OPERATIONALIZING HEALTH SYSTEM GOVERNANCE AT THE DISTRICT LEVEL

A critical review of the health system strengthening component of USAID's Maternal and Child Health program in Sindh Province, Pakistan

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FOREWORD

USAID's Maternal and Child Health (MCH) program aims to improve women's and children's health status through increased delivery of quality services and strengthened health systems. Under this program, USAID supports innovative approaches to enhance the capacity of Pakistan's public and private sectors to deliver high-impact interventions to address reproductive health needs and reduce maternal, newborn, and child morbidity and mortality. In addition, the program mobilizes communities to create an enabling environment for the adoption of healthy practices and to reinforce the social contract to support the devolution process.

The Health Systems Strengthening Component (HSSC) of USAID's MCH Program provides technical assistance to the health sector at the provincial and district levels to reform and improve service delivery in a post-devolution operating environment focusing on provincial level oversight and all districts in Sindh Province. The HSSC addresses governance, workforce, information systems, regulation, planning and budgeting.

The HSSC team commissioned the JSI Center for Health Information Monitoring and Evaluation (CHIME) to conduct this critical review of our work to improve health system governance. Our aim was to document learning, inform the next stage of program design, and contribute to the growing body of knowledge on health system strengthening (HSS) in low and middle income countries. The review focuses on key HSS strategies to operationalize health system governance and decision making at the district level including: capacity building of District Health and Population Management Teams (DHPMT); the introduction and use of District Action Planning (DAP); the implementation of a monitoring and supervisory system; and strengthening the District Health Information System (DHIS) to promote accountability and transparency.

It is our experience that HSS interventions alone cannot bring about organizational behavior change unless the leadership and senior management plays a stewardship role. In addition, the continuity of senior managers at provincial and district levels is essential for implementation of any reforms.

The successful completion of this review demonstrates the professional contributions of the members of the review team. Special appreciation is extended to the provincial level managers and district health teams for taking time from their busy schedules for these interviews.

On behalf of the HSSC, I would like to thank JSI CHIME and the field teams for conducting this critical review and contributing to project learning. Learning captured in this document will help in improving health systems interventions during the remaining life of the project and for any future projects.

Dr. Nabeela Ali

Chief of Party

ACKNOWLEDGEMENTS

The review team would like to express our heartfelt thanks to the JSI HSSC team and for their collaboration and support in conducting this review particularly Dr. Nabeela Ali, Chief of Party and Dr. Arshad Mahmood, Deputy Chief of Party. We would also like to thank the HSSC team for sharing program documents and many valuable insights during interviews including: Dr. Dileep Kumar, Director of Operations; Dr. Jamila Soomro, Senior Program Manager M&E; Dr. Gorhan Dass, Program Manager HSS; and Dr. Wali Muhammed Rahimoon, Manager Health Reforms. Our team (Anne LaFond, Barb Knittel and Asma Bokhari) worked closely with the HSSC team to integrate their learning into the review and reach all critical stakeholders.

The review benefitted greatly from our discussions and reflections with the stakeholders in Sindh Province who shared valuable observations, experiences, and perspectives on the health system strengthening process and outcomes under the HSSC including personnel from the Sindh Department of Health: Dr. Malik Mohammad Safi, Director of Programmes of the Ministry of National Health Services, Regulation and Coordination, Dr. Syed Murad Ali Shah, Director General, Dr. Mohsin Shaikh, Deputy Director, Health Secretariat, Dr. Pir Mohammad, M&E Officer and acting in-charge of LHW program, Dr. Mubeen, DHIS Coordinator, Dr. Ijaz Khanzada, Additional Secretary, Dr. Ahsan Wazir, Director PPP Node and Dr. Saima Hamd, Assistant Professor. Also, stakeholders from the Ministry of Finance, including Dr. Amir Ansari, Program Officer and Dr. Mohammad Sharif, Program Officer. In addition, district level managers and DHPMT team members from Thatta, Khairpur, Umerkot, and Tharparkar provided in-depth perspectives on their experience with operationalizing health system interventions, some of whom traveled long distances to meet with the review team.

Finally, we extend special thanks to USAID, whose assistance was instrumental in the implementation of this activity, including Dr. Shabir Chandio and Ms. Monica Villanueva for their support and guidance.

We hope this report will contribute to learning around health system strengthening and the operationalization of governance and leadership in Sindh Province and beyond.

