DISTRICT DASHBOARD USE FOR PERFORMANCE MANAGEMENT

Lessons Learned from the Primary Health Care Performance Management Activity

Dashboard Use: At a Glance

Districts don't lack interest in data; they lack the conditions to act on it consistently. Through the Primary Health Care Performance Management (PHC-PM) Activity, District Health Management Teams (DHMTs) in four districts of Ghana and Rwanda were equipped with integrated data dashboards designed to bring together the full range of information needed for PHC planning and performance management, drawing on routine health information systems, operational data, and other district-level sources. Dashboards were introduced as part of the PHC Leadership Development Program (PHC-LDP), which supported DHMTs to use data as a core management function and embedded dashboard review into routine district meetings, performance improvement cycles, and follow-up action. When conditions were right (reliable access, training across DHMT roles, and trust in outputs), dashboards did more than display indicators: they became practical reference points that helped teams move from reviewing data to acting on it. Where these conditions were absent, districts often defaulted to familiar alternatives such as printed health management information system (HMIS) reports, Excel trackers, and tools like KoboCollect. Lessons suggest dashboards are most effective when paired with training across DHMT roles and refresher support, reliable access and responsive troubleshooting, transparent indicator definitions, and design features that clearly add value beyond existing systems. This brief draws on qualitative evidence from DHMTs and facility staff to examine what enabled and constrained dashboard use, and what it would take to embed these tools in routine performance management beyond the Activity.

Data sources: Key informant interviews (KIIs) and focus group discussions (FGDs) were conducted with DHMTs, facility leads and health workers.

Key Questions	Key Lessons	Recommendations
How were data dashboards used as part of the PHC-PM approach?	▪ Dashboards were a reliable fixture in DHMT review meetings across all four districts but remained underused outside them, constrained by access challenges, uneven confidence, and discrepancies with routine systems.	▪ Provide dedicated, role-appropriate training across DHMT roles with onboarding and refreshers.
What did dashboard use look like in practice?	▪ Dashboards served as practical performance reference points for trend interpretation, facility comparison, and priority tracking, though the extent of routine use varied considerably by district.	▪ Establish a simple support mechanism for access and technical challenges.
Which data was most useful to visualize?	▪ Routinization outside formal meetings depended heavily on who held the skills and access to use the platform.	▪ Embed indicator definitions and interpretation guidance directly in the dashboard.
What prevented consistent use of dashboards?	▪ Barriers to sustained use included access challenges, uneven confidence, and limited trust in outputs where dashboard results did not align with routine systems.	▪ Increase value-add beyond existing systems and align dashboard design with district decision-making routines and performance improvement cycles.

INTRODUCTION

Through the PHC-PM Activity, DHMTs in Akwapim South and North Tongu (Ghana) and Bugesera and Gicumbi (Rwanda) were supported to use integrated data dashboards as a core tool for PHC performance management. Rather than introducing a separate platform, the Activity developed customized dashboards within existing national health information systems (Ghana's District Health Information Management System II [DHIMS2] and Rwanda Health Analytics Platform [RHAP]) designed to present a consolidated view of district performance through scorecards aligned with action plans and Desired Management Results (DMRs), longitudinal trend tracking, and data visualizations.[1] Figure 1 illustrates the RHAP dashboard interface used by DHMTs in Bugesera and Gicumbi.

The intent was to reduce the burden on DHMTs of seeking out data across multiple sources and to position data use as a management function embedded in routine DHMT meetings and performance improvement cycles rather than an external reporting requirement. By consolidating information in one place and integrating it into familiar forums, dashboards were designed to support shared interpretation of trends, collective prioritization, and evidence-informed course correction across improvement cycles.

