



A staff member from the Isandra Pha-G-Dis (right) and a member of a community health center. Photo credit: Timothé Chevaux, USAID IMPACT

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

### BACKGROUND

Madagascar’s supply chain faces several challenges that hinder the availability and accessibility of essential health commodities. One of these is inadequate training of *pharmacies de gros de district* (Pha-G-Dis)—or district wholesale pharmacy—staff, which leads to noncompliance with the Madagascar Central Medical Store (SALAMA)’s cyclical ordering and quarterly transportation schedule and inaccurate estimation of commodity needs. 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 supply chain to accurately quantify needs for all districts and for each district’s health facilities, to procure appropriate quantities of health commodities for the population, and to effectively coordinate commodity dispatches across the country. This results in frequent stock-outs of essential commodities, impeding their sustainable availability and ultimately affecting the quality of health care 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 management of pharmaceuticals, such as the directorate of pharmacy (DPMLT), the drug regulatory authority (DAMM), and SALAMA.

## TECHNICAL

### Strategic Approach



**SPARS is an indicator-based, multi-pronged 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 by rewarding performance improvements.**

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To address Madagascar’s public-sector supply chain challenges to improve pharmaceutical management practices, IMPACT adapted the MSH Supervision, Performance Assessment, and Recognition Strategy (SPARS) approach to the Madagascar context and implemented it in 78 Pha-G-Dis in the 14 USAID-supported regions. SPARS is an indicator-based, multi-pronged 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 by rewarding performance improvements. The best practices approach integrates different interventions to increase the likelihood of positive change.

SPARS was previously used in Uganda in 2010, 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 for strengthening 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

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 Pha-G-Dis 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 Pha-G-Dis staff to develop improvement plans.

**Supervision:** 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.

**Performance Assessment:** Pha-G-Dis are categorized by 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 Pha-G-Dis to attain a composite score of



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

1. Inventory control system
  2. Stock management and availability
  3. Store management practices
  4. Governance
  5. Orders, distribution, and reporting
  6. Human resources
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<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

90% or higher or improve their composite scores by at least five points at each supervision visit.

**Recognition:** Staff at high-performing Pha-G-Dis receive individual feedback and praise from supervisors during each SPARS visit. During regional meetings, high-performing districts are publicly acknowledged and congratulated, district results are compared, and lessons learned and best practices are disseminated. In 2024, the MOPH and IMPACT awarded certificates to the highest performing Pha-G-Dis and distributed prizes or paid for activities to recognize the performing Pha-G-Dis such as refrigerators, thermometers, shelves, pallets, painting rooms, and refurbishment of roofs to upgrade storage conditions; clocks, printers, notice boards, and filing cabinets to improve management and documentation practices; and branded coats and pens for visibility of high-performing Pha-G-Dis staff.

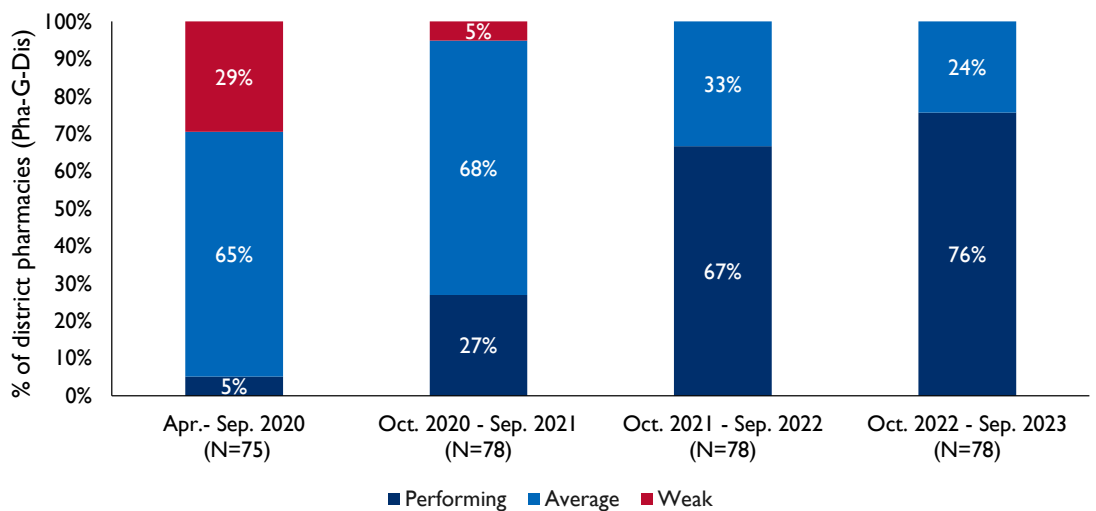


The proportion of Pha-G-Dis classified as performing increased from 5% (4 Pha-G-Dis) in April–September 2020 to 27% (21 Pha-G-Dis) in October 2020–September 2021 to 67% (52 Pha-G-Dis) in October 2021–September 2022 to 76% (59 Pha-G-Dis) in October 2022–September 2023, while the proportion of Pha-G-Dis classified as weak decreased from 29% (22 Pha-G-Dis) in April–September 2020 to 5% (4 Pha-G-Dis) in October 2020–September 2021 to 0 in October 2021–September 2022 and October 2022–September 2023.

