during the project. Although we attempted to map out the key decision-makers through the Initial Context Analysis study which took place before the implementation stage of the project, it was only once the MSIs started that it became clear which stakeholders needed to be engaged to provide support for the workplans developed by the DHMTs. As a result, from an early stage in Uganda a wider group of stakeholders at district level – including the Chief Administrative Officer – was engaged and a special dissemination meeting was held to explain and launch the workplans.

The importance of a couple of policy documents emerged during the project period. In Malawi, the Health Sector Strategic Plan II (2017-22) included a strategy to strengthen leadership and management functions and structures at national and district levels. Hence, the MoH was looking for management development opportunities and the MSI was considered suitable. In Uganda, the MoH was updating the current Health Sector Quality Improvement Framework and Strategic Plan 2015/16 – 2019/20. Given the closeness that numerous stakeholders reported between the AR used by PERFORM2Scale and PDSA cycle used in Quality Improvement, there was an opportunity to merge some key characteristics into the PDSA during the process of updating the Framework. This was achieved and now forms part of the new guidance.

The COVID-19 pandemic was a major change in the environment from March 2020 and had multiple effects on the scale-up process. The ongoing implementation of the MSI by the DHMTs was immediately halted due to shifts in work priorities, and the support provided by the CRTs and RTs could not take place, thus affecting the horizontal scale-up of the MSI. Most DHMTs were eventually able to regain momentum, and some were able to apply elements of the MSI approach to the work related to the pandemic. Perhaps the more significant impact was on the vertical scale-up approach. The focus of the first part of the project period was on the horizontal scale-up of the MSI in 27 districts across the three countries. With the growing evidence that the MSI was an effective intervention, the emphasis in early 2020 was on the development of scale-up strategies that would continue the expansion of the MSI beyond the project period. CRTs had started work with their NSSGs and other stakeholders using a broad framework for scale-up. The plan was to bring together at least one member from each country NSSG to the annual consortium workshop in Malawi in March 2020. Because of the pandemic, the workshop went online but it was not possible to include the meeting of NSSG members online – mainly due to pressing responsibilities related to the pandemic. While the DHMTs managed to pick up momentum for carrying out the MSIs, this revival proved to be difficult for the further development of each of the scale-up strategies.

**Dissemination and advocacy**

We planned stakeholder identification and analysis in year 1 at global, country and sub-national levels, followed by the development of a stakeholder engagement plan for each country and a communications strategy at global level. These would be reviewed and updated annually. This process would enable the identification of user groups, members of the NSSG and RT, champions who would advocate for the scale-up and other stakeholders who would support the scale-up. We also planned annual national workshops to brief and update stakeholders about the project and

scale-up. We envisaged the development of products to share with stakeholders, such as briefs and video.

In Ghana, DHMT members previously exposed to the MSI, the previous Regional Director of Health Services, and the new Regional Director of Health Services all advocated for scale-up of the MSI at a small scale, mostly through sharing experiences of the MSI. The Regional Director was part of the NSSG and was a potential champion, but left to become the Director of the Policy Planning and Monitoring division of Ghana Health Service (GHS). In this post she might have played an important role in the scale-up at national level, but despite attempts to engage this director, her busy schedule and other priorities got in the way. The Director General of GHS was also identified as a potential champion. A more formalised and strategic approach to advocacy and the cultivation of champions was absent.

Stakeholder engagement activities undertaken included gaining the buy-in of the Regional Director of Health Services in the early part of the MSI scale-up which facilitated horizontal scale-up across the region. National-level stakeholders relevant for the scale-up were not yet fully convinced of the value of the MSI. Evidence supporting scale-up was available in the form of briefs, workshop reports and annual scale-up reports, but despite numerous attempts to get the PERFORM2Scale MSI on to the agendas of national fora, eg the annual Health Summit, annual review meetings and the research directorate dissemination events, this has not been adequately shared. Lack of engagement by the NSSG, along with the COVID-19 pandemic, hindered these opportunities.

In Malawi, champions included some RT members, District Health Directors, and members of the Quality Management Directorate (QMD). The former chair of the NSSG and Director of QMD was a champion but was transferred after the new government was formed in 2020. This illustrates the political influence on implementation and scale-up of programmes. As reported above, the MSI aligned with national political interests and policies in improved leadership and management at the district level. The Quality Management Directorate was convinced of the value of the MSI scale-up and because the director was well-respected within the MoH, and the MSI was within his remit, he was able to steer the scale-up with little involvement of the Senior Management Team or principal secretaries of the MoH and the MoLGRD. But more information on the impact of the MSI needed to be provided to wider groups of stakeholders, including development partners who might influence the allocation of funds.

In Uganda, the NSSG focal person was a strong champion of the scale-up process in Uganda - strategically placed to inform and guide the CRT on scale-up, and willing to continue advocating for the MSI even after the project's end. Some RT members were also identified as champions. However, not all stakeholders were on board with the scale-up of the MSI and it took time, evidence and discussion to change people's views. Some were not convinced of the differences between existing quality improvement cycles and the PERFORM2Scale MSI. Being able to highlight how the MSI was contextually appropriate became a critical facilitating factor in the merger of some aspects of the MSI into the QI cycle.