Figure 1. RHAP dashboard

Training on dashboard use was provided to DHMTs at the Activity's outset through the PHC-LDP. In Ghana, Activity partner HISP delivered training broadly among DHMT members, supporting wider familiarity and use from the start. In Rwanda, Activity partner Zenysis initially focused training on a small group of "power users" (data managers) as a strategy to ensure continuity, later complemented by on-the-job training that expanded exposure to the broader DHMT. In both countries, HISP and Zenysis provided ongoing support during PHC-LDP meetings, facilitating data review, responding to questions, and reinforcing practical dashboard use.

In both Ghana and Rwanda, the challenge was never a lack of data — dashboards entered health systems where routine information was collected consistently but rarely used to drive decisions.

In Ghana, persistent constraints included infrequent DHMT review meetings, infrequent data quality assessments, uneven data management capacity, and constraints in access to computers and internet connectivity, limiting timely facility feedback and routine performance monitoring. In Rwanda, challenges included the absence of standardized data quality assessment tools, inconsistent feedback loops to facilities, limited laptops, staff turnover, poor connectivity, and register shortages. In response, the PHC-PM Activity introduced structured dashboards alongside leadership development and performance review processes, with the goal of shifting routine health information system use from retrospective reporting toward more proactive, data-driven decision-making and accountability at the district level.

[1] In Ghana, dashboards contained data on DMRs, human resources, primary health service data of each district (e.g., services scorecard; provision of maternal, newborn, and child health, neglected tropical disease, and vaccine services; vaccine logistics; surveillance). In Rwanda, the RHAP integrates more than 17 data sources and types: Master Facility Registry, HMIS, Integrated Disease Surveillance and Response, civil registration and vital statistics, survey data, geospatial data, and data on community systems, supervision, logistics, COVID-19, HIV, tuberculosis case surveillance, and laboratory systems.

ASSESSMENT OVERVIEW

Data collection and analysis were led by Three Stones International in Rwanda and Ubora Institute in Ghana with support from Management Sciences for Health (MSH). In Rwanda, KIIs were conducted with purposively selected district- and facility-level stakeholders in Bugesera and Gicumbi who were directly involved in PHC-PM Activity implementation and had experience using the RHAP dashboards and related performance management processes; respondent details are summarized in table 1. In Ghana, FGDs were conducted with DHMT members in Akwapim South and North Tongu who had interacted with the PHC-PM dashboards connected to DHIMS2. All participating facilities had been involved in PHC-PM implementation activities. Facility leads and staff were not included for this theme because limited internet access and limited exposure to the dashboard meant they primarily received feedback on PHC performance outcomes and gaps rather than using the dashboard directly. Across both countries, qualitative data were synthesized to identify recurring themes on how dashboards were used, barriers and enablers to routine use, and implications for strengthening data-informed performance management beyond the life of the Activity. Emerging themes were validated with participants at the end of FGDs to strengthen clarity and precision of findings.

Table 1. Qualitative data collection by country, district, and stakeholder level

Stakeholder level	Data Collection Method and Participants	Selection Procedures
Rwanda		
DHMT Members	**Bugesera (KIIs, N=7):** Community health worker (CHW) supervisor, Director of Administration and Finance, Director of Health, Director of Nursing, DHMT focal person, health center representative, CHW representative **Gicumbi (KIIs, N=4):** Director of Administration and Finance, health center representative, DHMT focal person, CHW representative	Selection focused on formal DHMT members actively involved in PHC-PM activities including workshops, meetings, trainings, and implementation. In Gicumbi, some respondents could not be reached due to limited availability.
Health Center Staff	**Bugesera (KIIs; N=3):** Head of Health Center of 3 health centers **Gicumbi (KIIs; N=2):** Head of Health Center of 2 health centers	Health centers were selected with the district focal person, prioritizing facilities with staff who worked closely with the DHMT and participated in project implementation activities. Purposive sampling was used to select participants directly involved in PHC-PM implementation with sufficient experience.
Ghana		
DHMT Members	**North Tongu (FGDs; N=8)** **Akwapim South (FGDs; N=9)**	All DHMT members in both districts were eligible to participate; discussions were facilitated with a note taker and supported by recordings. Key points were validated at the end of each session and shared in plenary for additional input/clarification. Other stakeholder groups were not included for this theme due to limited dashboard access/interaction.

