



IMPACT technician mentoring a midwife.  
Photo credit: Samy Rakotoniaina/MSH

## IMPROVING MNCH SUPPLY CHAIN PERFORMANCE IN MALAGASY DISTRICT PHARMACEUTICAL WAREHOUSES THROUGH THE SPARS APPROACH


### BACKGROUND

Madagascar’s supply chain for maternal, newborn, and child health (MNCH) faces several challenges that hinder the availability and accessibility of essential commodities. One of these is inadequate training of pharmacies *de gros du district* (Pha-G-Dis)—or district pharmaceutical warehouses—staff, which leads to noncompliance with the Madagascar Central Medical Store’s (SALAMA) cyclical ordering and quarterly transportation schedule and inaccurate estimation of necessary MNCH commodities. Late and incomplete reporting of stock status data is further exacerbated by human resource and logistics constraints and the limited capacity of the Ministry of Public Health (MOPH) to oversee and evaluate the performance of Pha-G-Dis. These challenges impair the ability of the health system and MNCH supply chain to accurately quantify needs for all districts and for each district’s health facilities, to procure appropriate quantities of MNCH commodities for the population, and to effectively coordinate commodity dispatches across the country. This results in frequent stock-outs of essential MNCH supplies, impeding the sustainable availability of these commodities and ultimately affecting the quality of MNCH services.



MSH is an organization member of the consortium implementing the USAID IMPACT program, led by PSI. MSH leads the public-sector interventions, working with the Government of Madagascar to strengthen the public-sector supply chain’s capacity to sustainably provide quality health products to the Malagasy people. MSH works closely with the directorates of the MOPH engaged in managing pharmaceuticals, such as the directorate of pharmacy, the regulatory authority, and SALAMA.

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## TECHNICAL

### Strategic approach



**SPARS is an indicator-based, multipronged intervention strategy that combines supervision, on-the-job training, and provision of tools and guidelines with structured performance reviews to identify and prioritize issues and encourage progress through recognition of performance improvements.**

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To address Madagascar’s public-sector MNCH supply chain challenges, the Improving Market Partnership and Access to Commodities Together (IMPACT) Project adapted Management Sciences for Health’s (MSH) Supervision, Performance Assessment, and Recognition Strategy (SPARS) approach to the Madagascar context and implemented it in 78 Pha-G-Dis in the 14 US Agency for International Development (USAID)-supported regions to improve MNCH pharmaceutical management practices. SPARS is an indicator-based, multipronged intervention strategy that combines supervision, on-the-job training, and provision of tools and guidelines with structured performance reviews to identify and prioritize issues and encourage progress through recognition of performance improvements. SPARS integrates best practices and interventions to increase the likelihood of positive change.

SPARS has previously been implemented in Uganda, where health facilities’ scores improved on average by **22.3%** per visit and **70%** during the first year.<sup>1</sup> SPARS was found to be effective in building capacity and improving health commodity management in Uganda.

Apart from enhancing the knowledge, skills, and practices of Pha-G-Dis staff, the SPARS approach is important for facilitating data-driven decision making at all levels of the supply chain system, which is essential for improving performance. SPARS also aims to foster a culture of high quality and high performance among Pha-G-Dis staff to sustainably strengthen supply chain management.

### Implementation



**The supervisor assesses the warehouse according to six categories:**

- **Inventory control system**
  - **Stock management and availability**
  - **Store management practices**
  - **Governance**
  - **Orders, distribution, and reporting**
  - **Human resources**
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Between March and July 2020, IMPACT adapted, tested, and finalized the SPARS evaluation tool. IMPACT and the MOPH compared the SPARS tool with the existing supervision checklist developed by the Directorate of Pharmacy in 2017 and the project environmental monitoring and mitigation tools and consolidated the tools to avoid duplication and streamline the supervision and assessment process for supervisors. IMPACT then trained regional and district health management teams to use the SPARS tool in 75 of the 78 district pharmacies across the 14 regions between July and October 2020. Data collected with the SPARS tool were used as a baseline assessment for future supervision visits and allowed district pharmacy staff to develop improvement plans for MNCH commodities.

SPARS visits are conducted by regional or district health management teams with technical and logistical support from IMPACT staff. Supervisors apply the SPARS methodology and questionnaire during supportive supervision visits to the Pha-G-Dis.

Pha-G-Dis are categorized by on their composite score on the SPARS scoring matrix: “performing” if they score 90% or higher, “average” if they score 76%–89%, and “weak” if they score 75% or lower. The scoring grid is completed by the supervisors and then reviewed in the Pha-G-Dis with pharmacy staff, who use the data to develop action plans to improve the areas identified as weak. IMPACT aims to support the districts to attain a composite score of 90% or higher or improve their composite scores by at least five points at each supervision visit.