ACRONYMS

BHU	Basic Health Units
DAP	District Action Plan
DGHS	Director General of Health Services
DHIS	District Health Information System
DHMT	District Health Management Team
DHPMT	District Health and Population Management Team
DHO	District Health Office/Officer
DOH	Department of Health
FMOH	Federal Ministry of Health
GOP	Government of Pakistan
HMIS	Health Management Information System
HIS	Health Information System
HSS	Health System Strengthening
HSSC	Health System Strengthening Component
IR	Intermediate Result
JSI R&T	JSI Research & Training Institute, Inc.
KPI	Key Performance Indicators
LHW	Lady Health Worker
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MNHSR&C	Ministry of National Health Services, Regulations, and Coordination
MTBF	Medium Term Budgetary Framework
PDHS	Pakistan Demographic and Health Survey
PHD	Provincial Health Department
PPHI	People's Primary Healthcare Initiative
PPP	Public-Private Partnership
PRISM	Performance Review of Information System Management
PWD	Population Welfare Department
RHC	Rural Health Center
RMNCH	Reproductive, Maternal, Newborn and Child Health
SDG	Sustainable Development Goal
SOP	Standard Operating Procedures
TOC	Theory of Change
USAID	United States Agency for International Development
WHO	World Health Organization

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EXECUTIVE SUMMARY

The Health System Strengthening Component (HSSC) of USAID's MCH Program in Pakistan is a five-year (2013-2018) project funded by USAID and implemented by JSI Research & Training Institute, Inc. (JSI), with Contech International, Rural Support Programmes Network (RSPN), and Heartfile as consortium partners. The goal is to develop and support innovative, cost-effective, integrated, quality programs and services to strengthen systems around RMNCH services for improved health outcomes. As the project approaches its last year of implementation (2018), it has commissioned a critical review of project performance focusing on the project's efforts to operationalize health system governance at the district level in Sindh Province. The review focuses on four health system strengthening (HSS) strategies: capacity building of District Health and Population Management Teams (DHPMT); introduction and strengthening the use of District Action Planning (DAP) and the Medium Term Budgetary Framework (MTBF); digitization and development of the District Health Information System (DHIS) and other health program information systems; and implementation of the HSS monitoring and supervisory system.

The review is framed around the following questions: What did the HSSC do to improve district-level governance?; How was the HSSC intervention experienced by key stakeholders at the provincial and district levels?; What changes in health system governance and performance were documented or observed?; What was learned about the drivers of change in the context of health system governance at district level?; What was learned about the barriers to change? The review is based on document review, key informant interviews with key stakeholders, analysis of routine data from the DHIS and various dashboards, and focused engagement with four districts. Detailed findings and documentation of the work of the HSCC are found in the body of the document. A brief summary of the discussion and conclusions of the review are found below.

The HSSC implemented a range of interventions to define policy and practice, strengthen structures, and introduce and build teams and processes that provided the foundation for effective resource management and health service delivery in Sindh province. This review focused on those interventions that were directed at improving the operationalization of governance throughout the province but emphasized efforts at the district level – an area of documented need and a focal point for transforming health system performance. The main changes in health system governance that were influenced by the HSSC include:

- Successful establishment of functional DHPMTs in all districts. These teams have gained experience and confidence in district action planning and preparing MTBFs based on evidence generated through the health system and have learned to draw on other data sources as needed to justify and defend proposed expenditures. They have joined together different sectors for the purpose of improving health and social welfare in the district and serve as a forum for advocating for resources and increased district-level authority.

- Increased integration of decision making and dialogue between provincial- and district-level stakeholders to support the devolution of decision-making responsibility from the province to the district level.

- Improved confidence in district-level capacity among provincial level managers to generate resources and govern activities.

- Greater and more consistent documentation and visualization of health system data – administrative, financial and service delivery – through the District Health Information System (DHIS), Monitoring and Evaluation and other dashboards, which has increased the use of and appreciation for data and served as a driver to improve health system governance. The information system improvements enabled managers at the district and provincial levels to have access to timely and sometimes real-time data for monitoring facility and community-level performance. Among the three HSS interventions studied, improving access to data was described by respondents as a 'game changer' in terms of increasing transparency, efficiency and accountability.

Drivers and Barriers when Operationalizing Health System Governance

Among the standout accomplishments of the HSSC is its work to secure agreement for reform among high-level decision makers, and ensure their buy-in before moving to affect operational change at the district level. We observed that HSSC implementation strategies – the principles and actions that guided the project – provide important lessons for how to work as a true partner in the health policy and technical space when trying to bring about change in health systems. For example, the HSSC leadership and program managers took an approach to project implementation that aligned closely with national and provincial plans and policies and they coordinated closely with decision makers in leadership positions. Only when agreement was reached among key stakeholders on a particular approach, would they move forward to implement with government as supportive partners.

The HSSC leadership and technical team members describe their roles as advocates, allies, troubleshooters, and coaches. The HSCC strategy is distinguished by its actions to better define and strengthen the role of existing managers and teams working at the operational level, building from within the system on reforms that have been defined and agreed with the government, demonstrating and communicating the benefits of reforms, and then investing in ways to ensure that these reforms stick through advocacy as well as securing policy and administrative endorsement of reform.