How were dashboards used as part of the PHC-PM approach?

Dashboards were a reliable fixture in DHMT review meetings across all four districts, but remained underused outside them, constrained by access challenges, uneven confidence, and discrepancies with routine systems.

In Ghana, DHMTs began the Activity with a functional routine health information system, anchored in DHIMS2, and high facility reporting completeness (North Tongu 100%; Akwapim South approximately 97%, with 100% for selected indicators), supported by defined district roles for routine reporting and data quality assurance. In Rwanda, DHMTs primarily relied on DHIS2 prior to the Activity; RHAP had been introduced to only a select group, with no district-level dashboards and no credentials for most district staff. The Activity supported RHAP's wider rollout as a core tool for district priority-setting and performance management, though at baseline very little routine dashboard use for in-depth analysis was occurring and analytic products and dissemination were limited.

Dashboards helped DHMTs move from viewing data to acting on it when access, usability, and trust conditions were in place.

In Ghana, DHMTs described the dashboard as a "quick snapshot" supporting facility comparison, DMR tracking, routine feedback, and data validation, including early identification of outliers. In North Tongu in particular, use extended well beyond meetings: the dashboard was typically the first screen staff accessed when logging into DHIMS2, with weekly feedback to facilities, monthly data validation sessions, and ad hoc use to address specific concerns. In Rwanda, RHAP dashboards were used primarily during coordination and quarterly meetings to select indicators and targets and to compare dashboard outputs with what was observed on the ground, using differences as a trigger for discussion and clarification.

In Rwanda, limited laptops, insufficient trained staff and poor internet connectivity constrained regular dashboard use from the outset. In Ghana, while connectivity also affected access at times, barriers centered more on usability and perceived value-add relative to DHIMS2. Where these conditions were not in place, dashboard use remained concentrated in formal meetings, dependent on a single focal person, and vulnerable to disruption.

What did dashboard use look like in practice?

Across all four districts, dashboards functioned as practical performance reference points, helping teams interpret trends, compare facilities, and track progress against district priorities, though the extent to which use became genuinely routine varied considerably, with North Tongu demonstrating what sustained, daily integration could look like.

In Akwapim South, DHMT members reported that the PHC-PM dashboard was used frequently as a performance-monitoring tool and served as a "quick snapshot" for interpreting service delivery trends. Use was described across multiple routine and

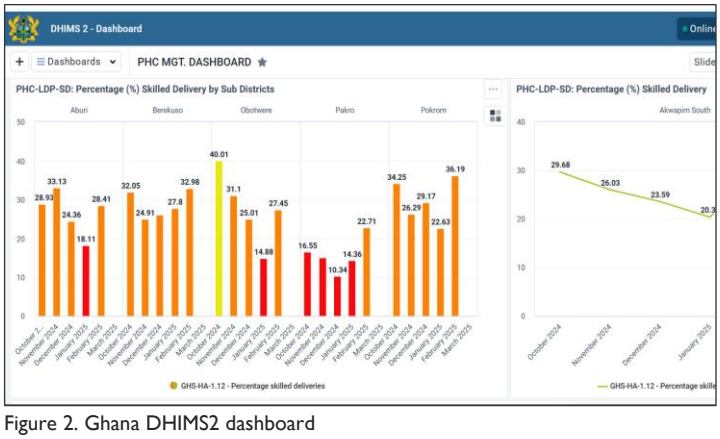

Figure 2. Ghana DHIMS2 dashboard

formal touchpoints, including district review meetings, training, quarterly district assembly meetings and reports, midpoint and end-of-cycle reviews, and routine feedback sessions with facilities. In North Tongu, DHMT members similarly described the dashboard as supporting intervention planning (e.g., tracking antenatal care [ANC] attendance, monitoring child welfare clinic performance, and guiding defaulter tracing) and strengthening the use of data to guide community engagement and supportive supervision.