Lessons about scale-up were documented in numerous workshop reports, scale-up reports and country project briefs and disseminated to some extent in all countries. However, champions for scale-up only emerged from within a small circle close to the project who support and advocate for the MSI scale-up. Involvement of a wider group of stakeholders was limited. Several reasons have emerged. Costing data were not available at an early stage of the project; presenting the MSI as a low-cost intervention early on, might have been attractive to government stakeholders and donors. There was limited stakeholder engagement and advocacy throughout the project, despite a

stakeholder engagement plan being developed in the first year of the project and updated annually. Opportunities for stakeholder engagement were not always identified and optimised in order to share evidence of MSI outcomes and convince stakeholders of scale-up. As decentralisation progressed or changes in contexts occurred, these stakeholders also changed. This requires observation and scanning of the horizon for new and important stakeholders. This was part of the stakeholder engagement plan and annual reviews and revisions, but was not always acted upon for several reasons, eg the annual national workshops were planned but did not happen or early ones were poorly attended. Stakeholder engagement was also significantly hindered by the COVID-19 pandemic in all three countries. Vision for the scale-up was developed as part of the scale-up strategy late in the project, but without this clear vision early on, it was difficult to engage stakeholders as champions.  More champions may have emerged if annual national workshops had been held as planned or had been more successful. A clearer 'picture' of what a champion is and what they do, including the difference between being convinced and supporting the intervention versus actively lobbying for scale-up, is needed earlier in the project to support the identification and use of more champions. This understanding developed as we progressed in the scale-up.

**Resources**

It was argued that part of the 'relative advantage' from the CORRECT criteria for scaling-up an intervention was the costs would be relatively low and were associated with running the meetings and workshops and the cost of facilitation by the CRT and RT. Part of the evaluation of the MSI included the use of a costing tool to identify these costs (see Annex 2). Some initial costing data for the MSI was shared with consortium members during the implementation of the project – and in particular at the Consortium Workshop in Ghana in March 2019. However, a usable figure for the cost of the MSI was available was not available until late 2021. Based on the cost data from 16 completed MSI cycles, the average cycle cost was €84,000 per country with a range of €63,000 (Ghana) and €106,000 (Malawi). For a single district this corresponds to an average of €28,000, most of which went on staffing costs followed closely by per diems[2]. This was in keeping with the assumption that the cost of the intervention was not high, thus being in line with the innovation's 'relative advantage' argument.

As yet, no funding has been identified for continuation or expansion of the MSI in Ghana, although experienced RTs are available in the Eastern Region. In Malawi, the plan is to extend the quarterly meetings at the Zonal level in order to accommodate the MSI, but no source of funds has been identified to cover the extra meeting days. In Uganda, no costing of the QA&I strategy implementation has been made available.

**Monitoring and evaluation**

We employed an in-depth evaluation of the scale-up of the MSI using several approaches. An initial context analysis was conducted in the three countries in 2017 and 2018 to identify contextual factors that may influence scale-up of the MSI, with a specific focus on the political economy. At two timepoints (2019 and 2021) process and outcome evaluations took place. The process evaluation included an exploration of how the MSI and scale-up are implemented - the factors, processes and initiatives that facilitate or hinder implementation. For the outcome evaluation, we identified the effects of the MSI on management strengthening, workforce performance and service delivery, the outcomes/effects of scaling-up the MSI, the costs of the MSI, and scaling-up the MSI. The process and outcome evaluations included both quantitative and qualitative research methods including:

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[2] With the exception of Malawi where staffing costs were much lower.

tracking and costing of MSI and scale-up implementation, scale-up assessments with CRTs, RTs and NSSGs, interviews with DHMTs, reflection with CRTs, district situation analyses and HMIS synthesis, management competency surveys with DHMTs, decision space assessments with DHMTs, and HR strategies survey with health workers. We also produced annual scale-up reports in each country which drew together all the documentation of activities related to the implementation of the MSI and its scale-up, detailing progress and challenges with scale-up, as well as RT reflections. We also used the project's Theory of Change (ToC) as a way of monitoring, evaluating and steering the scale-up process. The consortium jointly developed the ToC at the start of the project and reflected on it and its implications for the MSI scale-up annually. These reflections were valuable in gaining a nuanced understanding of how change did (and did not) happen. This helped in strategising actions to further steer the scale-up the intervention, such as approaching new stakeholders and a better understanding of power relationships between key stakeholders.

However, monitoring the MSI using the CORRECT criteria (including credibility, observability, relevance, relative advantage, simple enough to install, compatibility and testability) was not carried out throughout the project. The country scale-up strategies that were developed after the project's end did not include methods, indicators and timelines for monitoring and evaluation of the scale-up process.

