Literature Review: JLN Learning Collaborative on PHC Performance Management

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Executive Summary

PHC is a cornerstone of strengthening health systems and expanding health system coverage. However, PHC systems in many countries are unreliable, inaccessible, and of poor quality. Often, health system managers at the national and subnational level lack the information to identify weaknesses in health services and the skills to develop and execute effective improvement strategies. Systems are therefore needed to provide relevant, valid and timely information on health services, improve communication and planning around health service delivery, and incentivize improvements in PHC performance.

Performance management represents a set of formal organizational processes supported by individual managerial skills that enable PHC leaders such as national-level directors and subnational health management and supervision teams to routinely implement and adapt improvement efforts in PHC units and services. These practices and capacities are supported through an enabling environment that incentivizes performance while allowing decision-makers greater autonomy in the allocation and use of resources.

This review dives into existing literature on PHC performance management and finds that there are common processes and skills that enable strong performance of PHC systems across various settings. First, of the formal processes and mechanisms implemented by PHC organizations, appropriate indicators and targets, reliable data collection and monitoring systems, effective analytics, and formal performance review, feedback, and action planning are crucial to improving performance. It is important for PHC systems to include dynamic but feasible indicators on service delivery processes and service quality, in addition to defined measures of health system inputs and outputs. In terms of targets, PHC systems benefit from a flexible and stratified set of targets that can be adjusted based on the experiences on the front line. Moreover, effective data collection and monitoring systems include routine health information systems, public tracking of progress against indicators, and visual dashboards. These information systems should be paired with routine meetings and one-on-one review sessions with front-line teams to discuss performance and plan concrete steps for improvement.

Moreover, the literature emphasizes a set of skills that enables managers to effectively design, implement, and adjust the performance management processes described above. For example, the choice of indicators and targets, the use of data systems, and the development of work plans for improvement requires managers to possess "hard" skills in resource allocation, systems thinking, and data analysis and interpretation. Equally important are managerial soft skills, such as the ability to provide motivation and encouragement to staff, cultivate trust and teamwork, and serve as a coach and mentor in improvement efforts.

Ultimately, performance management requires not just tools and processes to collect and track information, but human resource capacity, especially at the district management level, to translate performance objectives into actionable strategies and motivate staff.

A. Introduction

Strengthening health systems is essential to sustainable development in low- and middle-income countries (LMICs). As populations expand, age, and grow wealthier, demand rises for quality health services that are able to address common health challenges, promote pro-social growth, and respond to rising burdens of non-communicable disease. Improving the coverage, quality, and affordability of health services is particularly critical. In 2015, the United Nations formalized the drive towards improved access to quality health services in Sustainable Development Goal (SDG) 3.8, which calls for Universal Health Coverage (UHC) by 2030. Primary health care (PHC) is considered fundamental to UHC, serving as a point of entry for patients to the health system, and a platform for health promotion, disease prevention, and treatment or management of common conditions. However, PHC systems in many countries are unreliable, inaccessible, and of poor quality (World Health Organization, 2018). Furthermore, while the SDGs have created incentives to improve PHC as part of the drive towards UHC, many countries lack necessary information to pinpoint weaknesses, build capacity, and improve their PHC systems (Veillard et al., 2017).

The Joint Learning Network (JLN) Steering Group identified PHC performance management as an essential component for expanding effective UHC coverage. Many countries, including JLN members, have experimented with interventions to improve PHC performance management, though a clear understanding of lessons learned and effective approaches to implementing performance management interventions is often lacking. The JLN Collaborative on PHC Performance Management (2024-2026) has drew together national and subnational leaders of primary care services to address these knowledge gaps interactively and experientially.

This literature review aims to summarize the state of knowledge of PHC performance management, including challenges and practical lessons for designing and implementing effective PHC performance management initiatives. It first provides an overview of PHC performance management, including relevant definitions and importance to health systems more broadly. It then reviews core pathways to strengthening PHC performance management, discussing different approaches to performance management and assessing the advantages and disadvantages of each, based on real-world experience. Based on this evidence, it identifies best practices in designing and implementing PHC performance management initiatives. Finally, the review highlights several illustrative case studies of effective PHC performance management, and draws tangible lessons from their work.

1. Definitions

a. *What is performance management?*

PHC performance management can be understood as a set of formal organizational processes supported by individual managerial skills that enable PHC leaders such as national-level directors and subnational health management and supervision teams to routinely implement and adapt improvement efforts in PHC units and services. More specifically, performance management is a continuous process of target setting, monitoring and evaluating progress, and implementing and adapting improvement efforts. These practices and capacities are supported through an enabling environment that incentivizes performance while allowing decision-makers greater autonomy in the allocation and use of resources.

Performance management efforts typically take place at the organization level, and are the responsibility of subnational managers and supervisors working with PHC front-line managers and providers (Newton-Lewis et al., 2021). At a macro level, important factors include an organization's and health system's overall vision and mission, organizational structure, leadership and quality of management. These higher-level factors shape the objectives, decision-making arrangements, nature of engagement with providers, work culture and resource allocation in a health system, and thereby determine the enabling environment for performance management, and ultimately, performance itself. (Newton-Lewis et al., 2021; Ferreira and Otley, 2009).

At a more meso level, performance management involves applying specific formalized processes or tools systematically as they relate to measurement, target setting, data collection, performance assessment, developing performance improvement plans and follow-up. Sustained application of these processes depends on the extent to which managers possess hard skills (e.g., data management, analysis) and soft skills (e.g., communication, teambuilding) to encourage and sustain these processes at the subnational level. Finally, performance management produces data to be analyzed and fed back into the system for continued improvement.

The extent to which performance management data supports continuous health system improvement depends on the way information is used and the rewards tied to performance improvement. Strategies such as performance-based financial rewards, routine feedback sessions, and dedicated mentorship teams can support ongoing information flows around performance and create incentives for continued improvement. (Ferreira and Otley, 2009). Optimally, performance management systems should be well-integrated into an organization's operations and thus information is used to provide feedback, reward high-performers, and inform future performance management techniques.

Performance management often is intertwined with efforts to decentralize health systems. As resources, functions, and responsibilities are transferred to lower levels of government and health systems, the ability to monitor and respond to operations at the local level becomes an important means of accountability (Nxumalo et al., 2018). This is particularly relevant to PHC, which tends to operate at a more decentralized, local-level.

b. *Why does performance management matter?*

A common failure of efforts to achieve UHC in recent decades has been overemphasis on expanding access to care without sufficient attention to availability of resources and the capacity of managers and supervisors to oversee care settings. This has contributed to a proliferation of health facilities and resources at the local level, which are underused. Studies from Ghana and Tanzania, for instance, suggest that one-third to two-thirds of women, respectively, report bypassing their local health facility when seeking care due to poor quality, understaffing, or inadequate drug availability (Bell et al., 2020). Bypassing local PHC facilities is also widespread in India, where the vast majority of patients in many states like Bihar seek care from informal providers or hospitals instead of their closest PHC clinic, because these clinics are not perceived to be capable of providing the curative services they seek (Rao et al., 2024).

The failure of PHC providers to serve their populations effectively may result in part from poor supervisory and management capacity. For example, PHC providers achieve significantly higher rates of service coverage in their communities when they have strong management capacity, including managers (and supervisors) who engage in trust- and team-building, target-setting, public tracking of provider performance, performance reviews, collective problem solving, and engagement with community stakeholders (Mabuchi, 2017). In addition to improving service coverage, management capacity can also improve drug availability, quality of care, and patient experience (Kim et al., 2022; Fetene et al., 2019; Edwards et al., 2015).

c. *How is performance management different from performance measurement?*

There is an important difference, though oft confusion, between performance management and performance measurement. Performance measurement is a common practice and centers on data collection for comparison and benchmarking purposes. Performance measurement tends to favor quantitative indicators that are easy to measure yet may omit aspects of care that are more difficult to measure (e.g., continuous learning, trust, problem-solving). While measurement is a component of performance management, performance management embraces additional processes related to using data to engage providers and promote actions that change provider behavior or clinical processes.

The critical difference between performance measurement and performance management, therefore, lies in the extent to which data is used to implement improvements. For example, performance management entails sense-making of raw data to assess performance vis-à-vis targets, issue rewards and sanctions, and provide guidance on evidence-based changes to organizational processes or behavior. Performance management therefore necessitates communication of performance measurement methods and outcomes with staff to gain buy-in for measurement activities, align intentions, and issue feedback for continuous improvement (Orgill et al., 2021; Munar et al., 2019).

d. *What is the relationship between management and performance management?*

Management is a key component of high-performing healthcare organizations, and ultimately, health systems. Management takes place at multiple levels of a health system (or organization) and consists of an array of processes related to allocating and using human, financial, and technical resources to achieve predetermined objectives. In low-income settings, strong management enables health systems to attain health goals with scarce means (Bradley et al., 2015). Performance management is a core competency of management. As mentioned above, it consists of defining objectives, setting targets, communicating goals and gathering support, monitoring and encouraging continued use of performance management systems, and translating data into impactful feedback and improvements.

The ways in which management functions at the macro, meso, and micro levels significantly influence overall health system performance. At the macro-level, managers define policies and objectives for the health system, thus determining the vision, goals, and culture within which health system actors will operate. At the meso-level, managers translate high-level policies and objectives into practice. Empirical evidence suggests that these 'middle managers' – often regional, district or provincial managers and supervisors – are particularly influential over performance. Finally, management at the micro-level (i.e.,

facility managers) – often in collaboration with middle managers - determines the extent to which information is used constructively and sustainably to drive improvement.

High performing health systems embed performance management and improvement efforts within the responsibilities of district and facility-level managers. This may include team-building to create shared values and accountability, regularly providing feedback and action plans for improvement, and continuously coaching and mentoring staff. (Mabuchi et al., 2018; Gilson and Agyepong, 2018). Studies have tied good management at the district and facility level to stronger performance of health clinics and systems in various settings (Fetene et al., 2019; Mabuchi et al., 2018; Bradley et al., 2015; Oliveira-Cruz, Hanson and Mills, 2003). Box 1 provides a specific example of the power of good management in enabling performance improvement in Nigeria. Despite the clear evidence, management has received inadequate attention within the health systems strengthening agenda (Bradley et al., 2015).

Box 1: Good Management for High-Performing Health Systems

The World Bank Group set out to understand the determinants of PHC performance in Nigeria. Performance was defined by the quantity and quality of health services provided. The study compared the characteristics of high- and low-performing PHC clinics in the context of performance-based financing, and found that *health clinic management* was a key determinant of performance. In particular, the managers of high-performing health clinics followed formalized performance management processes including consistently updating targets, communicating results, and conducting performance reviews in order to facilitate clear understanding of performance issues. They also used hard skills in data analysis and work planning, and soft skills in providing motivation, mentorship, and team-building and trust in order to gain buy-in for improvement efforts and involve staff in problem solving for ongoing improvement. The study demonstrated that good management capacity supports performance at the facility level, and can even enable PHC clinics to overcome contextual challenges like poor staffing and lacking financial resources to outperform clinics without such challenges.

Source: Mabuchi et al., 2018

e. *Who makes a difference in implementing PHC performance management?*

As suggested above, building management capacity among middle-level managers and supervisors may be particularly effective at improving service quality and coverage. Middle-level managers, including supervisors and facility-based staff who oversee facilities, are in a unique position that enables them to both understand local needs and capacity and oversee front-line operations. In this role, middle-managers can translate high-level strategies and priorities into front-line policies that accommodate local needs and practicalities (Bradley et al., 2015). When middle-level management is lacking, top-down management prevails, which leads to centralized, bureaucratic compliance requirements without necessary translation to local realities or co-production of goals and strategies (Nxumalo et al., 2018). In addition to 'sense-making' of top-down priorities, middle-managers also conduct 'sense-giving', which involves continuous communication of goals among staff and relationship building to garner buy-in and encourage uptake of new processes (Orgill et al., 2021).