"We use it [dashboard] during our monthly validation meetings to compare what the facilities have reported and what is showing on the system." "Almost every week we refer to it to give feedback to facilities, especially when something is going off." DHMT members, North Tongu

Across both Ghana districts, the color-coded scorecard enabled staff to identify poorly performing facilities immediately and supported translation of DHIMS2 data into more user-friendly visuals, as illustrated in figure 2.

Respondents from Gicumbi and Bugesera described using RHAP dashboards in similar ways during the PHC-PM Activity, primarily during DHMT coordination and quarterly meetings. Respondents described how dashboards were used to make decisions about which indicators to select, which targets to choose, and how to report on indicators. A health center manager from Gicumbi emphasized the facilitation role of the hospital data manager:

"Our DHMT used results from RHAP during coordination meetings and quarterly meetings. Under the support of the hospital data manager, together with a multidisciplinary team from the health centers, [we] reviewed the data from RHAP and compared it with what we observed on the ground." Head of Health Center, Gicumbi

In both districts in Rwanda, respondents described reviewing RHAP outputs and comparing them with what was observed on the ground, using differences as a trigger for discussion and clarification during DHMT meetings. In Bugesera, respondents described using RHAP outputs to structure DHMT conversations around priority indicators and targets and to anchor performance discussions in a consistent set of outputs.

Across districts, dashboards were described as enabling DHMTs to prioritize and plan more intentionally by supporting facility comparison and tracking progress against district priorities. In Akwapim South, DHMT members indicated that the platform helped them track progress against desired measurable results, compare facilities, and justify why resources were allocated to certain sub-districts or facilities. In Rwanda, respondents similarly described using dashboard outputs to justify resource allocation decisions and communicate performance gaps across teams. In Bugesera, dashboards also served as a communication tool beyond the DHMT itself:

"In addition, the dashboard outputs were displayed and shared across different hospital services so that health providers who did not attend the coordination meetings could still understand performance trends, ongoing challenges, and areas requiring improvement. This helped ensure shared understanding and informed action across teams." DHMT member, Bugesera

Dashboards can also support data validation and follow-up action. In North Tongu, the dashboard helped identify outliers in ANC data during the first performance improvement cycle, and these were subsequently resolved through a data validation process in affected facilities. DHMT members also described using the dashboard to guide monthly data validation sessions and routine feedback.

Which data was most useful to visualize within the dashboards?

While meeting-based use was consistent across settings, routinization outside formal meetings varied considerably by district and depended heavily on who held the skills and access to use the platform.

North Tongu was a notable exception that illustrates what sustained dashboard use can look like when enabling conditions are in place. Where access was reliable and confidence was high, the dashboard became genuinely embedded in daily workflows (the first screen staff accessed when logging into DHIMS2) rather than a tool reserved for formal review moments. This suggests that the barriers constraining routine use elsewhere were not inherent to the technology but to the conditions surrounding it.

In Akwapim South, dashboard use was reported across multiple review points but appeared more prone to disruption, largely due to connectivity challenges on both mobile and web-based platforms.

In Rwanda, RHAP dashboard use was concentrated primarily during DHMT coordination and quarterly meetings, often led by one or two individuals such as a hospital data manager or focal person. This pattern is summarized in figure 3, which shows that

Descriptor Matrix / Codes	During DHMT meetings	By HC staff	By individual DHMT members	During monthly coordination meetings in the hospital
Bugesera	3	1	1	1
Gicumbi	2	2		1

Figure 3. Rwanda descriptor matrix: reported contexts of RHAP dashboard use

dashboard use was most frequently described during DHMT meetings in both Bugesera and Gicumbi, with fewer references to use by health center staff or by individual DHMT members outside formal meetings. Only a handful of respondents mentioned dashboard use by health center staff, and only one or two noted that individual DHMT members accessed RHAP outside of regular DHMT meetings or monthly hospital coordination meetings.