*Table 3. Summary of the elements of the scale-up framework and strategy; generic and country adaptations*

| Element / process | Generic | Ghana | Malawi | Uganda | Synthesis |
|---|---|---|---|---|---|
| **Innovation** | • Innovation met CORRECT scalability criteria<br>• Toolkit developed which supports the implementation of MSI<br>• Scheduled for 8-month workplan implementation<br>• No funds were provided by the project for the implementation of the workplans (cost neutral) | *Adaptations during P2S:*<br>• Changed to 12-month cycle<br>• Involved sub-district level in MSI workshops and implemented in some sub-districts<br>• Used tool for reflection<br>*Planned adaptations:*<br>• Integrate AR capacity building into regular DHMT refresher training | *Adaptations during P2S:*<br>• Extended second workshop to 3.5 days<br>• Merged final inter-district meeting of Cycle 1 with Workshop 1 for Cycle 2<br>• Extra support visits added<br>• Some P2S elements from district situation analysis tool integrated into Integrated Supportive Supervision (ISS) tool<br>*Planned adaptations:*<br>• Align MSI with District Implementation Plans<br>• Use quarterly zonal meetings to incorporate inter-district meeting concept | *Adaptations during P2S:*<br>• Used hybrid workshops when DHMTs continued with same problem<br>• Included district council HR and planning officers in MSI<br>• Held workshops outside district group to improve attendance<br>• DHMT self-assessment of confidence in conducting MSI<br>*Planned adaptations:*<br>• Use existing regional Quality Improvement framework structures<br>• Health workforce incorporated into revised QII framework | • Toolkit mostly followed with some appropriate variations<br>• Adjusted implementation period to fit annual planning cycle<br>• Changed structure, timing and duration of element of the cycle to meet needs<br>• All DHMTs had challenges with using 'reflective diaries', but reflection did take place<br>• Ghana & Malawi retain some fidelity to the original intervention; Uganda plan is more radical approach, but may ensure sustainability<br>• No change to 'cost neutral' policy |
| **Resource Team** | • RT to implement MSI scale-up with CRT. Consists of management-level staff to oversee institutionalisation of scale-up and facilitators plus selected DHMT members who participated in MSI<br>• RT members will be seconded by user organisation from other roles and will eventually lead implementation of scale-up at end of project and beyond | • Only one person from previous PERFORM project available as RT member, so other RTs initially drawn from Regional Health Administration<br>• Active members from DG1 selected as RT members for DG2 | • Took time to identify RT<br>• Gradual handover of responsibility to RT<br>• RTs helped with MSI and scale-up<br>• Strong partnership between CRTs and RTs | • Selected senior staff - some in departments of NSSG members<br>• Contributed to facilitation and provided some technical support<br>• Supported vertical scale-up process<br>• Good collaboration with CRTs, but too busy to take over CRT roles | • Different levels of seniority across countries, but all can facilitate MSI<br>• Original roles were not differentiated<br>• Played important role of facilitating vertical scale-up in Malawi and Uganda<br>• Unclear roles after project end in Ghana and Malawi; new RTs clearly needed in Uganda |

| Element / process | Generic | Ghana | Malawi | Uganda | Synthesis |
|---|---|---|---|---|---|
| **User organisation** | • User organisations adopt and widen the scale-up process after project end<br>• National Scale-Up Steering Group (NSSG) represents user organisations and oversees scale-up of the intervention during the project and beyond<br>• Key activities: develop initial strategy for scale-up; review progress with scale-up; develop funded plans for further scale-up beyond project end | • User organisations: Ministry of Health and Ghana Health Service<br>• NSSG established in 2017<br>• Limited functioning: very senior members with many competing priorities, little engagement, frequent turnover of members, seen as unofficial structure, no clear reporting mechanisms to senior management within the MoH | • User organisations: Ministry of Health and Ministry of Local Government and Rural Development<br>• NSSG established in 2018<br>• Challenges with functioning: senior members with competing priorities; power dynamics limited how effective collaboration of NSSG and RT; unofficial structure with no clear reporting mechanisms to MoH senior management | • User organisation: Ministry of Health<br>• NSSG established in 2017<br>• Challenges with functioning: parallel structure, very senior members with many competing priorities, some changes in membership<br>• Focal person (FP) appointed who engaged with MoH Technical Working Groups. Forum for planning scale-up strategy was limited. | • Limited functioning of NSSG so some adaptations made in Uganda and plans for regional steering group in Ghana<br>• Supported initial strategy for horizontal scale-up but did not lead development of funded plans for further scale-up beyond end of project<br>• Clearer division of roles and responsibilities, better communication between NSSG and RT needed |
| **Vertical scale-up** | • Institutionalisation of the MSI through policy, political, legal, budgetary or other health systems changes | • Draft scale-up strategy developed. No concrete plans to integrate the MSI into a policy document, budget, training curriculum or guidelines, discussions are ongoing, but idea is to develop a Regional Scale-up Steering Group to oversee MSI in region with links to NSSG, and then move to another region; integrate MSI into regular refresher trainings of DHMTs and regional directorates. | • Draft scale-up strategy developed<br>• CRT alongside NSSG and RT are in negotiation with the Quality Management Directorate to include MSI in QMD satellite offices' work and DHMT quarterly review meetings | • Draft scale-up strategy developed<br>• Describes existing quality improvement and assurance structures providing governance oversight at the national level and implementation support at regional level<br>• The human resource management component of MSI is included in the new QI framework | • Most attention paid to horizontal scale-up, with less attention to development of scale-up strategies until 2019<br>• Process largely driven by CRTs, instead of NSSGs and RTs. CRTs held discussions with NSSGs or RTs in all settings to discuss areas of the strategy. However, no monitoring mechanisms, milestones or indicators, and limited stakeholder engagement and advocacy plans are included. |
| **Horizontal scale-up** | • Plan was for horizontal scale-up in each country to be developed by NSSG, CRT and RT in Year 1. Gradual roll out | • Horizontal scale-up plan for rolling out MSI in 9 districts in Eastern Region was developed and adopted | • Horizontal scale-up plan agreed and rolled out across the country as per the generic plan | • Horizontal scale-up plan agreed and rolled out across the country as per the generic plan. Each District | • Achieved significant horizontal scale-up: MSI in 27 districts across three |