<sup>1</sup> Trap et al. Article 2: Longitudinal study assessing the one-year effects of supervision performance assessment and recognition strategy (SPARS) to improve medicines management in Uganda health facilities. *Journal of Pharmaceutical Policy and Practice* (2018) 11:15

At this stage of intervention using the SPARS approach, recognition for performance has focused on individual feedback and praise. During regional meetings, high-performing districts are acknowledge and congratulated, district results are compared, and lessons learned and best practices are disseminated. In the coming year, the MOPH and IMPACT will award Best Service Provider certificates to the highest performing Pha-G-Dis for the previous year’s performance; additional prizes such as printers, refrigerators for improving cold chain, shelves and pallets, and other items to upgrade storage conditions will also be given.

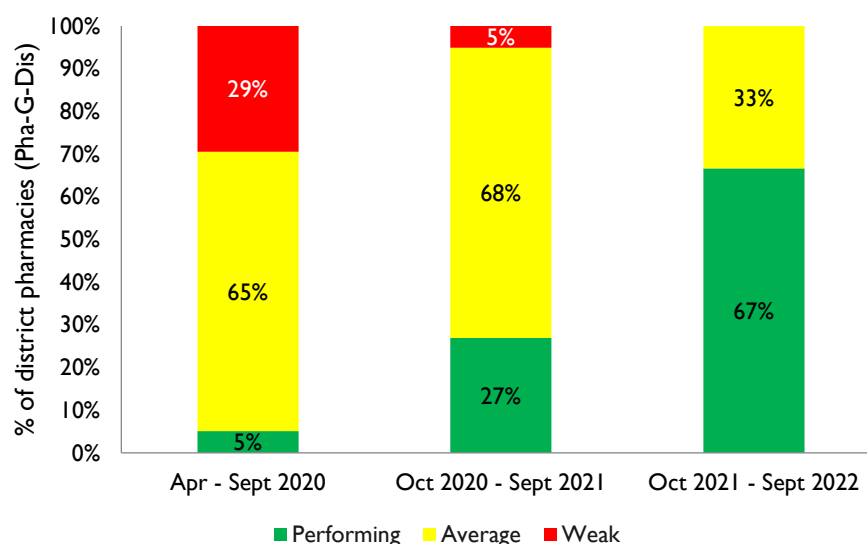


The proportion of Pha-G-Dis classified as performing increased from 5% (4 Pha-G-Dis) in April–September 2020 to 27% (21 Pha-G-Dis) in October 2020–September 2021 to 67% (52 Pha-G-Dis) in October 2021–September 2022, while the proportion of Pha-G-Dis classified as weak decreased from 29% (23 Pha-G-Dis) to 5% (4 Pha-G-Dis) to 0% over the same time periods.

### Performance data

All 78 IMPACT-supported Pha-G-Dis received a SPARS baseline assessment between April and September 2020, at least one follow-up assessment between October 2020 and September 2021, and at least one additional follow-up assessment between October 2021 and September 2022. The proportion of Pha-G-Dis classified as performing increased from 5% (4 Pha-G-Dis) in April–September 2020 to 27% (21 Pha-G-Dis) in October 2020–September 2021 to 67% (52 Pha-G-Dis) in October 2021–September 2022, while the proportion of Pha-G-Dis classified as weak decreased from 29% (23 Pha-G-Dis) to 5% (4 Pha-G-Dis) to 0% over the same time periods (figure 1). Forty-seven of the 78 Pha-G-Dis (60%) achieved a 5% or greater improvement in their SPARS composite score between the baseline assessment and the October 2020–September 2021 follow up, and 54% achieved a 5% or greater improvement between the October 2020–September 2021 and October 2021–September 2022 assessments.

Figure 1. Pha-G-Dis performance (measured via SPARS score) improvement over time



## APPLICATION

In addition to reviewing the performance and building the capacity of Pha-G-Dis staff, IMPACT has utilized the SPARS results to improve MNCH supply chain management at the district and regional levels. Between January and June 2022, all 14 regions and 78 districts used SPARS data to inform higher-level planning and coordination.

All 78 district procurement and stock management committees incorporated discussions on the implementation status of plans agreed upon during the SPARS assessments into their meetings. Supervisors have identified marked improvements in stock and inventory management during SPARS assessments. For example, all 78 Pha-G-Dis are now systematically sending physical inventory counts of MNCH commodities at the end of each month to committees responsible for managing and procuring commodities at the district and regional levels. The regional-level Unités Techniques de Gestion Logistique (technical logistics management units) have also discussed SPARS results to highlight progress and inform future action plans aimed at improving MNCH stock availability at the district level. SPARS has helped streamline supply chain management and improve the supply of MNCH commodities.

### Lessons Learned

Quarterly routine supervisions are conducted by district and regional MOPH staff using the SPARS tool. IMPACT has made some adaptations to the SPARS approach throughout the implementation. The cutoff for the “performing” category was increased from 80% to 90% to encourage districts to strive for higher levels of performance. IMPACT adapted the SPARS approach to the existing supervisory mechanism in Madagascar, as specific medicine supervisors were not available in the country unlike in Uganda. IMPACT has successfully integrated a continuous quality improvement approach using the data generated by the SPARS tool, which has led to more effective and motivated supervision for both the supervisors and the supervisees.