A second highly effective implementation strategy includes the decision to not only build capacity to govern (i.e. to plan, budget, and monitor) among DHPMTs and health managers, but also to identify and meet local needs through coalition building, shared decision-making, and use of information systems and evidence to channel resources and demonstrate accountability. The HSSC team brought the tools of governance (e.g. DAPs, budgets, and information systems) and helped install them and make them work by building relationships within districts, between districts and the province, and between the HSSC team and local decision makers. Their experience in Sindh highlights the critical importance of relationships among key stakeholders to the process of operationalizing governance, the need to build coalitions among people with a shared purpose (e.g., the DHPMT) and to facilitate routine engagement around problem solving (e.g., feedback loops).

Traditionally, health system governance interventions have focused mainly on reforming structures, breaking down institutions, roles, and behaviors that centralize power (Scott, 2014), but neglected to define new ways for people to work together. The work of the HSSC team took a more advanced approach to operationalizing governance that addressed practical and actionable ways to gain commitment for new practices at both province and district levels, emphasizing the role of information and feedback for making the system responsive rather than rigid, thus catalyzing policy and bureaucratic rule change.

In spite of these accomplishments, stakeholders, government and funder respondents acknowledged several barriers to continued progress and sustainability of system advances that have emerged over the past four years. All four study districts reported the same three obstacles to continuing to improve district-level capacity and performance: 1. Lack of district-level authority to directly manage and influence human resource acquisition and allocation in the district. The influence of this barrier is felt most acutely at the leadership and management level when DHOs, who have been oriented, trained and coached in preparing DAPs and MTBF submissions, are removed, thus undermining continuity in executing district plans and budgets and undermining efforts to solidify governance capacity and commitment. 2. The gradual pace of the release of operational budgetary funds to districts in spite of their adherence to the MTBF. Although district-level capacity has improved to make planning and budgetary requests that are informed by data and reflect local needs, there is still a disconnect between the districts and the province and possibly a lack of appreciation among provincial-level actors for the extent to which districts have taken on the responsibilities and the capacities needed to govern. 3. The reluctance among provincial decision makers to devolve authority to district teams to enable them to govern the entire district health portfolio. Provincial-level health department respondents often seemed disengaged from district-level progress in operationalizing devolved governance and seemed unlikely to be able to continue to support devolved planning and budgeting at the same level as provided by the HSSC. In addition, district-level governance is hindered by the resource flows that go directly to private health contractors and the different rules that apply to these contractors with respect to compensating and recruiting health staff and working under the auspices of the DHO.

Conclusion

The HSSC team has learned, over time, about the delicate nature of operationalizing governance. They indicated that the progress is often “one step forward and two steps backward” and requires patience and persistence, alongside respect for existing governance structures and processes, even if barriers to lasting change remain. The growing culture of performance-based planning and management is taking hold, and the increased demand for accessible, actionable data is a positive driver for sustaining and advancing the reforms in governance that have been introduced. Improved governance has emerged alongside increased financial security at the district level and greater transparency and accountability that comes from universal access to administrative health services and program management data. There is a need, however, to align the provincial actors more directly with the advancement of district-level governance capacity and devolution of authority. Within the Finance Department, there is increased understanding and appreciation of the progress districts have made in financial planning and management. In contrast, at the Provincial Health Department, the level of commitment to and

engagement in advancing the work of HSSC was not always evident. Access to real-time data has improved understanding of district-level operations among provincial decision makers, but most expressed frustration with the performance of districts and concern for the remaining gaps in the reliability of reporting and management, for example, rather than true enthusiasm for the changes in capacity and performance that have emerged in the past four years.

Continuing the strategy of advocacy for reforms, securing commitment, and enabling and demonstrating the benefits of better governance as practiced in the HSSC can help to address some of the system-wide barriers to improving district-level performance. However, maintaining the momentum started under the HSSC may require additional technical assistance and a concerted effort to help the provincial health leaders to become catalysts for reforms while they serve as stewards of government and external resources in the health sector.

INTRODUCTION

As the Health System Strengthening Component (HSSC) of the Maternal and Child Health (MCH) program, funded by the United States Agency for International Development (USAID), approaches its last year of implementation (2013-2018), the project has commissioned a critical review of project performance to date. Since 2013, the HSSC has implemented a wide range of interventions to strengthen health system performance in Sindh Province. This review focuses specifically on key health system strengthening (HSS) strategies that address health system governance and decision making at the district level. It explores the project's work to build capacity of District Health and Population Management Teams (DHPMT); introduce and strengthen the use of District Action Planning (DAP) and the Medium Term Budgetary Framework (MTBF); digitize and develop the District Health Information System (DHIS) and other health program information systems; and implement the HSS monitoring and supervisory system.