| Element / process | Generic | Ghana | Malawi | Uganda | Synthesis |
|---|---|---|---|---|---|
| | of MSI to district groups with facilitation taken on by the RT. By the end of the project, the intervention will have been scaled-up in 12 districts with a total of 30 MSI cycles in each country. | quickly. Gradual increase of number of districts covered was appreciated as this facilitates learning across districts.<br>• 9 districts covered and 15 cycles during project lifetime | • Selection of districts in the district groups took time and composition modified due to different opinions within MoH and QMD<br>• 9 districts covered and 12 cycles during project lifetime | Group included a PERFORM district.<br>• 9 districts covered and 18 cycles during project lifetime | countries over a period of four years<br>• Decision-makers able to plan the horizontal scale-up process in a rational way<br>• COVID-19 pandemic prevented MSI support activities and diverted DHMT attention |
| Diversification | • Diversification of scale-up process based on discussions between researchers, NSSG and RT and based on evidence from the context, process and outcome evaluations | • Adaptations to the MSI were made | • Adaptation to RT role and composition of NSSG<br>• Some adaptations to the MSI | • Some adaptations to NSSG<br>• Some adaptations to MSI | • Some diversification seen with rational decisions made |
| Spontaneous | • Diffusion of the innovation without deliberate guidance | | | | • No examples seen |
| Changes in the environment (T) | • Countries selected because of decentralisation of health services potentially leading to greater 'decision space' for managers at district level | • Decentralisation remained stable<br>• COVID-19 challenges: delayed implementation of MSI workplans, though some DHMTs applied MSI approach to COVID-19-related work; delayed expansion into new groups; difficult to meet national stakeholders | • Decentralisation was evolving; district councils should be involved in the MSI<br>• COVID-19 challenges: as Ghana; plus some districts stagnated, did not complete the implementation of their workplans | • Decentralisation continued with further district splitting, disrupting work with selected DHMTs<br>• COVID-19 challenges: as Ghana | • Greater understanding of role of local government in supporting health service delivery required greater involvement in the MSI or consultation about the workplan. In two countries, decentralisation is still dynamic.<br>• COVID-19 provided challenges for MSI and scale-up – notably, access to key stakeholders |
| Dissemination and advocacy (J) | • Stakeholder identification and analysis in year 1 at | • Some champions emerged, eg DHMT members exposed to MSI, previous and new | • Some champions emerged, eg some RT members, Directors of DHMTs, and | • Some champions emerged, eg NSSG focal person was a strong champion who is | • Champions emerged but only from a small circle |

| Element / process | Generic | Ghana | Malawi | Uganda | Synthesis |
|---|---|---|---|---|---|
| | global, country and sub-national levels<br>• Development of country stakeholder engagement plan and global communications strategy. Identification of champions who would advocate for the scale-up<br>• Annual national workshops to update stakeholders about project and scale-up<br>• Development of products to share with stakeholders such as briefs, videos etc | Regional Director of Health Services<br>• A more strategic approach to advocacy and development of champions was absent<br>• Stakeholder engagement: gaining buy-in of Regional Director of Health Services facilitated horizontal scale-up. Evidence supporting scale-up was available but not adequately shared.<br>• Lack of NSSG engagement and COVID-19 hindered these opportunities | members of the Quality Management Directorate.<br>• Stakeholder engagement: MSI aligned with national interest in improved district-level leadership and management<br>• Quality Management Directorate convinced of value of MSI scale-up<br>• Need to provide more information to development partners who can influence allocation of funds for scale-up | strategically placed to inform and guide the CRT on scale-up, some RT members were also identified as champions.<br>• Stakeholder engagement: Not all stakeholders on board<br>• Took time, evidence and discussion to change people's views on the MSI<br>• Some not convinced of the differences between existing quality improvement cycles and the PERFORM2Scale MSI | • Clearer 'picture' of what a champion is needed earlier<br>• MSI lessons were documented in workshop reports, scale-up reports and briefs<br>• Opportunities for stakeholder engagement were not always optimised to share evidence of MSI<br>• Costing data not available early in project<br>• Vision for scale-up was developed late in the project; without this, difficult to engage stakeholders as champions |
| Resources (T) | • The costing study found that the average cycle with three districts cost €84,000 or €28,000 per district | • No funding has yet been identified for scaling-up the MSI, but experienced RTs are available at district level | • No funding has yet been identified for scaling-up the MSI. Some activities could be merged with existing events but would need funding for extra days added. Experienced RTs are available at the Zonal level. | • The cost of the implementation of the QA&I strategy is not yet known and funding has yet to be identified | • Cost of implementing MSI in district group not considered high. Scale-up costs estimated at 10% of overall costs. Scale-up plans still under development in Ghana and Malawi and funding not yet been identified. Uganda seeking funding for whole quality improvement strategy, which would cover modified PDSA cycles. |
| Monitoring and Evaluation (J) | • Process and outcome evaluation took place throughout the scale-up process during the life-time of the project | • Initial context analysis in 2017-18<br>• Process evaluation round 1 in 2019 | • Initial context analysis in 2017-18<br>• Process evaluation round 1 in 2019 | • Initial context analysis in 2017-18<br>• Process evaluation round 1 in 2019 | • Used Theory of Change as M&E method for scale-up process. Annual country scale-up reports brought together MSI |