According to Rwanda KII respondents, limited use outside formal meeting platforms stemmed from lack of confidence and a limited sense of ownership beyond the district data manager. In Bugesera, while dashboard outputs were shared more broadly across hospital services, direct engagement with the platform itself remained concentrated among a small group.

What prevented use of dashboards in each country?

Despite the perceived utility of dashboards by many, DHMTs in both countries described barriers that constrained consistent uptake.

In Akwapim South, dashboard use was limited by poor internet connectivity, unresolved display and login challenges, and difficulty updating data. DHMT members also described disruptions following system updates, including uncommunicated changes that led to loss or movement of indicators and difficulty accommodating new ones. Limited user orientation also made some visualizations harder to interpret, reducing confidence and consistent use for decision-making: *"Some graphs… weren't easy to understand because we weren't oriented on how to read them,"* and that screen view and browser-setting issues made the dashboard *"not very usable at times."* Another mentioned:

> *"Sometimes the internet will not allow you to open the dashboard, so you plan to use it in meetings but you*

cannot access it in real time." DHMT member, Akwapim South

In North Tongu, barriers centered less on connectivity and more on perceived value and usability relative to existing systems. Some DHMT members did not view the PHC-PM dashboard as significantly different from DHIMS2, limiting motivation for routine use. Constraints included the inability to consistently use the platform offline, limited prompts to guide users, and no built-in interpretation support to explain data. DHMT members noted that the platform did not provide feedback on user activity or usage patterns and lacked a help desk for troubleshooting, reducing its value as a decision-support tool:

"What is in the dashboard is what is already in DHIMS. I can equally go into DHIMS and see the same trend for ANC or immunization… When you click on an indicator, there is no interpretation to explain what it means… Someone can download the data but will still be wondering what this is about because the explanation is not there." DHMT member, North Tongu

In Rwanda, barriers clustered around user confidence, access continuity, and trust in outputs. In Gicumbi, respondents described limited familiarity with RHAP and insufficient knowledge and skills to feel comfortable and confident using the platform. Respondents also noted that dashboards displayed only selected indicators and DHMT members did not feel confident accessing other data beyond what was presented. Concerns about inconsistencies between RHAP and DHIS2 outputs also reduced trust, with some respondents linking discrepancies to unclear indicator calculation methods. One health center coordinator from Gicumbi questioned whether RHAP added meaningful value for high-level indicators that facilities already track through registers and follow-up:

"Some of the results we get from this system are already expected. For example, I already know the women who are supposed to give birth at health centers based on the records we keep. If those women didn't come, we ask ourselves what happened and follow up with community health workers. The same happens to ANC visits, after ANC1 we know the expected number of women for the next visits." HC coordinator, Gicumbi

In Bugesera, respondents similarly described limited familiarity and confidence using RHAP, with challenges beginning at login. Access issues and continuity problems were also emphasized: only a few members received RHAP accounts, some lost login details, and regaining access could be difficult. Respondents also noted that limited time during PHC-LDP meeting sessions constrained deeper dashboard use, reducing opportunities for group-based learning, including time to explore the platform, ask questions, and build confidence through shared practice. In Bugesera, these constraints contributed to continued reliance on HMIS print-outs for meetings, rather than direct engagement with the dashboard interface:

"Before coordination meetings, the district data manager analyzed HMIS and operational data… The results were then printed and shared during DHMT meetings to guide discussions, identify gaps, and agree on priority actions." DHMT member, Bugesera

Overall, findings suggest dashboards are most likely to be sustained when: (1) access and logins are reliable and not dependent on a few individuals; (2) users receive practical orientation and refresher support that builds confidence in navigation and interpretation; (3) indicator definitions and calculation methods are transparent to reduce discrepancies and improve trust; (4) dashboards clearly add value beyond existing systems by simplifying review, comparison, validation, and feedback routines; and (5) staff have sufficient accountability for results and decision space to act on the data. Even where dashboards

function well, limited decision space and weak accountability may constrain their routine use.