Health system governance, as noted by deSavigny and Adam (2009) in *Systems Thinking for Health System Strengthening,* "[…] has been recognized as a crucial leverage point for wider systems strengthening". In the HSSC, health system governance is one of the three high-level outcomes of the project's theory of change (TOC) and links directly to the two other high-level outcomes: financial security and accountability. The World Health Organization (WHO) defines health system governance as a national function that ensures "[…] strategic policy frameworks exist and are combined with effective oversight, coalition-building, regulation, attention to system design and accountability" (WHO, 2007). For the purpose of this review, we focus on the concept of health system governance that was defined in the HSSC TOC: effective oversight of the Department of Health (DOH) over the province and districts through well-functioning policies, action plans, and internal, multi-sectoral coordination.

This review is intended to document and assess the project's efforts to operationalize health system governance at the district level, in order to inform the next stage of programming in Pakistan. It also aims to contribute to learning about the drivers of HSS overall. The review is not intended to serve as a program or impact evaluation of the HSSC, but it is expected to inform the portfolio-wide evaluation of USAID's MCH Program.

The review is framed around the following questions:

- What did the HSSC do to improve district-level governance?
- How was the HSSC intervention experienced by key stakeholders at the provincial and district levels?
- What changes in health system governance and performance were documented or observed?
- What was learned about the drivers of change in the context of health system governance at district level?
- What was learned about the barriers to change?

Findings are reported by HSS intervention (DHPMT, DAP & MTBF, and Monitoring and Evaluation [M&E] Cell, data visualization, and monitoring and supervision) and address the experience of each

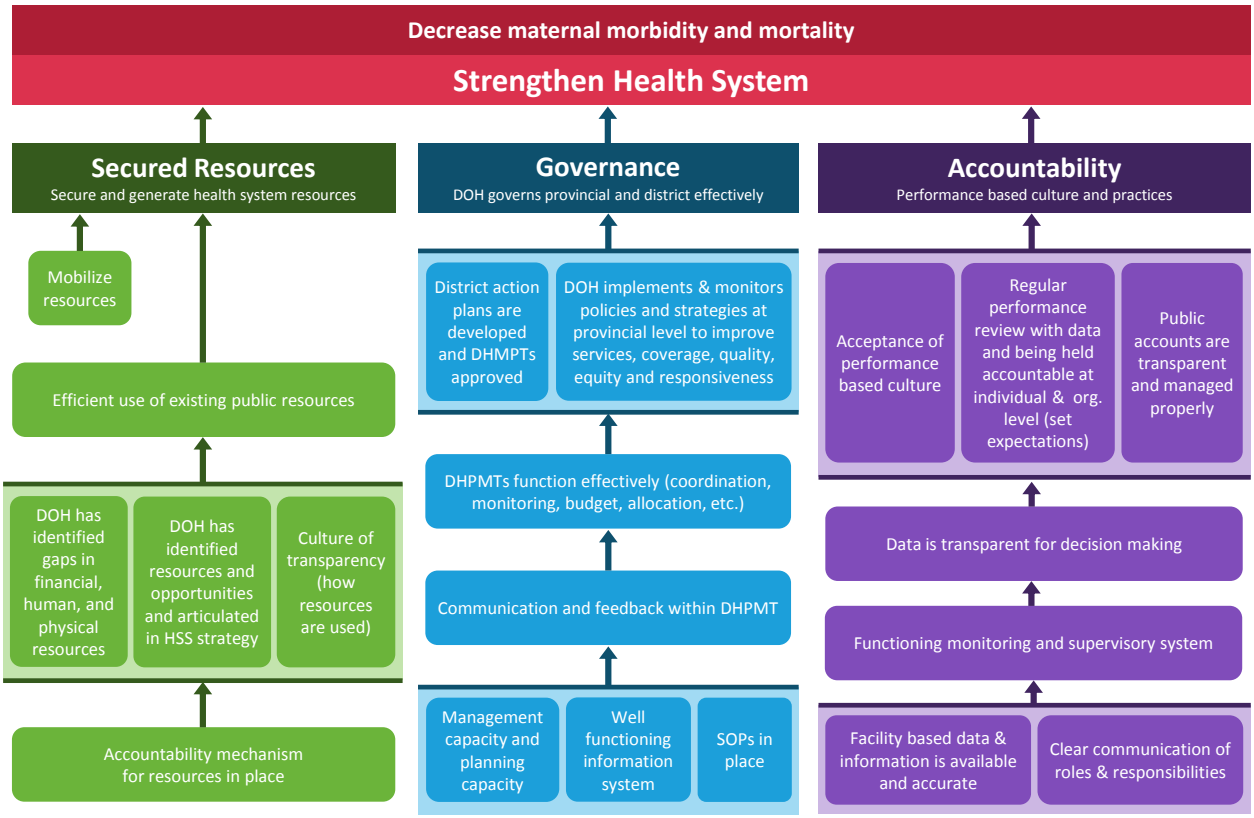
governance-related intervention. Discussion of this experience is framed using the questions presented above and reflects on the three high-level outcomes in the HSSC TOC: governance, accountability and financial security. Per the TOC, accountability and financial security are described as follows:

- *Accountability*: an environment of transparent performance-based culture and practices throughout the health system.
- *Financial Security:* the generation or procurement of adequate financial, human, and physical health-system resources.