| Element / process | Generic | Ghana | Malawi | Uganda | Synthesis |
|---|---|---|---|---|---|
| | • Monitoring the MSI using the CORRECT criteria was not carried out throughout the project | • Process evaluation round 2 in 2021<br>• Outcome evaluation round 1 in 2019<br>• Outcome evaluation round 2 in 2021<br>• Annual scale-up reports developed | • Process evaluation round 2 in 2021<br>• Outcome evaluation round 1 in 2019<br>• Outcome evaluation round 2 in 2021<br>• Annual scale-up reports developed | • Process evaluation round 2 in 2021<br>• Outcome evaluation round 1 in 2019<br>• Outcome evaluation round 2 in 2021<br>• Annual scale-up reports developed | implementation, scale-up progress and challenges.<br>• Process and outcome evaluation data collected and analysed. Annual consortium workshops and regular webinars where findings on MSI and scale-up shared.<br>• Methods of M&E and findings informed changes to scale-up process. |

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# Discussion

Our findings illustrate that to scale-up a complex health systems innovation, a framework is needed at the start, but that this may need to be modified in the light of experience and changing contexts. Below we discuss some of the issues encountered and derive a set of lessons for the future scale-up of complex health system innovations.

Delay **between pilot and scale-up**

The realities of securing follow-on funding from external sources through a competitive process, coupled with the time needed to set up research processes designed to generate new knowledge, resulted in the loss of some of the momentum and support generated by the PERFORM pilot. Where possible, it is important to plan for the scale-up from the start – or 'begin with the end in mind' (World Health Organization /ExpandNet 2011).

**The innovation: relevance and integrity**

Because of the perception in Uganda of the MSI being very similar to the Quality Assurance PDSA cycle, it might have been useful to reflect on the CORRECT assessment of the innovation that was originally made in late 2015. Rather than spend more time on implementing the MSI – albeit successfully – it might have been wiser to focus on the adaptation of the PDSA cycle. However, because of the commitments already made to both the implementation of the MSI and the accompanying research process, this quite radical shift might have been difficult for both the implementers and the funders.

It was expected that some adaptations to the innovation would be made, and indeed appropriate changes were made. However, there is a balance needed when making adaptations to retain the integrity of the innovation. Clearly the innovation was changed quite fundamentally in Uganda, so the concept of 'scale-up' is not appropriate. In Malawi and Ghana, the future plans were still unclear at time of writing. However, there was talk in Ghana of incorporating the MSI into DHMT refresher training. Since the essence of the AR approach is learning through action, there is a danger that this key concept might be lost in the training process. In Malawi, some creative thinking has been done about how to incorporate the MSI into existing structures and processes. Although the project generated no clear supporting evidence, it seemed that three districts was the right number to have in a group as this was manageable for the facilitators in a workshop format and provided enough chance for interaction between DHMTs. Using the Zonal structure, containing up to six districts, might make some of the workshops too big and unwieldy and compromise the important events (workshops and meetings) when DHMTs work together. Adding a couple of extra days (if funding could be found) to the quarterly DHMT meetings might be a good solution for supporting these events, but there is a risk of distraction if two different purposes need to be met. In both situations in Ghana and Malawi, the plans are being designed to continue the MSI as best they can within funding constraints, but careful monitoring is needed to ensure that sufficient integrity of the innovation is maintained to make the continued investment worthwhile.

**Challenges of vertical scale-up**

The horizontal scale-up went remarkably well, considering some of the set-backs, covering 27 districts across the three countries with some districts completing multiple MSI cycles; the vertical scale-up was more challenging. The concept of the NSSG did not work well, partly as it was seen as a parallel structure. In the absence of the role being carried out by the NSSG, some roles were carried out by RT members. Both sets of roles are logically necessary to support the functions of horizontal and vertical scale-up, but one option would be to explore how these roles could be taken on within existing structures right at the beginning of the scale-up process. As well as the possibility of identifying more appropriate structures for vertical scale-up, the process might increase the level of ownership for sustainability of the scale-up process.