During the COVID-19 pandemic, IMPACT adapted the frequency of supervision visits to comply with prevention measures in the country. Initially, IMPACT planned to supervise each Pha-G-Dis four times per year, but this had to be altered due to travel restrictions. To ensure the sustainability of the SPARS approach, IMPACT introduced virtual coaching and reduced in-person supervision visits based on Pha-G-Dis performance in previous SPARS assessments. The frequency of virtual coaching and in-person supervision visits varied depending on the performance level of each Pha-G-Dis. Pharmacies classified as “performing” were given the opportunity to become more independent and received one visit per year, while those in need of support still received regular SPARS visits to improve performance, with “average” Pha-G-Dis receiving two visits per year and “weak” pharmacies receiving four visits per year.

To reinforce recognition and encourage healthy competition among district teams, IMPACT plans to bring Pha-G-Dis teams together to share their best practices, view the results of other districts, and receive awards, which will further motivate district teams to strive for excellence.

Over the three years of implementing the SPARS approach in Madagascar, IMPACT has focused on building MNCH supply chain management capacity across all levels of the health system. However, a Pha-G-Dis’s performance is a reflection of more than just its staff’s capacity. The SPARS score also reflects

adherence to best practice storage conditions and standards. Achieving strong performance also requires the availability of equipment, materials, and tools such as shelves, refrigerators, freezers to store cold chain products such as oxytocin, and thermometers to monitor temperature. As of June 2022, 55 of the 78 IMPACT-supported Pha-G-Dis lacked sufficient shelving, 35 needed refrigerators, and 5 needed to replace their thermometers. IMPACT will use the recognition awards for high-performing Pha-G-Dis to fill some of these equipment gaps and also will advocate to other partners and donors supporting the health system to meet larger needs, such as refrigerators. IMPACT did not assess the Pha-G-Dis' equipment needs before implementing SPARS, as the gaps in practices and knowledge were more pressing at the time. However, in future applications or adaptations of the SPARS approach, IMPACT recommends including a material needs assessment early in the implementation process and engaging stakeholders to mobilize resources and supply pharmacies with the necessary equipment to improve their storage conditions.

### Sustainability

IMPACT recognizes the importance of sustaining the gains made through the SPARS approach and maintaining long-term improvements in Pha-G-Dis performance. As such, IMPACT will continue to provide feedback to Pha-G-Dis staff and support them to develop and implement improvement plans based on their SPARS assessment results. At the regional level, IMPACT will continue to disseminate SPARS results, best practices, and lessons learned to promote ongoing learning and adaptation of the approach. Finally, IMPACT has trained health management teams at the central and regional levels to conduct SPARS assessments and analyze and report results. This has created a pool of trained supervisors who can continue to implement SPARS and coach district- and facility-level staff even after IMPACT ends. Between January and March 2023, SPARS assessments were conducted by regional supply chain managers trained by IMPACT with remote support from IMPACT staff.

Before the end of the project, IMPACT will support the scale-up of the SPARS approach in non-IMPACT-supported districts to cover all regions of Madagascar. To support this, IMPACT is developing a toolkit on SPARS that will include a description of the methodology; a Microsoft Excel checklist; web-based and mobile application versions of the tool to collect, report, and visualize SPARS assessment data quickly within the District Health Information Software; and templates for action plans and reports. These tools will simplify data collection, entry, analysis, and reporting and enable scaling up of the SPARS approach.

In early 2022, IMPACT supported the MOPH to revise Madagascar's manual for stock management, which now incorporates SPARS. The revised manual was validated and signed by the Minister of Health in March 2022 and has been disseminated throughout the country. Additionally, IMPACT and the MOPH updated the supply chain management training curriculum to include SPARS. The curriculum was approved in March 2023, and a central-level training of trainers

was conducted in April 2023 that will be cascaded to the regional and district levels in May and June 2023 and later at the commune level.

## Recommendations & Way Forward

The use of the SPARS methodology and tool has proven to be valuable for measuring Pha-G-Dis performance, monitoring progress, and identifying areas for further improvement. Through IMPACT’s implementation of SPARS, improvements in Pha-G-Dis SPARS scores have demonstrated the effectiveness of this approach in strengthening supply chain management at the district level, which ultimately contributes to improved and sustained quality of MNCH clinical care in Madagascar. IMPACT will support the MOPH to document and expand the use of the SPARS approach throughout Madagascar.



The five-year (2018-2023) US Agency for International Development (USAID)-funded Improving Market Partnership and Access to Commodities Together (IMPACT) project works alongside the Ministry of Public Health (MOPH) to improve the supply, delivery, and management of health commodities in 14 USAID-supported regions of Madagascar. IMPACT—led by Population Services International (PSI) in partnership with Management Sciences for Health (MSH), PATH, Banyan Global, and Axian Foundation—aims to sustainably improve the health of the Malagasy population through a strengthened health system and efficient health markets, contributing to universal health coverage, and to improve the capacity of the Malagasy health system to ensure that quality pharmaceuticals and health commodities are available and accessible to all Malagasy people on a sustainable basis.

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