Figure 1 provides a condensed version of the HSSC TOC, highlighting the pathways of change and interventions that are the focus of this review, namely DAP, MTBF, DHPMT, DHIS, and supervision. For a full version of the HSSC TOC, see Annex I.

In the project's TOC workshop, these three high-level outcomes emerged as the main domains of HSS performance to help reach the goal of strengthened health systems for improved reproductive, maternal, newborn, and child health (RMNCH) services. They are based on the six WHO building blocks and the Antwerp Model (JSI, 2015a). The WHO building blocks describe health systems in terms of six components: service delivery, health workforce, health information systems, access to essential medicines, financing, and leadership/governance; the Antwerp Model builds upon the WHO framework by adding context, population, values and principles, all of which work to influence intervention design and implementation (WHO, 2010; JSI, 2015a). Further information about these models can be found in

Figure 1. Health System Strengthening Component Condensed Theory of Change



Annex II, Figures A and B. All three outcomes represent essential health system abilities to address barriers that constrain the delivery, use, and impact of health services. Financial security ensures the proper availability and use of financial, human, and physical resources needed by the system, while governance and accountability contribute to a stronger internal planning and management framework for an improved capacity to deliver services and greater accountability for performance.

In this light, the review also explores the extent to which the HSSC governance improvement interventions resulted in increased ownership of and accountability for system performance and performance improvement among government stakeholders, and to the extent possible, factors that contribute to ensuring the sustainability of HSSC effects.

This document is structured as follows: Section 1 provides a brief background of the Pakistan health system and Sindh Province; Section 2 outlines HSSC; Section 3 discusses methods employed in this critical review; Section 4 provides analysis of the governance improvement interventions and outcomes at district and provincial level based on fieldwork and document review; and Section 5 includes a discussion and conclusion.

1. COUNTRY CONTEXT

Health system overview

Pakistan's health system has experienced a continuous evolution of reforms since the country's establishment in 1947. The devolution of powers in 2001 led to the decentralization of health services and creation of a district health system (Shaikh, 2011). In 2011, Pakistan undertook a major constitutional reform with the 18th Constitutional Amendment of Pakistan that resulted in the abolishment of the Federal Ministry of Health (FMOH) and subsequent devolution of powers. These reforms resulted in the devolution of 18 ministries to the provincial level, including health, population, education and other social sectors; thereby eliminating social sector portfolios from federal oversight (Khan and Malik, 2012; Zain Sheikh & Associates, 2010).

Pakistan has a mixed health system that includes the public sector, private sector, parastatal health system, civil society, and philanthropic donors. The provincial and district departments of health are responsible for the delivery and management of health services with a recently enhanced role of the latter as a result of devolution. Healthcare is provided through a three-tiered healthcare delivery system and a range of public health interventions with Basic Health Units (BHUs) and Rural Health Centers (RHCs) forming the core of the primary healthcare model. Secondary care, including first- and secondary-level referral facilities, provide acute, ambulatory, and inpatient care through Tehsil Headquarter Hospitals and District Headquarter Hospitals, while teaching and specialized hospitals provide tertiary care.

Devolution in the health sector was aimed at enhancing the financial and management authority at the provincial and district levels to improve service delivery and increase healthcare utilization across the health system. Political devolution within Pakistan charged provincial health care systems with planning

health care delivery structures, programs, and services. Devolution also enabled the integration of vertical programs, facilitating inter-sectoral collaboration and establishing a public-private partnership (PPP) (United Nations Development Programme Pakistan, 2014). The introduction of devolution reforms also led to changes in roles among different stakeholders from top to bottom, thus redistributing power at various levels. The trickledown effect of the devolved system aimed to increase availability of resources and improve service delivery by enhancing responsiveness and performance of primary healthcare units and establishing local committees with community representation.

However, devolution created challenges. The three immediate consequences of this reform were (i) fragmentation of federal functions among different ministries; (ii) lack of clarity regarding the distribution of federal-provincial roles and responsibilities; and (iii) limited understanding and capacity at the provincial level to effectively fulfill their new authority and responsibility (WHO et al., 2012). While devolution has had its challenges, it has also given provinces the opportunity to take ownership of the health system and focus efforts on provincial needs. To date, all provinces have successfully developed provincial health sector strategies, three have endorsed these plans, and two have costed their operational plans and have an M&E framework in place (Zaidi et al., 2011). Other examples of successes at the provincial level include the introduction of a number of regulations related to public-private partnerships, health services regulation, and hospital autonomy (Zaidi, 2011). Such devolution of responsibility and leadership supports Pakistan's strategic efforts to address the challenging targets of the Sustainable Development Goals (SDGs).