**Developing the champions and dissemination of evidence supporting the scale-up of the innovation**

There was some promotion of successes of the MSI, but it was difficult to present a convincing case of benefits. Management strengthening – the main purpose of the MSI  - takes time over a number of MSI cycles and is difficult to demonstrate. Districts in Uganda and Ghana measure success through their league tables, but attribution of this success to the MSI is challenging. A relative advantage of the MSI was the low cost, but we did not have costing data at an early stage.  Opportunities to showcase the benefits of the MSI to a wider group of stakeholders were limited or poorly attended. Understandably, the focus of the CRTs and RTs was on the horizontal scale-up – especially when three district groups were running in parallel. This took time and resources away from advocacy work for the project and working and thinking politically when it was most needed.  Consequently, sufficient numbers of champions for the scale-up of the MSI failed to emerge and there was no clear pressure to advance the plans for longer-term scale-up following the end of the project. In Uganda, a window of opportunity for retaining some attributes of the MSI was identified, and in Malawi the CRT and RT identified the need for management strengthening in the current health strategy, but as yet have failed to secure sufficient funding for the continuation of the MSI.

**Developing the strategy**

We recognised that the decision to scale-up the MSI would need to be taken at a high level – hence the use of the NSSG to manage this process – and would need to be guided by a funded strategy. The strategy developed at the beginning of the project was the first attempt to guide the process. However, it was assumed that ministries would have their own processes for strategy development, so no further guidance was provided. When there were no strategies emerging by the end of 2019, a document entitled 'Areas for consideration' was developed to help the discussions with the NSSG. This did appear to kick-start discussions – at least in Malawi and Uganda – though this process was severely disrupted by the pandemic. On reflection, guidance such as the 'areas for consideration' document could have been provided for the early discussions on the formation of the NSSG. It might have provided more clarity on the role and expected outcome of the vertical scale-up process.

**Identification of resources for scale-up**

The lack of clearly available resources to continue the scale-up was probably the biggest stumbling block – especially in the context of donor-driven external funding as in all three countries. Along with early discussions on strategy, this should probably have been a major area of discussion. As further

consideration to the CORRECT assessment was given, a realistic assessment of whether funds for continuing the scale-up could have been made and the process halted if not feasible.

**Scale-up is not a linear process**

Although there is initially a clear sequence from pilot to scale-up, the process becomes more iterative. Initial interest from the pilot can be used to build stakeholder support. Early ideas for a scale-up strategy can be made, but these need to be kept under review as the context changes and new opportunities or setbacks emerge.

From the discussion above, we identify for consideration some key lessons about scale-up from using the framework:

1. From the beginning of your pilot keep your end point in mind to avoid loss of momentum when accessing funding to support the scale-up.
2. First, identify the roles and functions needed to support the horizontal and vertical scale-up and then identify appropriates structures to support those roles. This approach is likely to ensure sustainability of the roles and functions.
3. Include a framework for the scale-up strategy from the beginning – do not assume that standard formats for developing strategies will be available – and establish a process to monitor the progress of scale-up.
4. Use the 'CORRECT' test for innovations to scale-up and re-test at regular intervals as the context may change.
5. Recognise that there is a trade-off between maintaining the integrity of the intervention and adaptation to changing circumstances.
6. Do not just focus on horizontal scale-up – vertical scale-up is essential for sustainability.
7. The use of evidence and advocacy to support the scale-up is essential from the beginning; this requires thinking politically to identify potential champions and windows of opportunity.
8. Use costing data – even if only basic information – to support the advocacy for the innovation, especially if low cost has been identified as a relative advantage.
9. Be aware of the changing context and associated opportunities and threats, and adapt the scale-up strategy accordingly.

## Conclusion

The scale-up framework and strategy we developed, based on the ExpandNet model, was undoubtedly a useful guide to steer the scale-up of the MSI. While providing a common framework across the three study sites, it allowed for country-specific adaptations based on experience of what seemed to work and changing contexts in each setting. The scale-up, with initial support from the project, was relatively successful in expanding coverage of the innovation. However, expanding the scale-up of the innovation further supported by sustainable funding has proved a much greater challenge. Lessons identified from this experience have been developed to assist with future scale-up of complex health systems innovations to support UHC.