Importantly, middle-level management has the potential to create a continuous learning environment that encourages ongoing improvement towards common goals. The "know-do" gap is well documented in clinical performance (Cochrane et al, 2007; Fahim and Straus, 2023; Wray and Jones, 2023); front-line staff may have technical knowledge and skills to provide quality care, yet they sometimes fail to provide any discretionary effort beyond their clinical standards to achieve good patient outcomes. Middle-level managers can respond to this problem of compliance without commitment by creating a learning environment in which organizational improvement aims are continuously communicated, best practices are identified and encouraged, and information systems are used for accountability and feedback (Bradley et al., 2015; Twum-Danso and Alyesh, 2018). Middle-level managers can oversee team building, collective problem solving, and motivational exercises that enable learning, adaptability, and shared value setting among providers, ultimately allowing health systems to meet performance targets and improve coverage and quality (Gilson and Agyepong, 2018).

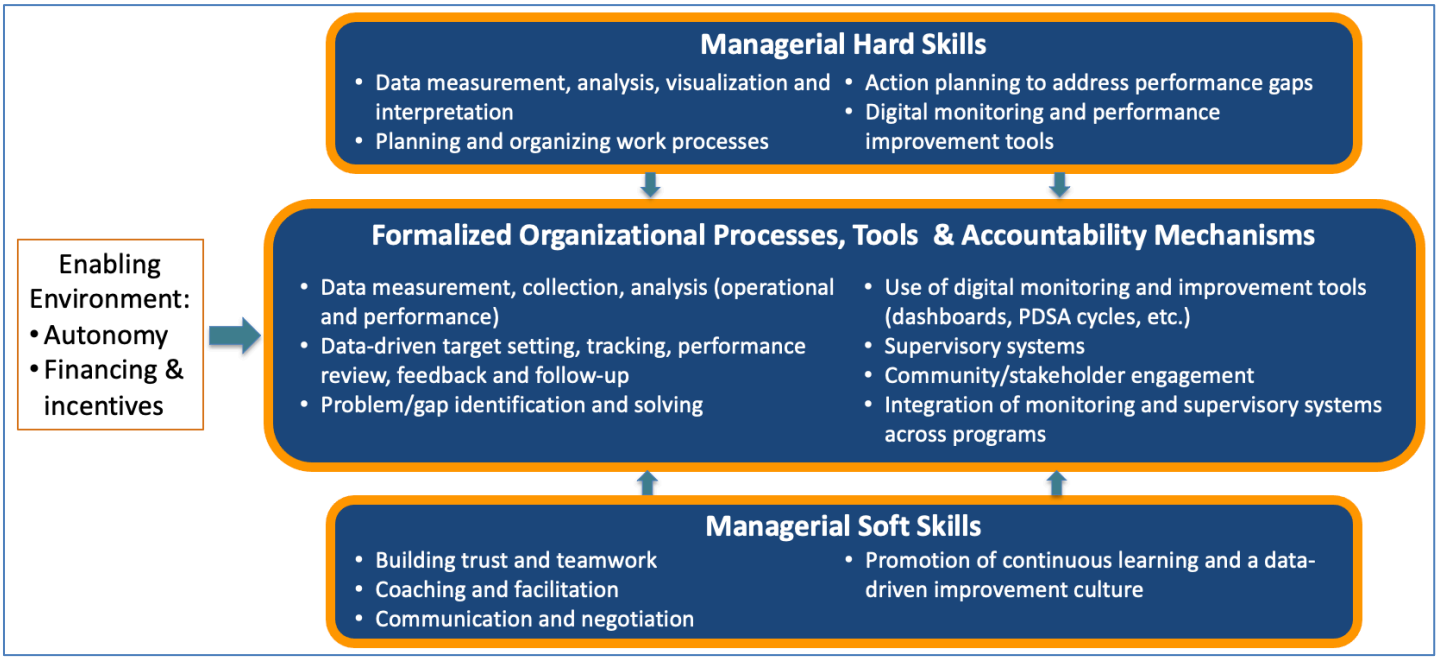
B. How to Strengthen PHC Performance Management: Core Pathways

1. Introduction

High-performing health systems have common enabling traits that support health service coverage, quality, and outcomes across different settings. Understanding the characteristics, resources, and processes that make health systems successful in various settings provides insight into the best ways to design and implement performance improvement efforts. This section examines the common determinants of strong health system performance across different settings. Drawing upon specific examples from Latin America, Asia, Europe, and Sub-Saharan Africa, it will then discuss various best practices for improving performance. The discussion is structured by the main components of performance management systems defined below.

There are three components of PHC performance management that enable high-performing health systems: (i) formal organizational processes and accountability mechanisms, (ii) managerial hard skills, and (iii) managerial soft skills. These components are interrelated and best practices in one area often support other areas. They also are influenced by environmental factors such as the level of autonomy and the financial resources available to subnational PHC systems. Figure 1 depicts these components in a simplified framework.

Figure 1: Operational Framework for PHC Performance Management



2. Formalized organizational processes, tools, and accountability mechanisms

a. What matters?

Formalized or systemic organizational processes and accountability mechanisms form the basis of any performance management effort. They consist of systems, practices, and tools to track health system performance, identify issue areas, and incentivize improvement, including performance indicators, targets, data collection systems, digital monitoring tools, and information sharing. We first turn to indicators.

The choice of **indicators and targets** for any performance management system is highly important. Indicators determine which aspects of health system performance will be measured, and therefore enables organizations to tailor performance management efforts to their specific needs. There are many types of indicators that can be used to measure PHC performance, from input-oriented indicators on drug availability and human resources, to indicators on the process of delivering health services, to output-oriented indicators and health outcomes. Furthermore, targets serve as the parameters for any indicator and provide tangible goals for staff to work towards. Challenges to effective target setting include lack of relevance to clinical practice, difficulty balancing realistic versus aspirational targets, inadequate use of benchmarks, and failure to communicate with staff (Heenan et al., 2022).

When performance management initiatives are developed by high-level government authorities, such as MOHs, and applied widely across a large health system, the indicators used tend to be highly-standardized and easy-to-measure, yet lack specificity to local priorities. Likewise, when the targets for those indicators are set in top-down fashion, performance management systems tend to be stringent, audit-style reporting requirements for local staff. This divergence between top-down systems and the realities facing front-line staff can leave providers conflicted between complying with bureaucratic processes or serving their

patients and community, leading to rote compliance, demotivation, and gaming that ultimately undermines the goal of improving care (Newton-Lewis et al., 2021; Nxumalo et al., 2018).

The use of too many indicators is another challenge to effective PHC performance management in many LMICs. The proliferation of indicators on health system performance has created a strong emphasis on monitoring and evaluating numerous indicators as a means of generating tangible information to improve performance (Veillard et al., 2017; Bowen and Kreindler, 2008). However, this surge in indicator volume has undermined the effectiveness of performance management efforts when it creates excessive work requirements for busy facility-based staff – particularly in contexts in which workforce capacity is already low – and draws attention away from care processes and quality in favor of easily quantifiable information (Rogan and Boaden, 2017; Bowen, 2008; Bergeron, 2006). Using a limited number of indicators enables managers and staff to agree upon feasible, effective ways to understand service efficacy and quality and tailor improvement efforts, thus facilitating goal alignment and value sharing (Shah, 2019).

In addition to specific indicators and targets, health systems need **data collection processes and digital monitoring systems** to track performance. These may include routine health information systems, facility surveys, individual patient records and electronic medical record systems, patient and health provider surveys, community assessments, and qualitative key informant assessments (World Health Organization, 2022). However, tools and health information systems for data collection and monitoring are largely inadequate across countries, even in high-income contexts. On the data collection side, health systems often lack data on key indicators of PHC performance as a result of poorly-structured data collection tools and lack of motivation, skills, and time among staff to collect data. Data on service delivery processes, quality of care, patient experience, and health worker constraints is particularly inadequate, as existing health information systems tend to focus narrowly on inputs (e.g., number of health workers), certain outputs (e.g., number of people attended) and some outcomes (e.g., mortality rates) (Agweyu et al., 2022; Veillard et al., 2017). Improved understanding of service delivery practices and the experiences of patients and providers is critical to identifying weaknesses and opportunities to improve PHC performance.

Aside from the tools used to collect information, the **ways in which information is used** is perhaps the most critical component of performance management processes, and can be considered the Achilles heel of performance management. Information on organizational processes, provider practices, and health outcomes enables an organization to learn from its experience, develop corrective or adaptive actions, and generate new strategies as needed (Ferreira and Otley, 2009). However, in many health systems today, performance management efforts fall into the trap of measurement without purposeful management; data is collected yet is not often analyzed, interpreted, and converted into feedback in a timely and constructive manner. This may be due to disintegrated data systems, lack of skills in data analysis, and bureaucratic obstacles and delays in processing information. Data measurement without management is unlikely to lead to transformational change (Munar et al., 2019; Rogan and Boaden, 2017).

Finally, formal processes for engaging and monitoring **local stakeholders and communities** enable health systems and individual health facilities to tailor their services and delivery methods to local needs and build a sense of shared values and trust. Stakeholder and community engagement can take the form of meetings with community leaders, household outreach, patient recruitment and retention activities,

and meetings with other health providers such as local NGOs. These activities encourage support from the community and build trust among patients and front-line staff in the PHC organization as whole. They also help PHC managers identify major health problems and barriers to accessing care among their catchment so that these issues can be incorporated into the design of service delivery practices (Orgill et al., 2021; Mabuchi et al., 2020).

b. What works?

The literature on the efficacy of performance management indicates that formalized organizational processes to identify tangible improvement aims, align daily practice with these aims, and continuously evaluate and adapt systems are important for sustained improvement. When designing performance management processes, it is important to incorporate insights from front-line staff and middle management, and build flexibility into formalized processes so that there are ample opportunities to adapt performance management to changing, local circumstances. The following outlines emerging best practices in designing and implementing organizational processes and mechanisms for performance management systems.

Overall, performance management processes are most effective when **multiple processes** are implemented at once. A complementary series of processes might include frequent updating of targets, visualized tracking of results, regular feedback sessions, monthly meetings for performance review with corresponding action planning, and rewards for meeting targets, and routine meetings with local stakeholders (e.g., government representatives, NGOs, religious leaders), (Orgill et al., 2021; Mabuchi et al., 2020; Mabuchi et al., 2018). Collectively, these processes promote ongoing goal alignment, data collection, information use, and adaptive planning for sustained performance management. They can be integrated into organizational practice by building them into work plans and assigning formal roles and responsibilities. Research on the efficacy of different performance management processes – indicators and targets, monitoring and feedback, community engagement – highlights best practices for each, as elaborated below.