The essence of devolution includes governance-related reforms that involve shifting administrative powers to the district level, the creation of new posts for local supervision and monitoring, health planning at the local level, and enhanced inter-sectoral collaboration. Fiscal reforms include allocation of funds based on population and geographical size, disease burden, available infrastructure and previous performance of the specific sector. One of the strengths of the system is the formation of the District Health Management Team to promote greater inter-sectoral collaboration. However, there is wide variation with respect to the structure and functionality of these teams across provinces.

Sindh Province Health System

Sindh is Pakistan's second most populous province and the most urbanized (Zaidi et al., 2011). Sindh faces diverse urban and rural health challenges, with limited access to services in rural areas and overcrowding in urban facilities. The health system faces substantial challenges with regard to infrastructure, human resources, essential medicines and other supplies, resulting in the highest use of private sector facilities in Pakistan (78% versus 71% nationally) (Zaidi et al., 2011). The post-devolution responsibilities have overburdened the already fragile management and technical capacities of the Sindh DOH.

In 2011, the *Situation Analysis for Post Devolution Health Sector Strategy of Sindh Province* was commissioned to provide an evidence-based overview of the health sector post devolution to inform the development of the Health Sector Strategy 2012-2020 (Zaidi et al., 2011). This report suggested that Sindh faced multi-faceted challenges across the health sector. The challenges outlined include issues

related to planning and coordination across the public and private sectors; poor resource mobilization and use of existing funds; lack of transparency and poor management of the many vertical information systems; a shortage of human resources due to high absenteeism, frequent turnover, and many vacant positions; a lack of strategic planning for capacity building exercises; and inconsistent use of high-quality data for decision-making.

In light of the revised roles of the provincial government in the health sector and the health situation outlined in the 2011 situational analysis, the Government of Sindh (GOS) developed and approved the Sindh Health Sector Strategy 2012-2020. This strategy outlines the DOH's future direction and priorities around an integrated health service delivery system. Organized along the six building blocks of a health system developed by WHO, the Sindh Health Sector Strategy highlights the need to build the capacity of the Sindh DOH to shoulder its new responsibilities, improve health outcomes and address the challenges of equity, quality and efficiency (Zaidi, 2011).

Several recent developments provide a foundation for strengthening Sindh's public health system, including the establishment of the Public-Private Partnership (PPP) Node and the creation of the Essential Health Services Package. Also, the introduction of the MTBF for improving financial planning and efficiency, approval of strategic and operational plans for the health sector, establishment of an M&E Cell at the Directorate General of Health Services (DGHS) and development of an advocacy program for parliamentarians introduced by HSSC.

Structurally, the provincial DOH is headed by the Minister of Health, who operates through an executive body headed by the Secretary of Health. The Department has two broad functional components. One function focuses primarily on policy-making and regulatory function and is headed by the Secretary of Health who is supported by the Special Secretary, Additional Secretary and several Deputy Secretaries. The other component of the Provincial DOH is headed by the Director General of Health who reports to the Secretary of Health and is responsible for supervising the operations and management of health service delivery.

2. USAID HEALTH SYSTEM STRENGTHENING COMPONENT

The HSSC of the MCH Program in Pakistan is a five-year (2013-2018) project funded by USAID and implemented by JSI Research & Training Institute, Inc. (JSI), with Contech International, Rural Support Programmes Network (RSPN), and Heartfile as consortium partners. The goal of the project is to develop and support innovative, cost-effective, integrated, quality programs and services to strengthen systems around RMNCH services for improved health outcomes.

The activities of the HSSC fall under Intermediate Result (IR) 3 (Strengthened Health System) of USAID's Results Framework. The three sub-IRs are:

- IR 3.1: Increased accountability and transparency of the health system

- IR 3.2: Improved management capacity at provincial and district levels within the health department
- IR 3.3: Strengthened public private partnerships

Since its inception, the HSSC has worked to strengthen the Government of Pakistan's health systems, with a particular focus on Sindh Province, to enable the DOH to effectively manage the equitable provision of health services to a rapidly growing population. The project advocates for health in general, and RMNCH in particular, at all levels of the government so that critical resources are available with clear roles and responsibilities at federal, provincial, and district levels.

The 2011 devolution of health to the provinces led to an enhanced provincial role in stewardship, policy making and setting strategic directions for the health sector. The Strategic Framework, based on the Sindh Health Sector Strategy 2012-2020, has guided the development of medium- and long-term operational plans for the province. At the same time, the Government of Sindh has introduced the Essential Package of Health Services. Such paradigm shifts necessitated major structural and fiscal requirements. Consequently, there was a need to establish governance and coordination mechanisms at the district level. Detailed descriptions of the all activities under the HSSC are outlined in Annex III. A brief summary of interventions that focused on operationalizing governance and performance improvement at the district level is found below.