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# Annexes

*Annex 1. Assessment of the PERFORM intervention against the CORRECT criteria*

| CORRECT Scalability criteria | Findings from the PERFORM intervention |
|---|---|
| **C**redible in that they are based on sound evidence and/or advocated by respected persons or institutions | Similar management strengthening interventions using action research cycles have proved successful, eg in Ghana Strengthening District Health Systems Initiative (Cassels and Janovsky, 1995), Tanzania (Barnett and Ndeki, 1992) and more recently in several SSA countries (Doherty and Gilson, 2015) |
| **O**bservable to ensure that potential users can see the results in practice | It was possible to observe the DHMTs in action and their problem analyses and associated workplans during workshops and inter-district meetings. Progress with implementing the workplans, and to some extent their reflections, was observable in the reflective diaries maintained by the DHMTs. Reports of workshops and meetings provided updates for potential users in other districts. |
| **R**elevant for addressing persistent or sharply felt problems | The need for strengthening management skills is a well-identified issue in district health literature (Doherty and Gilson, 2015). The management strengthening intervention puts managers in a central position to identify problems and explore solutions. Having DHMTs identifying their own workforce problems and developing interventions to address them within their own local constraints ensures relevance of the intervention. |
| **R**elative advantage over existing practices so that potential users are convinced the costs of implementation are warranted by the benefits | The intervention is based at district level. The team is therefore able to learn from addressing 'real-world' problems, selected and owned by them, in their district in the context of existing resource constraints and conflicting priorities. Learning can be applied to other problems. As the whole team is engaged in the continuing learning process, staff turnover is less of a risk to the institutional memory. The intervention only required the DHMT to be offsite for about 6 days over 18 months. The workshops and inter-district meetings provided participating DHMTs with the opportunity to share ideas, challenges and progress. The main costs were associated with running the meetings and workshops and the cost of facilitation by the PERFORM research team. |
| **E**asy to install and understand rather than complex and complicated | PERFORM builds upon existing DHMTs' practices. The intervention was successfully used in three different districts in three different countries. DHMTs were provided with orientation and a manual and were able to quickly grasp the process. |
| **C**ompatible with the potential users' established values, norms and facilities; fit well into the practices | PERFORM has been tailored to managers with decentralised management authority. National research teams supporting DHMTs helped ensure that overall health system values are respected and that interventions are accommodated within the organizational ethos. DHMTs were able to incorporate budgets for the workplans they developed into the general district budget. |

| CORRECT Scalability criteria | Findings from the PERFORM intervention |
|---|---|
| of the national programme | |
| **T**estable so that potential users can see the intervention on a small scale prior to large-scale adoption. | Regional level managers in Ghana and Tanzania were able to attend some of the workshops and observe first-hand the problem analysis and workplan development process. Reports of workshops were shared in all countries. Video testimonies were developed for each country. The project was fully documented and results and tools made available on the PERFORM website. National and regional-level supervisors were able to observe changes in management practice in participating districts, including improved progress reporting arrangements in some districts. In Uganda, some other DHMTs visited one participating district and were able to observe the impact of the intervention. |

# Introduction

## 1.   Purpose of the costing study

The study was designed in 2017 to estimate total cumulative costs of scaling-up the MSI in the three implementation countries. Costs included one-time start-up costs and the recurrent costs of maintaining the intervention. The general approach of the study was to identify and quantify the costs of scaling-up the MSI from both the MOH and the development partner's perspectives. This focus has been chosen, as the direct costs of implementation are more relevant for informing the policy priority setting and thus more important to the needs of national stakeholders. Costs incurred by the paired partners (PP) were not considered, assuming that these resources are not directly linked to the operational part of the MSI scale-up and implementation, instead relating mainly to the general design and evaluation of the approach.

The study considers both financial and economic costs. Financial costs represent the accounting cost of implementing the intervention, whereas the broader notion of economic costs captures the opportunity cost of the resources used in the intervention, whether or not a financial cost was incurred (ie even if they did not involve a monetary payment). Differences arise between financial and economic costs for goods or services for which there are no financial transactions, and where the price of the good does not represent its actual value (ie voluntary work of social health workers).

The cost of government salary costs, for example, have been estimated based on the salary scales of the government's health services staff. These can be considered to be conservatively estimated at the lower end of these salary scales. The number of days which required the presence and participation of government staff (or other stakeholders like faith-based organisations in the NSSG) were then multiplied by the salary cost per day for each.

## 2.   Analytical approach

A standardised MSI-scale-up-Excel-based costing and budgeting tool has been developed at baseline in 2017 to collect cost data and to ensure data collected across settings and countries are comparable.

Two types of interventions were separately costed (two cost objects): (i) the scale-up, and (ii) the MSI. An activity-based approach was employed to estimate the total costs based on quantities and unit costs of all inputs required for the two cost objects.

Two sources of information have been used to determine the initial range of activities to be captured by this study. First, for the implementation of the MSI, selection and grouping of activities was based on the review of project documents from the first phase of PERFORM. Second, for the scale-up process, activities were defined according to the description of activity (DOA) of PERFORM2Scale and the consultation of the CRTs.

*Table 4. Activity-based cost centres for the scale-up process*

| Description of activity-based cost centre | | Cost type |
|---|---|---|
| **MSI** | Plan step<br>(a) detailed problem analysis and<br>(b) development of the work plan | Recurrent |
| | Observe step:<br>(a) supervisory visits by CRT<br>(b) joint district meetings | Recurrent |
| | Reflect step | Recurrent |
| **Scale-up** | Establishment of NSSG, RT | One-time |
| | Training of facilitators: RT | One-time |
| | Meetings NSSG / RT | Recurrent |
| | National workshops | Recurrent |
| | Other stakeholder meetings | Recurrent |
| | Cross-district meetings | Recurrent |

 Each cost centre (ie interventions and their required activities) is associated with individual line items (ie resources) which were captured. Table 5 identifies a range of items, which are grouped into logical categories. The presented list of line items was used during the course of data collection as required.