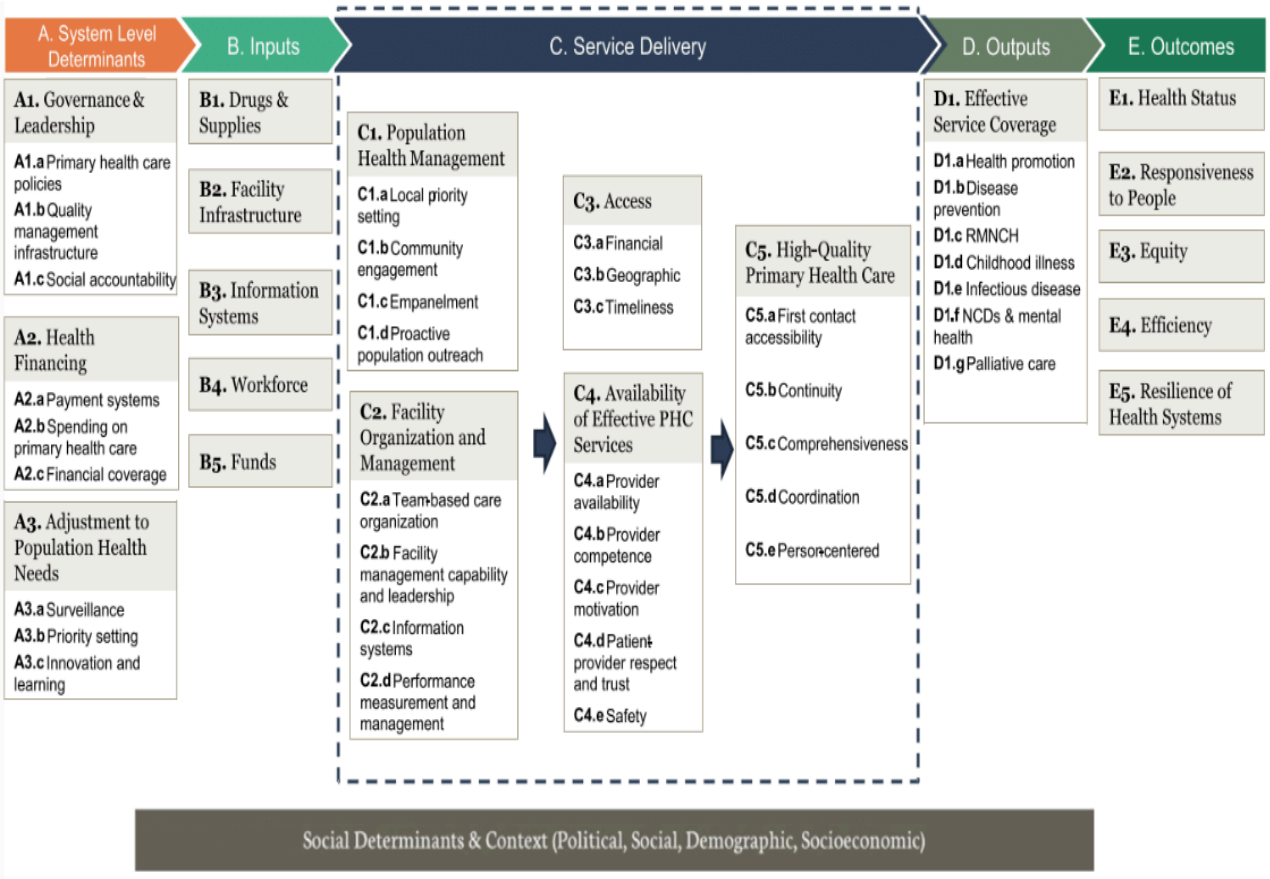
First, there are a significant number of **indicators** of PHC performance that have been developed, tested, and validated globally. These include indicators to measure health system determinants and inputs, health service delivery, and outputs/outcomes. The conceptual framework put forth by the PHC Performance Initiative (PHCPI), a joint collaborative by the World Bank, Bill & Melinda Gates Foundation, and the World Health Organization, details the characteristics of a PHC system that should be measured for effective performance management. The PHCPI framework consists of the following:

- System-level determinants (e.g., Governance and leadership; Health financing)
- Inputs (e.g., Drugs and supplies; Information systems; Workforce)
- Service delivery (e.g., Population health management; Access; High quality PHC)
- Outputs (e.g., Effective service coverage)
- Outcomes (e.g., Health status; Responsiveness to people; Efficiency)

Figure 2 provides greater detail on the PHCPI framework for effective performance management (Veillard et al., 2017). It consists of five dimensions: system level determinants, inputs, service delivery, outputs and outcomes. For each dimension, the framework identifies a large array category of indicators.[1]

A well-balanced set of indicators includes measurements of inputs, service delivery processes, outputs, and outcomes (Newton-Lewis et al., 2021). Performance management systems tend to overemphasize easily-measurable indicators of inputs (e.g., number of health workers) and outcomes (e.g., mortality rates), while neglecting process- and quality-oriented measures. It is therefore best practice to include a feasible range of indicators of service delivery and patient experience (see Box 2 below). Incorporating qualitative measurements as well as traditional quantitative data into performance management may also provide deeper insight into health system challenges and patient experience for ultimately more effective performance improvement (Agweyu et al., 2022; Shah, 2019; Veillard et al., 2017).

Figure 2: PHCPI Conceptual Framework



Source: Veillard et al., 2017

[1] The World Health Organization's conceptual framework for monitoring PHC largely agrees with the PHCPI framework and provides validated indicators for the above categories (World Health Organization, 2022).

In addition, when district and facility-level PHC management teams play a role in target setting, they are better able to incorporate local performance issues and needs into measurement processes than when targets are set by central-level policymakers. This meso and micro-level engagement is critical to avoiding the performance management compliance trap of unrealistic targets, strict, rote compliance rules, and resulting demotivation among staff (Newton-Lewis et al., 2021; Nxumalo et al., 2018). One strategy for incorporating middle managers into indicator selection is the use of a selective 'pick list' of indicators alongside nationally-mandated indicators. In England, the National Health Service's Commissioning for Quality and Innovation (CQUIN) framework provides a list of both mandatory, national indicators that all PHC facilities must report on, as well as an extensive 'pick list' of optional indicators that subnational managers can select from to suit their local priorities. The CQUIN method cuts across the typical tension in performance management between stringent, centralized rules and a more tailored, bottom-up approach. Moreover, the CQUIN provides PHC managers with an extensive list of readily-available indicators so that all districts/facilities have access to relevant measurements and new, tailored indicators and targets do not need to be developed from scratch (McDonald et al., 2013).

Box 2: Examples of Measures for Service Delivery & Patient Experience

Service Delivery:

- Local priority setting
- Team-based care organization
- Information systems
- Provider competence/motivation
- Continuity of care

Patient Experience:

- Ability to access care
- Confidence in provider
- Provider ability to understand patient needs

Targets for any indicator are effective at motivating improvement over time when they are balanced, adaptable, and relevant to staff's day-to-day work. Making targets flexible and aligned with clinical practice is also important so that they can continue to be relevant and motivating to staff based on changing conditions. When setting targets, managers should therefore evaluate both scientific soundness and relevance to end-users, including by involving staff in target setting process (Heenan et al., 2022; Mabuchi et al., 2020). Additionally, formalizing processes for regular, group review and adaptation of targets by management teams creates opportunities to incorporate staff feedback and adapt targets as needed (Newton-Lewis et al., 2021). Another practice that can help managers to set appropriate targets is to use a stratified approach that involves both 'stretch' and 'achievable' targets to provide realistic progress goals while also motivating over-achievement. This approach was implemented by managers of PHC facilities in Nigeria and paired with financial rewards for staff who achieved targets; together, stratified target setting and performance-based bonuses proved successful at motivating sustained improvement among PHC staff (Mabuchi et al., 2020). While target setting is a core practice of performance management, it also requires managers to have soft skills in communication, teamwork, and analytical thinking.[2] Finally, it is best practice to use benchmarks as well as targets to recognize incremental progress towards goals and encourage ongoing motivation. Close monitoring and communication about benchmarks and targets to staff are important managerial practices requiring analytical and interpersonal skills (Heenan et al., 2022; Mabuchi et al., 2020).

[2] The importance of these soft skills will be elaborated on further in Section B4.

The choice and adaptation of indicators and targets feeds into effective **work planning,** which involves setting goals and measurement strategies, allocating resources, and adapting organizational processes as needed. Work planning is an important performance management process as it enables managers to establish routines that promote coordinated health system improvement. One best practice for work planning that has come out of South Africa and Nigeria includes formalizing time to review performance, identify issues, and develop concrete steps to improve performance. This is most effective when it takes place both between managers – such as district-level management meetings – as well as between managers and staff – such as facility-level performance review meetings – and involves specific agenda items to consider progress against targets, discuss performance problems, and co-create plans for improvement (Orgill et al., 2021; Mabuchi et al., 2020).

Beyond planning around indicators and targets, a comprehensive set of performance management processes includes systems for continuous **data collection, monitoring, and feedback**. Continuous data collection and monitoring is best supported by routine health information systems that capture high-quality data and monitor real-time trends in health system processes and outcomes (Agweyu et al., 2022). Routine health information systems can be enhanced with interactive dashboards that publicly post results and track trends to regularly share information, hold staff accountable to results, and provide managers with visual reports that highlight areas in need of improvement. Visual dashboards are an effective instrument to encourage a process of transparent and proactive decision making around performance improvements by district or facility-level managers (Mabuchi et al., 2020). Health information systems and dashboards are most effective when paired with formal processes and responsibilities for sharing information and feedback in a timely, collaborative, or constructive manner. Monthly performance reviews, regular feedback sessions, and sessions for group problem solving and work planning can help to create a culture of continuous learning, enforce accountability to progress, and build trust and teamwork for improvement. Staff have been found to benefit the most from feedback when it is delivered by a respected supervisor/colleague, presented frequently, and accompanied by written feedback with specific goals and actionable steps to facilitate change management (Agweyu et al., 2022; Newton-Lewis et al., 2021; Mabuchi et al., 2018). Box 3 on page 20 provides a detailed example of capacity building for data collection, monitoring, and feedback from Kaduna State in Nigeria.

Community engagement is an important practice to build into performance management efforts. Activities to encourage support from community leaders and align community priorities with health system objectives have been proven to significantly improve health facility performance (Kim et al., 2022; Mabuchi et al., 2020; Mabuchi et al., 2018). Best practices for community engagement includes periodic informal discussions, surveys, or monthly meetings with local stakeholders such as local NGOs, government representatives, and religious or other leaders. In Nigeria, problem-solving with community leaders has been shown to significantly improve health system performance. Specifically, when facility level managers reached out to relevant community leaders and stakeholders, met with them, and discussed performance goals, improvement was seen (Mabuchi et al., 2018). Meanwhile, in South Africa, incorporating partners from local NGOs to monthly meetings has enabled district health systems to create a shared vision and objectives for population health and align activities accordingly (Orgill et al., 2021).

Finally, an overarching aspect of performance management that determines the ultimate success of many of the formal processes and mechanisms described above the locus of decision making on **resources and their allocation**. The allocation of sufficient financial and planning resources to subnational-level management is a key determinant of the success of performance management efforts. Decentralizing decision-making equips subnational managers with the adequate money, time, and decision space to align local practices and personnel with performance management objectives. In doing so, decentralization also creates ownership over performance improvement efforts for a more sustainable, enabling approach to performance management, as compared to top-down, directive mandates (Newton-Lewis et al., 2021; Nxumalo et al., 2018). Additionally, recent district-led initiatives demonstrate that catalytic grants tied to six-month adaptive performance cycles (co-designed dashboards on national platforms, outcome harvesting, and peer learning) empower District Health Management Teams (DHMTs) to own priorities, test solutions rapidly, and align with national goals while fostering local accountability (Management Sciences for Health, 2025). However, decentralizing decision-making requires that local managers have the skills and competencies to effectively manage and monitor how resources are allocated and the performance resulting from use of the same. This is the subject of the next section.

3. Managerial hard skills

a. What matters?

In Peru, good management practices (including data-driven decision-making, supportive supervision, and community engagement) were strongly correlated with higher facility performance scores in community-engaged PHC settings, reinforcing the value of investing in these hard skills (Altobelli et al., 2024). In order for organizational processes and accountability mechanisms to effectively support health system performance, health systems require capable managers to appropriately operationalize them. The competencies of managers at the district level, for example, are particularly important determinants of overall health system performance as they serve as the connecting link between senior policymakers and the front-line workforce. District health systems set health practices, sustain organizational performance, and lead the health workforce. These functions require district-level managers to identify health system needs and develop, oversee, and adapt health organization practices as needed (Orgill et al., 2021). To do so, they need hard skills in planning, organizing, and budgeting work processes; data measurement, analysis, and interpretation; and supervising and monitoring activities and staff (Orgill et al., 2021; Macarayan et al., 2019).

A 2025 scoping review of 21 studies across LMICs grouped individual managerial competencies into seven domains relevant to hard skills: (1) communication and information management, (2) financial management and planning, (3) human resource/supportive/performance management (partly hard), (4) community stakeholder engagement, (5) target setting and problem solving, (6) leadership, and (7) situational analysis. Deficiencies were widespread—e.g., >50% of managers lacked budgeting/reporting skills and 58.7% reported low target-setting ability—directly constraining data use, resource allocation, and systems thinking.