Structural Reforms

District Health and Population Management Teams

The HSSC team advocated for revitalization of the DHPMTs in 23 districts of Sindh to facilitate the governance of the health system (JSI, 2015b). The Chief Minister, Government of Sindh, notified these teams of their responsibility to strengthen district health systems and the HSSC provided technical support to broaden participation of district actors in the DHPMT and enable them to hold routine quarterly meetings.

Coordination and Governance at District Level

District Action Planning and the Medium Term Budgetary Framework

Following the DOH's decision to move towards a performance-based health care delivery system, the Finance Department of Sindh created the MTBF to create a culture of evidence-based planning and budgeting that linked to performance. The MTBF is a medium-term (generally three years), output-based budgeting framework that provides departments the space and flexibility needed to formulate, plan, and implement policies focusing on service delivery or 'outputs.'

Since 2014, the HSSC supported all district health offices, including Karachi, to prepare for and create DAPs that were in line with the MTBF. DAPs and MTBF estimations enable the DOH to meet the requirements of the Finance Department in Sindh and improve the timely release of and access to DOH funds. In the course of planning the DAP, district teams developed analytical profiles on their districts to

highlight the key issues with their respective health and service delivery systems. The HSSC worked closely with the Finance Department to build capacity for budget preparation in all 580 cost centers.[1] Through this process, key performance indicators (KPI) for service and management components of the DOH were finalized and integrated into plans and budgets. DAPs created in line with the MTBF enable districts to develop realistic budgets to implement the plans and provided a way to measure progress towards achievement of district-specific RMNCH priorities.

M&E Cell, Data Visualization, and Monitoring and Supervision

HSSC provided support to the DOH to improve the management, visualization, and use of data throughout the provincial health system. First, they helped to establish an M&E Cell[2]in the office of DGHS and district M&E Cells in the District Health Officer (DHO) offices to improve linkages between the levels and strengthen monitoring, supportive supervision, and accountability within the department.

Second, they provided technical assistance to develop an integrated online, interactive health information dashboard that linked the Management Information System (MIS) of all vertical programs with recent national, provincial and district-level health and social sector surveys. The DHIS, MNCH-MIS and Lady Health Worker (LHW)-MIS are web-based data entry and reporting systems accessible at the district and provincial levels for evidence based decision making.[3] The M&E dashboard ranks districts based on the performance of the selected KPIs. The KPI dashboard is an online interactive user interface that allows managers to analyze performance through user-friendly, automated data visualization templates: a color coded progress dial and a bar chart that plots performance for a specific time period against cumulative progress.

Third, the HSSC provided technical assistance to the DOH to design an online monitoring and supervisory system for improving service delivery. Standard operating procedures (SOPs) have been developed for conducting the monitoring and supervisory visits in accordance with the plan along with roles and responsibilities at different levels. Through the Provincial Health Development Center (a governmental center dedicated to building the institutional capacity of the healthcare system at all levels), the project provided two days of practical training to more than 200 health managers including all the DHOs, DHIS Coordinators, and district focal persons from vertical programs on the use of monitoring and supervisory systems, including documenting field visits and uploading reports online.

[1] Cost centers are budgeting units at the implementation level.

[2] M&E cells are governmental units whose main role is to review the monitoring, supportive supervisory, and accountability system for the health sector. District M&E Cells review district-level managerial and financial data and report them to the provincial M&E Cell.

[3] Health managers at all levels have access to this dashboard through the following websites. http://www.shis.sindhealth.pk/

3. REVIEW METHODOLOGY

The review employed a mixed-methods approach, drawing on documentation, program data, and key informant interviews to address the objectives of this review. Data collection focused on both the provincial and district level and included a review of key programmatic documents including program plans and reviews, monitoring reports, and quarterly/annual project reports; health program documents; programmatic data; and key informant interviews with government staff and HSSC program managers.

Document and Data Review

The team did not conduct a full review of HSS literature for the purpose of this review. However, we consulted a wide range of relevant publications and documents. The HSSC has an extensive portfolio of program documents that have been produced over the life of this project. The review team was granted full access to these documents and all relevant program data, including data from the HSS annual work plans and the performance monitoring plan, as well as the M&E dashboard, which includes information about planning and management, service delivery, monitoring/supervision, and DHIS data.

The review team collected and examined all relevant documents and data; program documents were stored and managed electronically using the Zotero reference library. Relevant data from the M&E dashboard and DHIS were downloaded from the system, and subsequently managed using Microsoft Excel. A full list of key program documents can be found in Annex IX. Based on the program documentation, a timeline was also created to chart particular key milestones for the select interventions that focused on operationalizing governance and performance improvement at the district level (Annex VIII).