*Table 5. Identification and grouping of line items*

| Aggregated line items | Line items |
|---|---|
| Personnel costs | Salaries |
| Per diems | Per diems (subsistence, accommodation, travel etc.) |
| Transport costs | Vehicles, tools, services fees and repairs, fuels, lubricants etc. |
| Materials and supplies | Stationary, office equipment, information technologies, furniture etc. |
| Rental of sites | Hotels and venue bookings |
| Other expenses | Refreshments, organised meals etc. |

## 3. Updates to the Excel-based costing tool

During a workshop conducted in Accra, Ghana in March 2019, modifications of activities and cost items were discussed (after one year of data reporting experience) and agreed upon by all consortium members. As a result, the costing tool was adapted accordingly to include:

   i.   Modification of the MSI-scale-up-Excel-based costing tool to include the additional districts from DG2 and DG3.
   ii.  Addition of the cost category 'Orientation meetings' in the MSI sheets.
   iii. Addition of the cost category 'Rental of sites for venue and hotels' in both MSI and scale-up sheets.

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Addition of a comments box to cost items to allow the further description of the cost item if needed.

## 4. Data collection in practice

The integrated costing tool developed in 2017 has been used to collect the data over the period 2018 to 2021 in all three countries.

In principle, each tool corresponds to one full calendar year of data. The cost data was collected by the CRT in each country, with the help of participating DHMTs.. Within each country, data were collected manually or by using data collection tools from different working groups (CRT, NSSG, RT, DHMTs).

Regular support at distance was given to the CRTs by Swiss TPH and KIT, via email and Skype/Zoom over the course of the four years. The teams supported the data collection by clarifying activities, cost item definitions, and use of the costing tool.

These data were compared across the three countries and with the all-country, all-cycle average.

## 5. Limits and recommendations for future use of the costing tool

During use of the costing tool and its subsequent analysis, several limitations emerged as outlined in table 6.

*Table 6. Challenges in using the costing tool and future recommendations*

| Challenges in using the costing tool and approach | Recommendation for the future |
|---|---|
| **Data collection tool**<br><br>The Excel-based costing tool is constructed in a way that it covers a single calendar year. However, the MSI and scale-up activities relating to DG1, DG2 and DG3 did not align to the calendar year, which led to the need to extract and then recombine the costing data from different Excel sheets. | For future use and the analysis of the costs of MSI and scale-up, the costing tool should be aligned to the intervention period.<br><br>Furthermore, the implementation period to be analysed should ideally span a one-year workplan implementation period. |
| **Data collection and disaggregation of cost data by individual cycles**<br><br>The Excel-based costing tool is constructed in such a way that it combines costs for one implementation cycle. During the analysis, efforts were made to adjust the annual cost data file, to be able to collect data specific to each District Group by cycle. This was not done consistently and the result was the inability to extract the costs of each District Group cycle | Improve the tool and the data collection in a way which allows comparison of MSI and scale-up costs across cycles (eg how cycle 1 compares with cycle 2 and 3 for the same District Group). Such analyses could highlight any potential efficiency gains deriving from increased experience of the CRTs and the DGs as more cycles are implemented. This could inform future models of implementation, |

| | |
|---|---|
| as a stand-alone for a more specific comparison of costs (eg unit cost per cycle). | allowing these 'experience' savings can be taken into consideration |
| **Data collection**<br><br>Data collection on costs was done by a single CRT member in each of the countries. None of them was a financial or costing expert and had limited previous exposure to similar work. This required a close, regular support from Swiss TPH. | Whenever possible costing information should be collected by a resources expert with a health economics or financial administration background. |
| **Effect of the COVID-19 pandemic on costs**<br><br>During the implementation of the interventions, the COVID-19 pandemic arrived in all three countries and affected the intervention implementation in varying ways. The minimum impact was to simply stop all activities during a several-month lockdown. Many cycles' durations were extended well beyond the foreseen eight months. It was not possible to elaborate how these delays and the lockdown affected the cycle costs. | - |
| **Linking costs to outcome measures**<br><br>While efforts were made to integrate some outcome measures across the three countries into the costing tool, this was not sufficiently well developed and in the end was not adequately populated with useful data. | So as to gain a more in-depth understanding of the costs of a given outcome and to accurately assess the intervention's value for money, it would be useful to select and track one or more quantitative outcome measures from the beginning of the intervention. |

## 6. Final observations

The costing tool achieved the task for which it was intended; namely the analysis of the financial and economic costs of the MSI and scale-up over the life of the implementation cycles. The tool allowed us to produce costing data and to feed into the overall PERFORM2Scale analysis. Based on the lessons learnt, selected modifications are proposed for the costing approach and to the Excel-based tool so that it might be used for similar work.