The same 2025 scoping review recommends periodic competency assessments, mentorship by experienced managers, and integration of health informatics into pre-service training to build data analysis, financial planning, and situational awareness capacities. These interventions have been linked to improved

staff productivity, resource efficiency, and medicine availability in facilities with stronger managerial capacity (Ochieng et al. 2025).

Skills for **data measurement, analysis, and interpretation** are central to effective PHC performance management. Data is needed to track progress towards targets, pinpoint organizational weaknesses, identify opportunities for improvement, and fulfill reporting requirements of regional or national authorities. When managers are highly-capable in data management, they use data for tracking of an organization's performance, which helps to hold staff accountable to targets, and identify performance gaps (Mabuchi et al., 2018). Skills in data analysis and interpretation also enable managers to understand an organization's weaknesses and strengths, and make decisions and formulate action plans based on this information (Agweyu et al., 2022; Newton-Lewis et al., 2021). However, data capabilities are often lacking among subnational managers globally. Particularly in low-income settings, health systems struggle with poorly structured data collection tools and limited workforce skill in data management and interpretation. These deficiencies limit the impact of data collection efforts, resulting in performance *measurement* without purposeful use of the data for benchmarking and informing corrective action plans to achieve targets or address performance shortcomings. Skills in data analysis and interpretation are particularly critical in health systems with new or underdeveloped data systems, as poor data interpretation leads to erroneous decision-making and ineffective performance improvement (Rogan and Boaden, 2017).

In addition, high-performing health systems have managers who are skilled in **planning and organizing work processes and developing action plans to address performance gaps**. This involves setting effective performance targets, allocating financial and human resources efficiently and effectively within a specific period, and coordinating and scheduling follow-up activities (Kim et al., 2022; Mabuchi et al., 2020). Being skilled in work planning requires **systems thinking** by managers to understand how the various elements of a health system influence performance. Systems thinking involves comprehensive understanding of the system that shapes performance, catalyzing and supporting collective action among stakeholders, and listening and learning from others. Systems thinking enables managers to understand the current system's performance, set realistic and clear organizational improvement aims, and prevent unintended consequences of siloed solutions (Twum-Danso and Alyesh, 2018).

b. What works?

The ability of managers to analyze data and continuously monitor improvement is key to sustaining performance management efforts. Box 3 provides a case study on capacity building around data analysis and use for PHC managers at the facility, local government authority, and state level in Kaduna State, Nigeria (Acasus, 2024). The challenges experienced in Kaduna related to data collection, interpretation, and use are commonly-cited across LMIC contexts (Agweyu et al., 2022; Newton-Lewis et al., 2021; Rogan and Boaden, 2017). As such, the strategy developed to address these challenges and improve PHC performance in Kaduna is expected by global health and technology experts to significantly benefit many health systems beyond Nigeria.[3] (Acasus, 2024).

[3] A more in-depth case study of Acasus' work on data systems and skills in Pakistan is provided in Annex 2. This case examines the use of data visualization tools and analytical skills to strengthen the coverage of vaccine efforts across Pakistan.

Box 3: Data-Driven Skill Building in Kaduna State, Nigeria

Context: As in many countries, performance management efforts in Kaduna's PHC system were significantly limited by poor data capabilities. These data-related challenges included: (i) infrequent monitoring of health facilities, (ii) inconsistent data quality, (iii) limited access to data by managers, and (iv) inconsistent implementation of accountability mechanisms.

Underlying Challenges to Effective Data Use: (i) Different indicators and data systems used at the facility, district, and state-level, (ii) failure to use raw data in work planning, (iii) lack of enforcement of staff accountability to performance targets, (iv) lack of dashboards for public visualization and real-time decision-making, and (v) delayed implementation of improvement efforts.

Intervention: Acasus, a global health and education consultancy, developed a tri-part strategy to improve data skills for PHC system improvement:

1. Ensure quality of monitoring data
    a. Clear guidelines and protocols for data collection, with ongoing reviews and discussion of data collection tools to improve on shortcomings;
    b. Rotation of managers through monitoring roles to support independence and engagement; increased requirements of monitoring reports;
    c. Targeted re-visits to check for inconsistencies and enforce proper data collection methods;
    d. Regular reviews of data quality against metrics by managers;
    e. Occasional third-party audits to random sites to validate data and improvement efforts
2. Improve data reporting on performance
    a. Monthly data-packs and review meetings for Kaduna State PHC Board;
    b. Monthly data-packs for senior managers from the local government;
    c. Monthly review with high-level policy makers on overall performance and issues;
    d. Real-time automated dashboards;
    e. Annual public reports
3. Strengthen data use to drive performance
    a. Financial and non-financial incentives for good performance;
    b. Use of data to identify and train on best practices;
    c. Coaching state and district-level managers on data interpretation and action planning;
    d. Escalating interventions to provide assistance to leadership to improve performance;
    e. Data-informed policy dialogue with state and federal stakeholders.

Results: This intervention was developed in early 2024 and results are not yet available, though a targeted survey with key performance indicators for measurement is in place.

Source: Acasus, 2024

In addition to effective data use, performance management is supported by managers who are talented at coordinating **work planning and resource allocation** of both financial and human resources. These skills enable PHC systems in particularly low-income settings to make efficient use of scarce resources to achieve health goals. In particular, managers must think strategically to align resources around steps that will allow an organization to achieve a set objective, and maintain budgetary and operational oversight ensure progress (Bradley et al., 2015). In order to ensure sufficient human resources for performance improvement, managers can identify and prioritize workforce shortages and job vacancies, and create clear job descriptions and recruitment plans help managers to effectively manage human resources in their system (Orgill et al., 2021).[4] Additionally, monthly management meetings and routine reviews and adaptation of business plans to align practices with performance goals can help managers to identify issues, allocate financial resources where needed (Orgill et al., 2021; Mabuchi et al., 2020).

Systems thinking may be encouraged through multi-stakeholder management meetings, or management training courses that focus on the various inputs, knowledge, and individuals relevant to district health management planning and performance (Twum-Danso and Alyesh, 2018). A capacity building program focused on systems thinking skills in Karnataka, India provides a helpful set of best practices in building systems thinking capacity. The training program was provided to health managers of sub-districts ("talukas") and involved an 18-month series of classes, mentoring visits, and assignments. The content of the training program involved understanding the district health system as a complex system, identifying what a district health team requires in terms of inputs, knowledge, and individuals, and engaging in planning and supervision of health services with this systems mindset. Particularly in talukas with committed staff and positive change-making intentions, this training program successfully improved performance. The success of the Karnataka intervention highlighted the importance of staff motivation in performance improvement – which is a commonly-identified determinant of performance improvement (Prashanth et al., 2014: 1-2).[5]

Other practices to cultivate systems thinking include multi-stakeholder meetings led by a district health manager that bring together managers, partners, and local NGOs to work across health system functions and silos to identify and respond to district needs collectively. This has been done successfully in South Africa, among other settings (Orgill et al., 2021). Practices such as these that set aside time to review performance, strategize over challenges, and develop collective, concrete actions for improvement help managers to think systemically about health system performance and allocate time and resources effectively.

4. Managerial soft skills

a. What matters?

An emerging yet important component of high-performing health systems and effective performance management are managerial soft skills. These include a manager's ability to **communicate with and motivate staff** for change, **build trust and teamwork** among staff, and **serve as a coach and**

[4] However, district-level managers in some countries may lack decision-making authority for human resource management.

[5] This case is discussed in greater detail in Section B4.

mentor in performance improvement efforts. These soft skills transform rote managerial duties into more engaging and dynamic performance management techniques that can contribute to sustained improvement.

The 2025 scoping review explicitly maps soft-skill competencies (communication, HR/performance management, community engagement, and leadership) as critical drivers of staff motivation, trust, and continuous improvement; managers competent in feedback, supportive supervision, mentoring, and conflict resolution created more conducive work environments and higher staff performance (Ochieng et al, 2025). Emerging evidence suggests that when managers actively engage and communicate with staff around performance improvement efforts, they are much more likely to improve performance. For example, team building, group problem solving, and coaching and mentorship are particularly effective strategies for improving healthcare provider performance across contexts (Agweyu et al., 2022; Newton-Lewis et al., 2021; Rowe et al., 2018; Mabuchi et al., 2018). We take up each in turn.

Active managerial supervision includes close oversight, benchmarking, and routine audit of provider performance with feedback. Often, performance management efforts focus on data collection and tracking, but may fail to provide frequent, continuous feedback to staff on performance and means of improvement. The lack of frequent, relevant feedback is often a result of prolonged data processing.

When managers are skilled in **communication and relationship building**, they are able to align values and responsibilities for accountability across an organization, and cultivate a learning environment dedicated to continuous improvement (Mabuchi et al., 2018; Franco-Santos and Otley, 2018; Rogan and Boaden, 2017). In this way, soft skills transform performance management from a routinized work requirement to a meaningful effort to improve the quality of care for patients and communities.

Group problem solving entails bringing different healthcare workers together to discuss the realities of the performance management process, understand common challenges, and co-create solutions. Managers may use monthly meetings, group performance reviews, or digital communication channels to bring staff together to identify issues and co-create solutions. By building working relationships and encouraging idea sharing, group problem solving helps to create trust and teamwork in support of performance improvement. One common challenge to group problem solving is a lack of time and resources especially in settings with limited healthcare workers and overburdened clinicians (Rowe et al., 2018; Gilson and Agyepong, 2018).

Finally, **coaching and mentorship** involves managers building relationships with staff to facilitate tactical knowledge transfer and support relationship-building, trust, and accountability across the organization to improve performance (Newton-Lewis et al., 2021; Mabuchi et al., 2018). Coaching and mentoring diverge from traditional, lecture-style training in classroom settings by serving as a more interactive, hands-on, and responsive training approach. Coaching and mentoring enable managers to regularly communicate and problem-solve with staff about improvement aims, progress to date, challenges, and lessons learned. In doing so, managers facilitate relationship building and teamwork (both between managers and staff and among staff), which creates a sense of shared values and accountability to achieve goals (Nxumalo et al., 2018). Coaching and mentoring also provide opportunities for managers to regularly share feedback and

give hands-on guidance to staff while they work, thus reinforcing improvement aims in daily practice (Twum-Danso and Alyesh, 2018).

b. What works?

Effective performance management requires managers to be skilled in communication, relationship building, and leadership so that they can actively supervise staff, facilitate group problem solving, and serve as a coach and mentor in performance improvement. Beginning with active managerial supervision, staff oversight and monitoring is most effective when paired with **the provision of feedback to staff on a routine basis**. Managers are most able to motivate change for performance improvement when they deliver feedback in a respectful manner with encouragement of progress, constructive criticism around challenges, and participation in problem-solving. Active managerial supervision and continuous feedback helps managers to align staff's day-to-day practice with overall performance improvement aims, reward progress, and encourage learning for sustained improvement (Agweyu et al., 2022; Newton-Lewis et al., 2021; Rowe et al., 2018).

Project Fives Alive (PFA) – a five-year initiative to improve the performance of the maternal and child health services of Ghana's Health Service – provides an insightful case on capacity building of communication skills to support managerial supervision. In PFA, managers developed an in-depth communication plan with internal and external communication strategies to facilitate regular communication of and commitment to performance management goals. Internally, managers encouraged staff to discuss progress to date and lessons learned from performance improvement efforts at district, regional, and national meetings and conferences (Sodzi-Tettey et al., 2015). Integrating performance management in existing organizational routines has been shown to enable performance improvement in various settings. Establishing time during monthly meetings, for instance, to review performance and action plan for improvement has led to higher performance among PHC facilities (Orgill et al., 2021; Mabuchi et al., 2020). Ultimately, regular internal communication about performance goals, progress, and challenges enables managers to enforce accountability and motivate change among staff for continued improvement.

In addition, the ability to support **teamwork** and **group problem solving** is a core competency for PHC managers, as it supports teamwork and trust that encourage goal alignment and accountability. (Rowe et al., 2018). Managers can facilitate group problem solving through periodic group performance reviews or monthly management meetings. (Orgill et al., 2021; Mabuchi et al., 2020). Managers can also encourage experiential learning and group problem solving while staff are working to provide real-time feedback and tacit skill development (Gilson and Agyepong, 2018).