RECOMMENDATIONS

How can dashboard use be strengthened beyond PHC-PM?

Provide dedicated, role-appropriate training beyond a single focal person. Deliver hands-on dashboard training for DHMT members (and, where feasible, facility leadership), with onboarding for new staff and periodic refreshers (especially following platform updates) so skills do not erode with turnover and system changes. In Rwanda, while the phased "power users" approach helped establish technical capacity, a key lesson learned is that earlier access to training would have strengthened independent data use. Activity implementation experience suggests that most DHMT members continued to rely on hospital data managers to access dashboards, limiting their ability to independently explore and interrogate performance data. Addressing this requires expanding training and access while navigating existing hierarchical norms around data ownership and use.

Establish continuous user support for access and technical challenges. Create a simple support mechanism to resolve login/account recovery, connectivity/display issues, and questions arising after updates. As the platform matures, consider introducing an in-platform support function for common troubleshooting and "how-to" questions, which could include AI-enabled tools to support intuitive data querying.

Improve transparency and interpretation to strengthen trust and usability. Embed concise indicator definitions and calculation notes within the dashboard (e.g., hover text or an "info" panel), and add brief interpretation guidance for complex graphs so outputs are usable by a broader range of DHMT members — not only those with advanced data skills.

Increase the platform's value-add beyond existing systems. Prioritize features that reduce workload and support decision-making, such as automated monthly/quarterly reporting outputs, basic prompts for outliers, and the ability to integrate select non-routine data sources alongside routine indicators where district needs and data availability allow, addressing perceptions that dashboards duplicate DHIMS2/HMIS rather than complement them.

Align dashboard design with district decision-making routines and performance improvement cycles. Engage DHMT users in periodic reviews of dashboard content and layout to ensure it matches how districts plan, supervise, validate data, and provide feedback and consider including PHC-LDP process indicators to track implementation progress alongside service outcomes.

AREAS FOR FURTHER LEARNING

Several questions remain about what it takes to sustain and institutionalize these tools within district performance management systems. Further learning in the areas below could help refine platform design and support models for greater long-term uptake and impact:

- What do DHMTs need (skills, time, routines, expectations) for full integration of dashboards into routine performance management?
- Which platform features (embedded interpretation, alerts, reporting modules, chat-based assistance) most improve sustained use and decision quality for different user groups?
- How can AI-enabled support be incorporated responsibly (data governance, confidentiality, user trust) while improving usability and continuity?

CONCLUSION

Across Ghana and Rwanda, dashboards were most effective when embedded in routine DHMT performance review processes and supported practical interpretation and follow-through. The primary constraints to sustained use were not lack of interest in data, but predictable barriers: access and continuity challenges, user confidence, and limited transparency and interpretive guidance. Addressing these constraints through broader training, stronger user support, and clearer indicator interpretation can help dashboards remain a useful performance management tool beyond the life of the PHC-PM Activity.

ABOUT THE ACTIVITY

PHC is the foundation of resilient and equitable health systems. Strong local leadership is essential to ensuring accessible, high-quality care that responds to community needs. In Ghana and Rwanda, national and district health authorities are strengthening health system performance through the PHC-PM Activity, an initiative led by government partners and implemented with local institutions, with support from Gates Foundation and technical partners including MSH. At the heart of the model are four interlinked components, each designed to reinforce district leadership, evidence-based decision-making, and sustained PHC system improvement:

1. Leadership development
2. Operational data & integrated dashboards
3. Ongoing monitoring, evaluation, and learning
4. Catalytic grant funding

Through adaptive performance management cycles, district health authorities continuously analyze, monitor, learn, and adapt—maturing over time into effective stewards of district health systems. The PHC-PM Activity is a collaboration between MSH, Ubora Institute (Ghana), Building Systems for Health (Rwanda), Three Stones International (Rwanda), HISP Ghana, Zenysis, and district and national health authorities.

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