## RESULTS

75 of the 78 IMPACT-supported Pha-G-Dis received a SPARS baseline assessment between April and September 2020 and, subsequently, all 78 received at least three follow-up assessments: at least one between October 2020 and September 2021, at least one between October 2021 and September 2022, and at least one between October 2022 and September 2023. 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 to 76% (59 Pha-G-Dis) in October 2022–September 2023, while the proportion of Pha-G-Dis classified as weak decreased from 29% (22 Pha-G-Dis) in April–September 2020 to 5% (4 Pha-G-Dis) in October 2020–September 2021 to 0 in October 2021–September 2022 and October 2022–September 2023 (Figure 1). Thirty-nine (52%) of the 75 Pha-G-Dis that had baseline assessments achieved a 5-point or greater improvement between the baseline and October 2020–September 2021 assessments; 42 (54%) of the 78 Pha-G-Dis achieved a 5-point or greater improvement between the October 2020–September 2021 and October 2021–September 2022 assessments and 23 (29%) between the October 2021–September 2022 and October 2022–September 2023 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 supply chain management at the district and regional levels. Since 2022, all 14 regions and 78 districts use SPARS data to inform higher-level planning and coordination. All 78 district procurement and stock management (PSM) committees incorporate 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 stock inventory reports of commodities at the end of each month to the PSM committees at the district and regional levels via the provisional electronic logistics management information system. The regional-level *Unités Techniques de Gestion Logistique* (logistics management technical units) have also discussed SPARS results to highlight progress and inform future action plans aimed at improving stock availability at the district level.

### Lessons Learned

IMPACT has made some adaptations to the SPARS approach throughout the implementation. Before implementation, 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, where the approach was originally developed. IMPACT has successfully integrated a continuous quality improvement approach using the data generated by the SPARS scoring tool, which has led to more effective and motivated supervision for both the supervisors and the supervisees. Early in SPARS implementation, the cutoff for the “performing” category was increased from 80% to 90% to encourage districts to strive for higher levels of performance. In December 2023, IMPACT—along with the *Unités Techniques de Gestion Logistique* and the district-level stock management committees—further updated the SPARS scoring system by adding commodities from the newly introduced “social marketing” program into the stock management and availability category of the score. At the same time, IMPACT and partners added an automatically generated, color-coded visualization of commodity stock status into the Microsoft Excel-based scoring tool to facilitate interpretation and use of the stock availability data collected during the SPARS visits.

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 (one visit per quarter), 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 and geographic accessibility of each Pha-G-Dis.

To reinforce recognition and encourage healthy competition among district teams, in 2022 and 2023, IMPACT brought Pha-G-Dis teams together to share their best practices and view the results of other districts, further motivating district teams to strive for excellence. IMPACT sponsored staff from high-performing Pha-G-Dis to visit lower-performing Pha-G-Dis and take part in peer education. In one Pha-G-Dis, for example, the SPARS score improved by eight points at the next assessment after its staff received a visit and training from a staff member of a high-achieving Pha-G-Dis.



Over the four years of implementation of the SPARS approach in Madagascar, IMPACT has focused on building 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 printers, shelves, refrigerators, freezers to store cold chain products, and thermometers to monitor temperature. 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. A needs assessment conducted about two years into SPARS implementation, in June 2022, found that 55 of the 78 IMPACT-supported Pha-G-Dis lacked sufficient shelving, 35 needed refrigerators, and 5 needed to replace their thermometers. IMPACT used the recognition awards for high-performing Pha-G-Dis to fill some of these equipment gaps and continues to advocate to other partners, donors, and the private sector to meet remaining needs. 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. Throughout implementation, IMPACT has trained health management teams at the central, regional, and district 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 Pha-G-Dis staff even after IMPACT ends. IMPACT has supported regional supply chain managers to gradually develop independence in conducting SPARS assessments: in October to December 2022, IMPACT staff and regional supply chain managers conducted the SPARS assessments jointly; in January to March 2023, regional supply chain managers led the assessments with remote support from IMPACT staff; in April to June 2023, they conducted joint visits again to identify areas for the regional supply chain managers to improve in terms of supervision and performance assessments; and finally, in July to September 2023, IMPACT staff and regional supply chain managers met to discuss the status of the transition of responsibilities from IMPACT to the regional health management teams and adjust their plans where needed. After IMPACT ends, the regional management team staff 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. They will also continue to disseminate SPARS results, best practices, and lessons learned to promote ongoing learning and adaptation of the approach.

In early 2022, IMPACT supported the MOPH to revise Madagascar's manual for stock inventory 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 central- and regional-level training of trainers sessions were conducted in April and June 2023, respectively. In August to October 2023, regional training offices cascaded the training on the updated manual for stock management to 231 members of regional and district health management teams.

## 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. Improvements in Pha-G-Dis SPARS scores over time 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 clinical care in Madagascar. IMPACT has supported the MOPH to document and expand the use of the SPARS approach throughout Madagascar. As SPARS is adapted and extended to other levels of the health system beyond the Pha-G-Dis, IMPACT and the MOPH are considering ways to integrate the approach and the data it generates into existing national platforms such as the logistics management information system. Finally, SPARS is now integrated into the requirements for validating and renewing Pha-G-Dis contracts every two years, cementing its place as an essential piece of Pha-G-Dis management.

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The six-year (2018-2024) 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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*This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the USAID Improving Market Partnerships and Access to Commodities Together (IMPACT) project and do not necessarily reflect the views of USAID or the United States Government.*