In Ghana, PFA built managerial capacity to lead relationship building and group problem solving by allowing staff to constantly feed into discussions about design, implementation, and adaptation of performance improvement efforts at various levels. By engaging with staff in different contexts, managers could build relationships and better understand staff perceptions of how their work and values compared with those of the organization. Ultimately, this supported goal alignment, commitment, and shared learning (Sodzi-Tettey et al., 2015). Relationships and teamwork are not only important among staff and managers within, say, a district health system, but also important across health system actors, such as NGOs, community leaders, and government authorities. Efforts by district managers to build relationships across these stakeholders through formal communication channels, monthly meetings, and community outreach have

proven to strengthen managerial capacity and improve performance in Ghana, South Africa, and Kenya (Orgill et al., 2021; Nxumalo et al., 2018; Gilson and Agyepong, 2018; Sodzi-Tettey et al., 2015).

In addition to PFA, an initiative developed by CARE India focused on improving performance of health services in Bihar highlights effective strategies to build relationships and teamwork among PHC staff. The Team-Based Goals and Incentive (TBGI) initiative focused on Reproductive, Maternal, Neonatal, Child, and Adolescent (RMNCH+A) health services in Bihar (See Box 4).

Box 4: Improving Motivation and Performance through Teamwork in Bihar, India

Context: CARE sought to build motivation and teamwork among front-line health workers (FLHW) in Bihar to improve the coverage, quality, and equity of RMNCH+A services.

Intervention: *Team-Based Goals and Incentives* (TBGI)

Intervention Design:

1. Monthly coordination meetings among all FLHWs, including supervisors: FLHWs in same catchment area brought together as teams to work on joint review, planning, and coordination of service delivery; managers also provided training and mentorship to FLHWs during meetings.
2. Teamwork activities and goal setting: (i) joint setting, monitoring, and reporting on service delivery goals, (ii) joint development of team norms, (iii) recitation of motivational team pledge at monthly meetings, and (iv) joint home visits.
3. Non-financial incentives and recognition: teams submitted quarterly progress reports to managers, who provided valuable household items and certificates of recognition to teams who achieved at least 12 out of 17 targets.

Results: These interventions significantly increased motivation, job satisfaction, and performance in terms of teamwork and equitable service delivery among FLHWs.

Source: Grant et al., 2018

Figure 3: Conceptual Framework for TBGI Performance Improvement

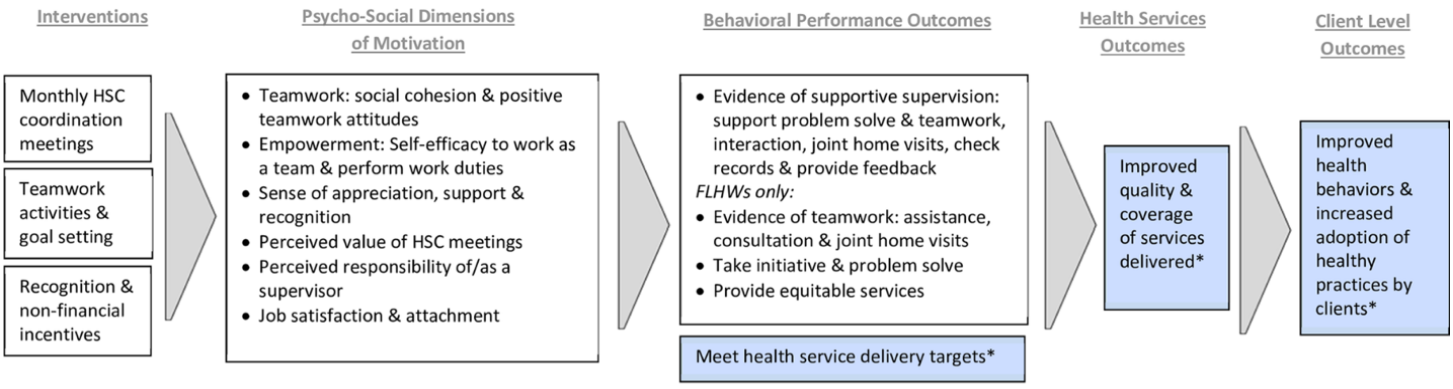


Figure 3 illustrates the conceptual framework for the TBGI intervention and highlights the psycho-social dimensions of motivation and expected behavioral change that result from relationship building and

teamwork (Grant et al., 2018). This framework highlights the importance of soft skills like teamwork, empowerment, and recognition in effective performance management.

Finally, **coaching and mentorship** are increasingly recognized as important approaches for PHC managers and supervisors to engage front-line providers (Newton-Lewis et al., 2021; Mabuchi et al., 2018; Nxumalo et al., 2018; Twum-Danso and Alyesh, 2018). Coaching is seen as both a skill and strategy to strengthen internal capacity to implement and sustain change. In healthcare settings, it consists of "facilitating a team or individuals to use their own content and process expertise to solve problems and make progress" (Baker et al., 2017:1). In essence, coaching is a facilitation method that involves working with and providing guidance to a team on specific tasks and tools such as improving a clinical process or developing reports. Coaching also focuses on uptake of tools for improved performance, such as data dashboards or Plan-Do-Study-Act (PDSA) cycles. Good coaches are also skilled in trust-building, communication, and team-building. Box 5 elaborates on the Inter-American Development Bank's Salud Mesoamerica Initiative (SMI), which focused on managerial capacity building in collaborative learning and coaching, among other skills, for performance improvement of PHC services in Honduras.[6]

Box 5: Coaching for Performance Improvement in Honduras

SMI focused on strengthening soft skills among PHC supervisors and middle-level managers for sustainable quality improvement in rural Honduras. The 12-month training program involved interactive, in-person training courses; manuals and guides; and provision of follow-up, on-site coaching on leadership, team building, communication, negotiation, collaborative learning, and coaching. These skills were viewed as critical to changing the 'authoritarian' nature of manager-frontline engagement and the routinized nature of supervision. The soft skill training sought to foster teamwork, trust, and continuous learning; there was also hard skill training to strengthen data measurement, analysis, and visualization to improve work planning and clinical practices.

The training consisted of 4, 4-day modules followed by 2+ on-site visits by coaches to observe and support managers and supervisors in engaging PHC providers. Facilitators formed teams of managers/supervisors and providers to implement performance improvement projects, including data measurement, validation, and analysis initiatives to expand service coverage and quality, as well as work planning and improvement activities.

SMI demonstrated significant measurable impact through performance indicators and participant interviews. The hard skill training demonstrated the largest impact and resulted in improved access and quality of targeted clinical processes. This impact was supported by the soft skill training, which enabled team-building, joint problem-solving and improved communication between supervisors, managers and providers. Some PHC organizations formed internal learning collaboratives to foster shared learning across levels and between facilities. A minority of PHC organizations displayed less robust results due to personnel turnover during the program period.

Source: Aceso Global, 2023

[6] See Annex 2 for additional case studies of soft skill development for performance improvement.

In sum, when managers are able to effectively engage with staff, cultivate teamwork, and serve as coaches and mentors, they are more likely to motivate behavior change to improve performance on the front line. Providing continuous, tangible feedback to staff and creating spaces for relationship building and group problem solving around performance challenges are essential strategies for managers, as they work to create an organizational culture of learning and improvement that sustains PHC performance improvement (Newton-Lewis et al., 2021; Rowe et al., 2018; Gilson and Agyepong, 2018; Mabuchi et al., 2018; Sodzi-Tettey et al., 2015). Recent evidence reinforces that supportive supervision, constructive feedback, and coaching—delivered through monthly review meetings and peer collaboration—transform organizational culture when institutionalized at facility and district levels.

C. Challenges to PHC Performance Management

There are three main challenges to PHC performance management: the **unintended consequences** of some performance management efforts, the **context or enabling environment**, and the **organizational culture**. First, because performance management can apply compulsory targets, reporting requirements, and changes to clinical practice, it can create an unwelcome burden of work for staff that are often already time- and resource-strapped, and ultimately undermine commitment to performance improvement. Moreover, the context of a health system or organization can significantly influence performance management through limits on resource availability and decision-making autonomy at the subnational level. Finally, performance management often hinges on the extent to which there is an organizational culture that supports learning and growth; the existing norms of and values in a local health system and PHC organization can influence performance management, as explored further below.

1. Unintended consequences

Performance management strategies can also lead to unintended consequences that have profound effects on individuals and organizations. First, when performance management is designed in a hierarchical, directive way, it can result in **'gaming' behavior** in which individuals alter the way in which they act in order to fulfil performance expectations, but not to improve overall performance of service delivery or address shortcomings in services in which performance is not directly monitored (Franco-Santos and Otley, 2018). Directive approaches to performance management are characterized by attempts to control behavior through top-down targets, vertical accountability, data monitoring, and performance audits. In general, directive approaches fail to foster a conducive environment for performance improvement – via relationships, shared values, and teamwork – and instead rely on standardized priorities and often unrealistic targets, resulting in bureaucratic compliance mindset, demotivation, and ultimately reduced efficiency and effectiveness (Newton-Lewis et al., 2021). Worse, directive approaches can lead staff to manipulate or misrepresent data in order to hit targets and avoid punishment (Franco-Santos and Otley, 2018).

Additionally, performance management systems can incentivize **selective attention** to a limited number of short-term goals that are embodied by the selected performance measures and targets, which may be included in performance-based financing schemes. This leads to neglect of broader performance objectives

that may have longer-term benefits (Franco-Santos and Otley, 2018). For instance, performance measures related to budget adherence, patient volume, and wait times may enhance efficiency and production, but they do not consider clinical quality or patient satisfaction (Rogan and Boaden, 2017). Ultimately, performance management systems that rely disproportionately on top-down, short-term, easily-measurable targets tend to diverge from the priorities and practicalities of front-line providers tending to patient needs, creating a compliance trap in which providers focus solely on areas for which they will be rewarded at the sacrifice of broader performance improvement (Franco-Santos and Otley, 2018; Rogan and Boaden, 2017).

Finally, performance management strategies can alter social interactions within an organization by **diminishing trust and shared values** while promoting transactional, hierarchical relationships. This has been found in both directive performance management systems, which tend to impose top-down, rule-bound, audit-style accountability, as well as enabling performance management systems, which promote teamwork and common goals. The deterioration of social relationships in both directive and enabling performance management systems is a result of the complex web of priorities and accountability responsibilities that performance management creates in inherently complex health systems. Even when performance targets are designed to account for local realities, reporting and compliance requirements often constrain front-line providers' ability to respond to patient and community needs. Target setting, tracking and monitoring processes may be well understood by an organization's senior managers but not necessarily by front-line providers, leading to demotivation among the latter, and ultimately undermining the relationships, trust, and engagement that drives performance improvement efforts forward (Nxumalo et al., 2018; Franco-Santos and Otley, 2018).

2. Context and enabling environment

A second common challenge to performance management is adverse contextual factors, including **insufficient resources** (i.e., financial resources, skilled workers, health products) and **limited local autonomy.** The 2024 characterization of Malawi's PHC performance measurement and management system illustrates these barriers in practice: structured indicators and routine data collection exist at all levels, yet weak analysis, infrequent feedback, and lack of integration with decision-making routines limit evidence-based improvement (Makwero et al., 2024). 2024 and 2026 studies outline how gaps in DHIS-2 data contributed to significant constraint, with the 2026 evaluation of performance information management confirming that manual processes, power outages, and overburdened staff continue to undermine timely use of data despite DHIS-2 rollout (Rogers et al., 2024; Majo et al., 2026).

Performance improvement efforts must be focused on the reality of a given health system or organization, including the availability of human resources, financial constraints, patient population, and managerial capacities. Local health systems commonly lack sufficient staff, budget, or skills to identify and make the necessary changes to improve performance. Common **human resource challenges** to performance improvement are inadequate staff numbers and rapid staff turnover. These conditions create excess work burdens for existing staff, encourage multi-tasking, and undermine specialized skill building, resulting in limited management and administrative capacity for performance improvement. These challenges are a result of underfunding and undertraining of health professionals, inadequate career development support, and a lack of formal or well-defined performance monitoring processes (Edwards et al., 2015). Investments in human resources for health that emphasize ongoing skill building, career development, and staff

incentives can improve conditions among healthcare workers to hire and train adequate staff levels in management, administrative, and clinical roles so that there are sufficient human resources to implement and oversee performance management; providers gain capacity to report data, receive feedback, and engage in problem solving and behavior change as necessary (Newton-Lewis et al., 2021; Mabuchi et al., 2018).

Contexts with **limited subnational autonomy** can also struggle to improve performance due to restrictions on the ability of district and local managers to make decisions around resource allocation and use that support local priorities. The literature suggests that performance management is more effective when districts and facilities that have greater autonomy over human resources, budgeting, procurement, and target setting. When resources are allocated and performance requirements are set by high-level policy makers, such as the ministry of health, the elements of a performance management system – i.e., indicators, targets, reporting requirements, human resources – are often unrealistic or irrelevant to local priorities and practices, in turn undermining efforts to improve performance (Velez Lapao, 2015). Alternatively, subnational autonomy empowers local leaders who have direct exposure to performance problems and are acutely attuned to local needs with the ability to directly address such problems and needs. This bottom-up decision-making has proven to support locally-tailored, realistic solutions for performance improvement. Nevertheless, subnational autonomy is often lacking in centralized, resource-strapped health systems and thereby is a common challenge to performance management across LMIC settings (Ferreira and Otley, 2009; Twum-Danso and Alyesh, 2018; Bradley et al., 2015; Mabuchi et al., 2020).[7]

Finally, performance management at the PHC level requires **integration** across services and programs to enable information sharing, coordinate care and strengthen health system performance. Many health systems, especially those with high donor presence, have various vertical programs and siloed data systems. Donors often fund disease-specific programs with unique data systems, while public health systems provide other PHC services with separate data systems. Different data systems collect information on different variables using different methods (i.e., digital, manual) and there is a widespread lack of integration and interoperability across systems, which inhibits comprehensive assessment of overall health system performance, issue identification, and improvement efforts (Lince-Deroche et al., 2019; Kumar and Mostafa, 2019; Velez Lapao, 2015; Pfeiffer et al., 2010).

Limited autonomy, insufficient resources, and poor integration are common contextual challenges to performance management across LMIC settings. Mozambique's Health Management Mentorship (HMM) program provides an example of addressing these common constraints by working across management domains (see Box 6).[8]

[7] While relevant, health system financing is the subject of another JLN Collaborative and is not subject of this review, apart from its relation to PHC performance management efforts.

[8] An additional case study examining the contextual challenges to implementing PHC performance management is provided on page 51 in Annex 2. This case highlights an initiative to bolster implementation a PHC information system for improved communication and information use in Indonesia.

Box 6: Addressing Common Constraints to Performance Management in Mozambique

HMM sought to strengthen health system performance across 10 districts in Mozambique. Constraints to performance improvement in these districts included inadequate staff numbers and high staff turnover, lacking management and administrative capacity, and poor accountability mechanisms. To address these challenges, HMM focused on building health system capacity in four domains: accounting, human resources, monitoring & evaluation, and transportation management.

In accounting, the program streamlined the distribution of grants so that district health systems received direct financing, which reduced the time and human resources required to process funding. This was paired with the introduction of experiential training on quality accounting practices, which staff were able to take part in due to more efficient grant processes. On the human resource front, the program focused on hiring/absorbing additional staff, developing new positions to support career development, and reallocating budgets to accommodate newly hired/promoted staff. To improve monitoring & evaluation (M&E) functions, the program incorporated government M&E guidelines into district-level work planning, enforced the development of monthly performance reports, and introduced practices to maintain stock of data collection forms and registers. Finally, in the area of transportation management, the program led training in fleet administration and supervision, including weekly vehicle usage plans, schedules for routine maintenance, and logbooks for tracking vehicle use.

Collectively, these practices resulted in measurable performance improvement across the 10 districts' health systems.

Source: Edwards et al., 2015

3. Organizational culture

A third challenge to PHC performance management is an organizational culture that resists change. We define organizational culture in terms of jointly held expectations, beliefs, values and behaviors of organizational members (Chatman and O'Reilly, 2016). More informally, organizational culture entails "how we do things around there." Although no causal relationship has been found, multiple studies have shown a "consistently positive relationship" between organizational culture and improved performance in different healthcare settings across many countries (Braithwaite et al., 2017: 1). The challenge is identifying the specific features of how things are done in healthcare organizations that can influence performance. Students of organizational culture in healthcare settings have identified a number of features associated with high-performing healthcare organizations. Supportive organizational culture is shaped by **leadership, incentives and accountability mechanisms** that facilitate coordinated and cooperative group action such as teamwork, constructive criticism without blame, collective problem solving, and continuous learning across a health system (Seid et al., 2020; Yuce et al., 2020; Mannion and Davies, 2019; Swensen and Mohta, 2019; Massoud et al., 2018; Braithwaite et al., 2017; Taylor et al., 2015).

Centralized health systems tend to have hierarchical leadership structures that create an organizational culture of routine rule compliance rather than participation and learning. When health system leaders exercise power in an authoritarian and directive manner, they tend to have a negative effect on staff motivation, clinical practice, and patient care.

As an alternative, **participatory leadership**, defined in Box 7, has been identified as a core component of high-functioning health systems that creates an organizational culture of learning and performance improvement. The United Nations upholds participatory leadership as a necessary step on the path to Sustainable Development Goal 3 to improve PHC services, expand universal health coverage, and strengthen the resourcefulness and responsiveness of health systems (United Nations, 2023; Alliance for Health Policy and Systems Research, 2016). While the highly-dynamic, well-resourced context required for participatory leadership may make it an unrealistic short-term goal for many health systems, leadership can focus on incorporating new practices and structures that create an enabling organizational culture for health system performance. Specifically, engaging workplace teams in **leadership development programs**, cultivating **experiential skills and tacit knowledge**, and creating **new positions and professional relationships** that spread decision-making power and encourage accountability are all strategies to diversify leadership and power within a health system to foster an organization culture that supports performance improvement (Gilson and Agyepong, 2018). These strategies work by encouraging teamwork and relationship building, collective problem solving, motivation, and positive staff attitude, all of which have proved to be key elements to effective performance management and high-performing health systems (Newton-Lewis et al., 2021; Mabuchi et al., 2020; Gilson and Agyepong, 2018; Nxumalo et al., 2018). Additionally, training, mentorship, and supportive

Box 7: Participatory Leadership

A leadership structure that empowers and enables diverse groups to contribute freely to the effective functioning of a system

Box 8: Building an Organizational Culture for Performance Improvement

PFA focused on creating an organizational culture that values **new ideas, learning,** and **joint decision making and implementation**. This was supported by forming teams at various levels of the health system to build relationships, support discussion and problem solving around performance, and create accountability among staff. Particularly influential to overall performance improvement was the creation of dedicated quality improvement teams, which were allocated the necessary autonomy and resources to test, evaluate, and adapt locally-derived solutions to performance issues. In addition to such internal teams, PFA encouraged the development of community-facing teams that brought together managers and front-line staff with relevant community members (e.g., mothers, traditional birth attendants, local government officials). In addition to teambuilding, PFA focused on creating platforms for open, ongoing conversation about front-line experiences, performance issues, and adaptation in order to foster an organizational culture dedicated to learning, collective problem solving, and continuous improvement. Routine meetings, feedback sessions, email changes, and newsletters provided multidimensional opportunities to engage around performance management.

Source: Sodzi-Tettey et al., 2015.

supervision—explicitly recommended in the 2025 scoping review—can gradually shift culture toward participatory leadership and collective problem-solving (Ochieng et al., 2025).

Box 8 describes the healthcare improvement initiative Project Fives Alive (PFA), which was introduced in Section B4. PFA worked to develop an organizational culture that supports performance improvement among Ghana's maternal and child health services team.

D. Conclusion

PHC performance management is a multistep, iterative process that involves selecting performance indicators and targets, collecting data, analyzing results, identifying issue areas, designing interventions to improve performance, and continuously monitoring and adapting improvement efforts. Many countries have the measurement tools and data collection processes to collect information on health system performance. There is an extensive list of validated performance indicators recommended for use across a range of settings, and countries typically have formal processes to collect information on these indicators. However, data measurement often lacks critical management functions, including the adaptation of indicators and targets to local context; the use of collected information for feedback, skill building, and collective problem solving; and the encouragement of goal alignment, teamwork, and motivation among staff.

In keeping with the framework presented at the onset of this review, the literature suggests that many countries manage PHC performance through formalized, organizational processes – namely, data measurement and collection, target setting, and digital monitoring. The scale and scope of these processes vary across settings. Furthermore, the extent to which measurement and monitoring processes are paired with formalized processes for informational feedback and feedforward is generally inadequate.

Therefore, while formalized organizational processes for PHC performance management are in place – though often in need of improvement – one main challenge to performance improvement lies in the lack of managerial skills to effectively operationalize existing management processes and tools and to create a supportive environment for sustained improvement. Improving managers' ability to set and adjust performance targets, coordinate human and financial resources around improvement efforts, and apply a systems-thinking approach to issue identification and problem solving are all important strategies to improving the effectiveness of PHC performance management. This should be paired with efforts to increase the frequency and formats with which managers provide performance feedback to staff so that performance management efforts are tangible, engaging, and collective.

Finally, the literature suggests that managerial soft skills are a critical determinant of success of PHC performance management systems. However, these skills – such as the ability to foster relationships and teamwork, provide ongoing coaching and mentorship to staff, and facilitate group problem solving – are among the most lacking across settings. The extent to which managers support teambuilding, mentorship, and collective problem solving, among other activities, determines the level of goal alignment, trust, motivation, and accountability in a health system, which drive ultimate success. PHC performance

management requires building managerial capacity to create an environment of commitment, continuous learning, and accountability to support coordinated, sustained improvement efforts.

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Annex 1: Performance Indicators from the PHC Performance Initiative (PHCPI)

Subdomain	Indicator
A2. Health Financing	Per capita PHC expenditure
	Percent of government health spending dedicated to PHC
B1. Drugs & Supplies	Basic equipment availability
	Availability of essential drugs
	Availability of vaccines
B2. Facility Infrastructure	Health center and health post density per 100,000 population
B4. Workforce	Community health worker, nurse and midwife density, per 1,000 population
C1. Access	Access barriers due to treatment costs
C2. Availability of Effective PHC Services	Provider absence rate
	Diagnostic accuracy
	Caseload per provider (daily)
C3. People-centered Care	Dropout rate between 1st and 3rd DTP vaccination
	Dropout rate between 1st and 4th antenatal (ANC) visits
	Treatment success rate for new TB cases
D1. Effective Service Coverage	Coverage Index
	DTP3 immunization coverage
	Antenatal care coverage (4+ visits)
	Contraceptive prevalence rate (modern methods)
	Percent of births taking place in a health care facility
	Percent of children under 5 with diarrhea receiving oral rehydration and continued feeding
E1. Health Status	Maternal mortality ratio
	Under-5 mortality rate
	Adult mortality for noncommunicable diseases
E3. Equity	Under-5 mortality: difference between 1st and 5th wealth quintiles
E4. Efficiency	Under-5 mortality relative to per capita PHC expenditure

Source: Veillard et al., 2017

Annex 2: Case Studies of Selected PHC Performance Management Initiatives in Five Countries

Case Study — England's National Health Service Leadership Academy

Thematic Area: Building leadership skills for performance improvement

Introduction: The National Health Service (NHS) is the publicly-funded healthcare system in England and the second largest single-payer healthcare system in the world. The NHS Leadership Academy was launched in 2012 to build leadership capacity of supervisors and managers as a means of improving performance across NHS facilities. It has been a strong example of a leadership program that contributed greatly to performance improvement over the past decade. The Leadership Academy has several training programs, all of which include an online learning component to be completed between six months and two years, ranging from the open-access Edward Jenner Leadership Program, to the Nye Bevan program of 50 hand-picked high-potential leaders per year. Candidates for the training are drawn from primary and acute care provider backgrounds, as well as purchasing and clinical planning. The content of the training particularly emphasizes "soft skills" and transferable hard skills of management that will more easily apply across contexts.

Rationale: In 2012, the NHS was facing challenges with consistent underperformance in facilities, a pervasive "culture of blame" for performance problems, and systemic lack of leadership and managerial skills, which negatively affected patient outcomes. Building leadership capacity was identified as a pivotal means of improving the quality and efficiency of health services.

Design/Interventions: To achieve system-wide change, the "largest healthcare management and leadership development programs in the world was initiated. A nine-dimension Healthcare Leadership Model was developed at the outset to identify specific behavioral elements of strong leadership. These foundational behaviors included evaluating information, engaging teams, holding people to account, inspiring shared purpose and leading with care.

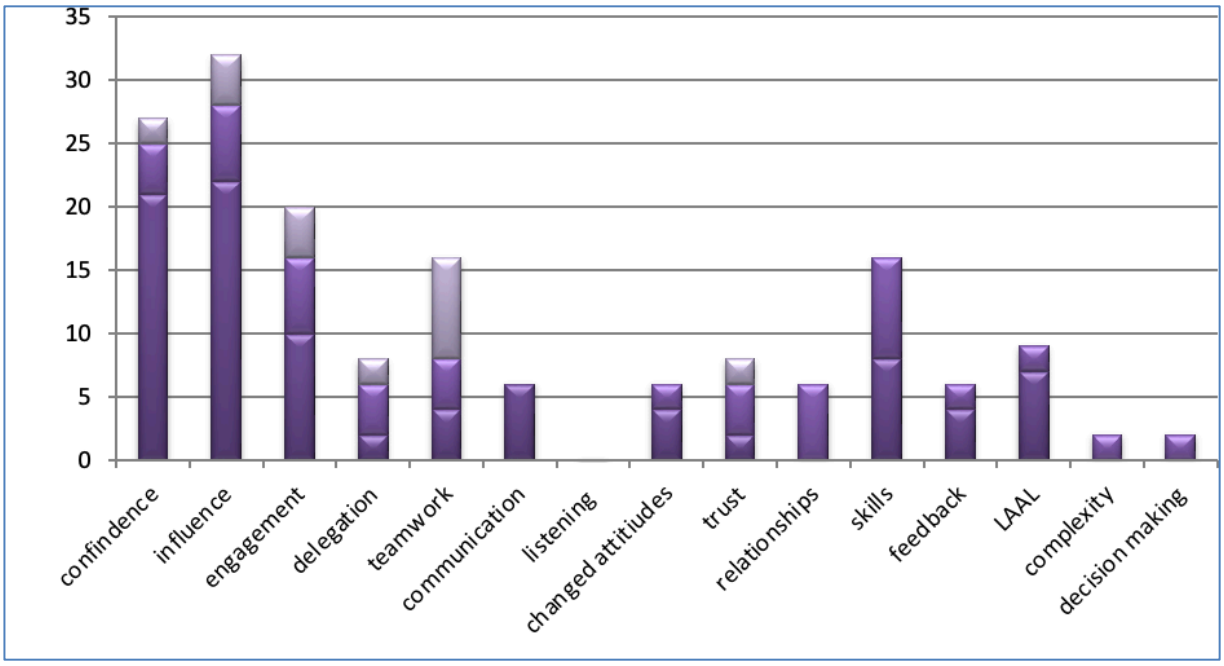
This framework was transformed into a series of online learning courses, face-to-face behavioral workshops, impact groups, and executive training courses across the five programs geared towards different levels of candidate seniority. For example, middle-level managers aspiring to achieve senior roles sign up for the Elizabeth Garrett Anderson Program, which results in an MSc in Healthcare Leadership. For basics of leadership learning, the Edward Jenner program is an open access, all-online learning program requiring the completion of 20 modules teaching the "basics of people management, quality improvement, patient safety, teamwork, and facilitating change."

Implementation: By mid-2016, the NHS Leadership Academy trained over 45,000 people, the Edward Jenner program boasting the highest enrollment at 39,000. The NHS Leadership Academy won the European Foundation for Management Development Excellence in Practice Gold Award that year. By

2022, over 166,000 people attended the programs. In 2022, the Edward Jenner program was redesigned to focus more on integrated leadership and has over 8,000 enrollments to date.

Results and Lessons Learned: Although high enrollment can indicate program success, multiple evaluations were also commissioned over the years by the NHS Leadership Academy to gauge the program's effectiveness. Three years after the program launch, the NHS Leadership Academy commissioned an independent evaluation of the Edward Jenner Leadership Program. A 10% random sample was taken from 12,916 participants, and 89% percent of the sample reported positive results. Figure A.1 summarizes the impact of the training as reported by sampled participants. The program had the highest impact on participants' confidence, influence, and ability to engage others in their work.

Figure A.1: Personal Impact of NHS Leadership Academy on Participants



A recent study in 2019 was conducted on pre- and post-questionnaires evaluating the effectiveness of the Edward Jenner Leadership Program for First Year Medical Students at Sheffield University Medical School. Among 52 students surveyed, there was a (i) 23% increase in confidence in team building capacity; (ii) 17% increase in confidence to undertake various team roles and demonstrating leadership; (iii) 10% increase in confidence to accept leadership from others; and (iv) 9% increase in confidence to build positive working relationships. Overall, 62% of participants indicated that the Edward Jenner Leadership Program improved their leadership skills.

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Case Study — Salud Mesoamerica Initiative in El Salvador

Thematic Areas: Active managerial supervision, teambuilding, and joint problem solving for performance improvement

Introduction: Salud Mesoamérica Initiative (SMI) is a public-private partnership managed by the Inter-American Development Bank to support Central American countries to achieve health goals. In 2015, SMI launched a performance-based financing initiative to improve PHC performance management in poor areas. Between 2015 and 2017, the initiative enabled improvement along specific performance-based financing indicators, and helped to cultivate a culture for continuous improvement.

Rationale: SMI was focused on improving the effectiveness of maternal, newborn, and child health services for the poorest populations, as demonstrated through measurable indicators and cost-effectiveness assessments.

Design/Interventions: SMI provided financial assistance to the Salvadoran government tied to performance indicators and technical assistance by placing advisors within health facilities for periods of weeks/months depending on necessary conditions. Between 2015 and 2017, the Salvadoran government initiated several PHC performance management interventions, including on target setting, performance measurement, feedback and incentive systems.

Specific activities implemented by the Salvadoran MOH include: (i) routine supervision meetings between MOH decision makers and PHC teams to discuss challenges; (ii) meetings between local community leaders and medical coordinators of PHC teams; (iii) biannual learning events convened by MOH, SMI, and medical coordinators, engaging in peer-to-peer knowledge sharing; (iv) performance reports generated from regular SMI monitoring teams; (v) quarterly visits conducted by SMI and MOH officials to monitor program implementation at the PHC facility level; and (vi) unannounced visits every six months to collect facility and household data, which are disseminated during the biannual learning events.

Implementation: SMI supported 75 PHC teams across 14 sites in the poorest municipalities across El Salvador over two years. SMI promised up to half of the funding for the project based on performance targets, with the MOH being responsible for introducing supportive policies, providing resources, supplies and training. Three areas were emphasized during implementation: (1) performance target-setting; (2) consistent access to problem-solving spaces (supervision meetings where challenges can be shared); and (3) routine reflection on processes and data-based evaluation of next steps.

Results and Lessons Learned: El Salvador quantitively and qualitatively benefitted from SMI activities in PHC system health. The country experienced a 24% increase in antenatal care quality during this period. Other notable areas of improvement include performance target-setting mechanisms and problem-solving spaces, detailed below.

SMI activities produced several improvements for primary health system across the 14 districts between 2015 and 2017. First, information reports became regularly used to monitor PHC team performance. These created natural avenues for feedback between system levels. Second, the MOH developed

dashboards to visualize progress of facilities as well as identify key challenge areas. These dashboards were so effective that they diffused beyond El Salvador. Third, management practices such as debriefing and planning meetings became routine. Check-in meetings and surveys also became routine. Fourth, teams were found engaging in altruistic behaviors, such as using personal funds to reach difficult-to-access areas that would strongly benefit from community outreach. Additionally, teams became personally invested in low-performing projects and would work longer hours to produce expected results.

Performance Target-Setting

According to interviewees, performance target-setting was one of the most valuable elements of the SMI project in El Salvador. Having "clearly articulated, precisely framed and well-communicated performance targets" was considered the most valuable element to respondents. Without clear, achievable goals, they felt their work lacked direction and efficiency.

Problem-Solving and Learning Spaces

Another finding was that problem-solving and "learning spaces" were highly valuable to respondents. Initially resulting from in-person field visits to check on facility-level progress, MOH decision makers observed that routine supervision meetings can be used as a forum for facility-level managers to share challenges and address persistent bottlenecks. Managers took the opportunity to speak with MOH workers to vocalize concerns of resource availability, transportation, and security. It was reported that MOH decision-makers were more likely to make these issues a priority after direct communication and sometimes addressed the issues within the same week.

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Case Study — Data-Driven Performance Improvement in Pakistan

Thematic Areas: Tools for data collection and analysis; skill-building for effective data use

Introduction: Strong performance management systems have foundations in data access, analysis and use. Data collection mechanisms and consistent management cycles are essential for a culture of performance improvement. Lessons from the data-based immunization project in Punjab, Pakistan provide a strong baseline for future health improvement projects grounded in digitalization.

Rationale: In 2014, the Punjab province of Pakistan established improving vaccination coverage as a priority since the previous system relied heavily on health workers manually determining which communities had not yet been reached that month. This led to many rural areas being under-immunized or repeatedly skipped due to a lack of reliable information or transportation system.

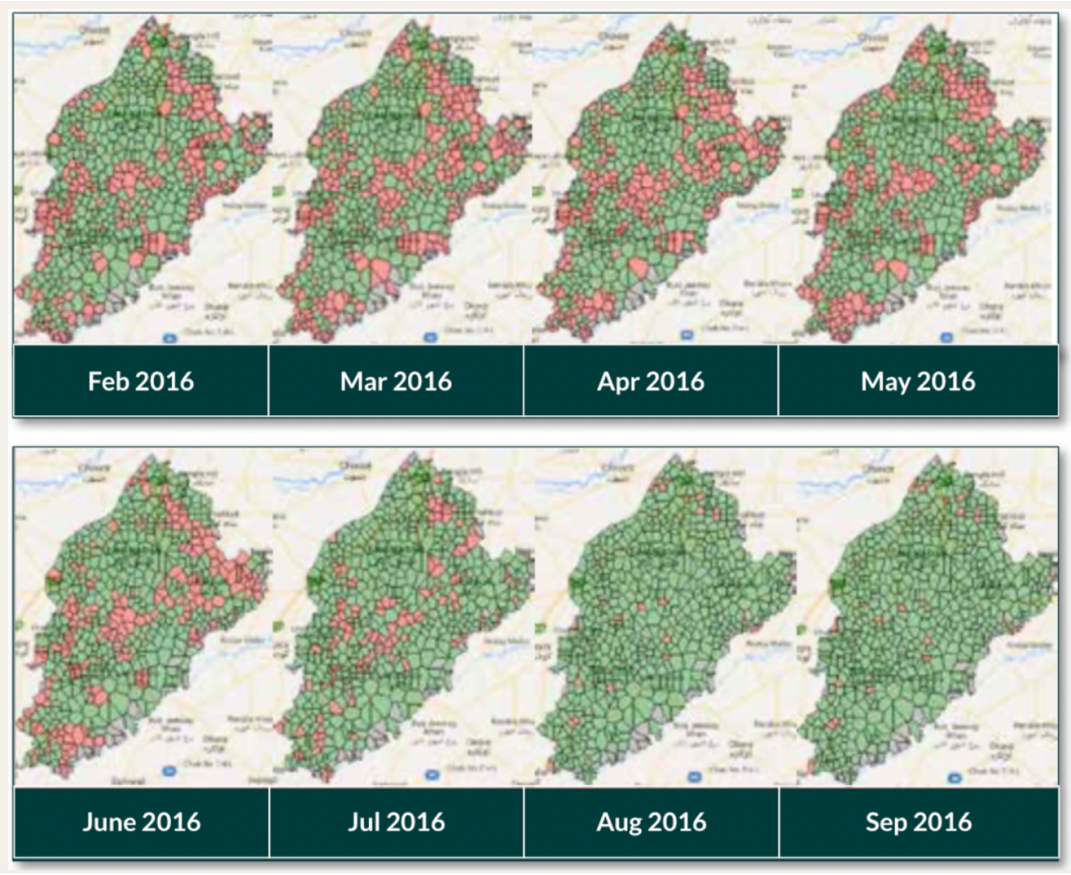
Design/Interventions: That year, the Punjab Information Technology Board (PITB) distributed low-cost mobile telephones to each of the 4,000 health workers using funding from the World Bank, pre-installed with an application enabling health workers to report exact location of all children vaccinated. These vaccination reports were case specific and designed to be easily compiled based on geography and type of immunization.

Implementation: Within a few months, hundreds of thousands of vaccination reports were being generated monthly in Punjab. Using these reports, a heat map was created in which 17,700 regions were shaded green/red based on number of children vaccinated and their locations. This heat map is provided in Figure 1, which illustrates the consistent lack of vaccine coverage in rural areas, due to high costs of petrol. In response to these findings, the Chief Minister in Pakistan granted transport allowances for health workers in addition to hiring 550 new vaccinators and supervisors. Villages that were routinely missed were assigned individual vaccinators, and other best practices were distributed based on top-performing districts.

Results and Lessons Learned: Punjab, Pakistan boasted a remarkable increase in immunization coverage across the region. Between December 2014 and November 2016, immunization rates increased by 35 percentage points based on surveys of 30,000 households. To verify these results, four independent surveys were conducted, all of which confirmed the results. Polio vaccinations of children also reached an all-time high in the region.

State officials with the support of ACASUS used these lessons learned to develop recommendations for similar projects in Kaduna State, Nigeria based in data-driven improvement. This model is based on four areas: (i) data collection; (ii) data analysis, reporting, and use of data; (iii) data driven management routines and accountability; and (iv) data-centric leadership.

Figure 1: Data Map of Monthly Vaccinator Visits by Region



Data Collection

For data collection efforts to be successful, the surveys distributed to health facilities need to be simple. Based on the Pakistan case, a PHC performance management system will have limited success if it requires excessive data collection by health workers. Currently, the Kaduna survey distributed to health facilities has 800+ questions, which plases a heavy burden on health workers. State officials recommend Kaduna reduce this number to a maximum of 150 questions. Further, these surveys should be widely accessible, even in low- and no-signal environments, and there should be an authority responsible for collecting and verifying the data. Specific recommendations delivered to Kaduna on data collection are detailed in Table 1 below.

Table 1: Best Data Collection Recommendations

Adopt clear protocols, and continuously review/improve surveys	Minimize opportunities to intentionally misreport	Perform targeted site visits	Create regular reviews cycles within LGA and State Primary Health Care Boards (SPHCB)	Occasionally conduct third-party audits

Data Analysis, Reporting, and Use of Data

Assuming responsible data collection, there should be systems in place to automatically synthesize and analyze survey data. To best guide decision-making, analyzed data should be represented visually. For Punjab, this was the heat map with clear red/green regions indicating activity level. In Kaduna's case, it is recommended that a platform be generated where performance indicators are represented in flowcharts, and depending on the indicator in question, automated recommendations are outputted. These recommendations should be distributed to individual health facilities by the program, providing feedback automatically. There should also be an upward recommendation and visualization tool for decision-makers. Specific recommendations for data use are detailed in Table 2 below.

Table 2: Data Use Recommendations

Monthly data-packs (described below in "Data-Centric Leadership") and review meetings for the SPHCB	Monthly data-packs for the LGA authorities	Monthly meetings with the Governor, Deputy Governor, Commissioner for Health, etc.	Automated dashboards that update in real-time	Publicly available annual reports

Data-Driven Management Routines and Accountability

Meetings should be intentionally data driven, and these meetings should take place at all levels. These meetings should review data presented visually in a dashboard to identify challenges, develop solutions, and set priorities for the entire health system. Attendance of vital persons should be noted, and feedback loops created. Feedback loops, including follow-up and coordination mechanisms, are critical for program-wide success. Specific recommendations for management routines are detailed in Table 3 below. It is crucial that all meetings are data oriented.

Table 3: Data-Driven Management Recommendations

Weekly Facility Management meetings to review data on low performing indicators, addressed with action-oriented planning	Monthly LGA taskforce on PHC, including LGA chairman & LGA health secretary, to review progress on regional PHC performance and problem areas	Monthly State taskforce on PHC, including Deputy Governor & LGA chairmen, to review progress against priority areas and identify areas in need of state-level intervention

Data-Centric Leadership

The impact of strong leadership on health system performance is well-documented. However, by habitually using data "packs" — summaries of most important data points for decision-makers — there are opportunities to strengthen leadership beyond traditional pillars. A prerequisite is consistently involving upper levels with briefs containing visualizations and summaries of performance metrics. Given both data and upper-level leadership are adequately involved, specific recommendations for data-based leadership are detailed in Table 4.

Table 4: Data-Based Leadership Recommendations

Financial and non-financial incentives	Best practices transfer from high-to-low performing facilities	Coaching for State- and LGA-level data analysis	Interventions for low performing facilities, including mandatory acceptance of third-party assistance or requesting change in leadership	Policy dialogue between state and federal employees using data to best improve PHC practices

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Case Study — Strengthening PHC Health Information Systems in Indonesia

Thematic Areas: Organizational processes and human resource skills for health information systems

Introduction: Indonesia's implementation of the Primary Health Care Information System (PHCIS) began in 2014 to improve accountability among healthcare workers to health system performance in the Banten province. The PHCIS encountered various challenges during implementation. These challenges led to less than robust implementation of the PHCIS across provinces in Banten, with only half of PHCs meeting PHCIS targets. To diagnose the issues that led to poor implementation, an in-depth study on PHCIS implementation was conducted in South Tangerang District.

Rationale: There was a notable gap in research in urban areas in which PHCIS implementation fell short (e.g., missed PHCIS targets). Known barriers to Health Information Systems (HIS) implementation in other countries include limited IT training, high employee turnover rates, security, and lack of financial incentives. In response, faculty from the University of Public Health and the University of Computer Science in Depok, Indonesia conducted a study in a known "smart city" to find most prevalent issues to PHCIS implementation that did not involve infrastructure.

Design/Interventions: Qualitative research was conducted from February-April in 2018 by conducting in-depth interviews with people who were (1) responsible for policy initiation or regulation of the new HIS system or (2) actively knowledgeable in PHCIS development. Selected organizations include the Data Centre of the MOH, District Health Office, Province Health Office, and two public healthcare organizations which used the PHCIS. Each interview conducted lasted 45 minutes and was later transcribed via audio recording.

Implementation: Two research frameworks were considered: Human-Organization-Technology fit (HOT-fit) framework and the Individual, Task and Technology (FITT) framework. The HOT-fit model has six main pillars: (1) system quality; (2) information quality; (3) use; (4) user satisfaction; (5) individual impact; and (6) organizational impact; the FITT framework discusses the relationship between IT adoption and attributes of individual users, technology, and clinical tasks & processes. Main questions based on these frameworks asked to participants were:

1. What is your opinion on the use of PHCIS for the improvement of PHC?
2. What do you think about the performance of the system itself?
3. Was there organization support during system implementation?
4. What was the process of implementation like?
5. Was there enough infrastructure available?

Results and Lessons Learned: Three common challenges arose from the interviews: human resources; organizational rules; and processes. A review of these systematic failures related to humans, supply, and processes may lead to better outcomes in future HIS implementation attempts in resource-constrained environments.

Human Resources

Resistance to change was one of the most common themes observed throughout the interviews. Whether a lack of commitment or behavioral limitations, the health care staff was observed to show strong resistance to using IT — most staff preferred to use manual records compared to electronic records. Additionally, lack of IT employees meant that medical staff were asked to convert time they spent with patients to using computer systems, which did not seem to be a favorable tradeoff for many.

Organizational Rules

"All respondents conveyed that there is no specific organizational policy which regulates HIS adoption in a PHC." Hence, the priority was not to implement the PHCIS, but to continue hiring medical staff. This also explains the lack of IT technicians hired to operate the PHCIS system. Further, security and privacy issues made it so health care staff prefer to save information locally on a computer as opposed to uploading it to the HIS.

Processes

Similarly, there is no compliance element of PHCIS. Facilities are required to jump through several manual loops with the government regardless of PHCIS adoption. Facilities must send "reports via email every month" and manually input "several forms provided by the Ministry of Health." Since PHCIS implementation does not help mitigate any compliance needs, it is perceived as a luxury investment across facilities with leftover resources.

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Case Study — Building Soft Skills to Improve Quality in Thailand

Thematic Areas: Skill-building in coaching and leadership

Introduction: Soft skills have recently come to the fore of primary health care performance management research. To establish a quantitative relationship between soft skills of directors and improved health personnel performance in low-resource settings, a study was conducted in the Khon Kaen province of Thailand to gauge the direct impact of facility-level directors.

Rationale: In Khon Kaen, 3-5 health personnel on average are responsible for delivering care to 5,000 people at the Sub-District Health Promoting Hospital (SDHPH) level, which includes clinics of all types. Hence, quality of care delivered is important, and SDHPH directors play a crucial role facilitating smooth processes. Leadership tendencies of directors were modeled against health personnel performance in a low-resource setting to test real-life impact within small organizations across Khon Kaen.

Design/Interventions: From a body of 652 health personnel (excluding directors), 199 were randomly sampled to gain information on leadership skills of their SDHPH directors. Using information from a questionnaire, soft skill scores were assigned to individual directors and formulated into an overall "soft-skill score." Health personnel were then asked to give an assessment of the quality of their own work and give an efficiency score for the facility in question.

Implementation: The questionnaire was constructed based on four main parts: personal characteristics of respondents, leadership soft skills of the director, performance of personnel, and problems/barriers encountered at work. The survey was then validated by three independent experts and assessed for reliability.

Results and Lessons Learned: Analysis yielded a positive correlation between soft skills of directors and performance scores of health personnel ($r=.571$, $p<.001$). In other words, on average, facilities run by directors with better soft-skill scores were observed to have health personnel with higher "performance scores."

Performance scores of health personnel accounted for (1) effectiveness of services provided, (2) primary care development outcome, (3) efficiency, and (4) outcome of quality and process as perceived by health personnel. By the linear model, coaching and presentation skills had the highest correlation with health personnel performance scores — "people development and coaching skill" ($r=.591$, $p<.001$), "presentation skills" ($r=.554$, $p<.001$), "planning & organization" ($r=.537$, $p<.001$) and "skill in collaboration/teamwork" ($r=.523$, $p<.001$).

To gauge joint predictiveness, a stepwise multiple regression model was used with the two highest correlation variables. "People development/coaching skill" combined with "presentation skills" was found to jointly predict performance of health personnel at 37% ($R2=.37$). This means 37% of the entire variance in personnel performance scores can be predicted by these two directorate soft skills alone.

Despite all eight soft-skill components being positively correlated with health personnel performance, most emphasis should be placed on coaching skills and presentation skills by both linear and multiple regression models. Leaders with strong communication skills were found to be running facilities that were more efficient and effective by personnel performance scores, averaged by facility. Consequently, increased directorate-level capacity building efforts were recommended to SDHPH facilities in Khon Kaen in the two categories mentioned above.

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