Qualitative Data Collection

Key informant interviews at the provincial and district levels were conducted as part of this review. While program interventions were considered in all program districts, the review focused on field-level data collected in four districts in Sindh Province. In consultation with the HSSC project team, two districts that have shown the most improvement and two of the districts that have shown the least improvement over the program period were selected for in-depth data collection in order to understand the effectiveness of the interventions and capture the drivers and barriers to strengthening governance from the range of experiences at the district level.

Site Selection

The selection criteria for these four districts were based on performance in four key HSSC program activity areas focused on health system governance. Specifically, selection and assignment to high or low performance levels were based on the establishment and operationalization of the DHPMTs; regularity of supervisory visits; implementation of the LHW program; establishment and operationalization of the M&E dashboard; and the development and execution of DAPs. Given the high frequency of turnover in the DHO position, the length of tenure of the DHO was also considered in district selection with

preference given to those districts with longer serving DHOs. These criteria were set forth by the in-country HSSC team and are detailed in Annex IV.

All districts in Sindh Province where HSSC activities are implemented were considered in the selection process. Using key performance data from the M&E dashboard, districts were scored against the selection criteria and ranked in order of performance. The two districts with the highest scores were selected as the high-performance districts - Thatta and Tharparkar- and the two districts with the lowest scores were selected as the low-performance districts - Khairpur and Umerkot.

Key Informant Interviews

The review team, consisting of two facilitators and one note taker, interviewed key stakeholders at the provincial and district levels. Data were collected from February 20th to April 14th, 2017. The team interviewed 15 district-level officials, 23 provincial-level officers, and 9 HSSC team members, for a total of 42 key informants. Provincial-level interviewees consisted of health department program managers and coordinating staff, including the Director General, DHIS Coordinator, Additional Secretary, M&E Officers and representatives from the LHW Program, Public Private Partnership (PPP) node, Development Wing and Economic Reform Unit, and a beneficiary of the Master Program scholarships (who is also a Health Manager of Sindh AIDS Control Program). District-level interviews were held with key stakeholders from the district health offices, including the DHO, DHIS coordinator, LHW Program Coordinator, District Support Manager People's Primary Healthcare Initiative (PPHI), District Population Welfare Officer, and other program managers. To understand the programmatic context of the HSSC program, the review team also conducted informal interviews with key HSSC team members. A full list of KII interviewees is included in Annex V.

Verbal consent from respondents was obtained before the start of each interview. Interviews took place at the JSI country offices in Karachi and Islamabad or, where possible, at provincial- and district-level health departments. Interviews lasted approximately one hour and were guided by district- and provincial-level qualitative tools that explored the following topics:

1. The development process and implementation of DAPs
    a. DAP development process by planning committee, including the acceptance and adoption of these processes
    b. The execution of DAPs, including challenges, coordination; functional integration and stakeholder engagement
2. DHPMT implementation and results
    a. How DHPMT has elicited changes in collective planning, evidence based decision-making, coordination and monitoring;
    b. The implementation of continuous performance review and improvement of the district health system;
    c. Improved transparency and accountability

3. Dashboard and all online HMIS
    a. Quality and timeliness of DHIS reporting
    b. Integrated MIS dashboards
    c. Use of information for
        i. Program accountability
        ii. Program improvements
4. Implementation of the monitoring and supervisory system
    a. Coordination of vertical programs
    b. Coordination between the DGHS and Sindh Province

Interviews were written as close to verbatim as possible. Both the facilitators and the note taker took notes during the interview. After each session, the review team compared notes to ensure all information was captured. Transcripts were then finalized and uploaded to Google Drive. Due to a high-level security incident in Sindh during fieldwork, movement around the province was restricted to essential travel only. This caused delays in data collection and resulted in only one review team member traveling into the field to conduct data collection.

Data Analysis

Transcripts were analyzed by the review team for emergent themes in NVivo. Initial codes were developed based on HSSC intervention. Additional themes emerged directly from the data and were used to develop a coding matrix relating to the strengths and challenges of program implementation, effects of the interventions on the health system, and sustainability of the overall program. We then compared high-performing and low-performing districts. Results were verified with program managers for accuracy.

Limitations

There are several limitations to this review:

1. We were able to review the experience of only four of 23 districts in Sindh. Although we selected two high performing and two low performing districts, their experience may not be fully representative of the entire province.
2. While selection of the four districts was based on set criteria using the dashboard monitoring data and program staff recommendation, other considerations such as the inaccessibility of districts due to security issues or geographic isolation were also considered, and in some cases prevented the review team from visiting one or two of the highest performing districts.

4. FINDINGS

Operationalizing Governance at District Level

Interviews with district, provincial, and program respondents explored three different, but complementary project interventions to operationalize governance at the district level. These include: (1) DHPMTs; (2) DAPs and the implementation of the MTBF; and (3) introduction of M&E Cells (alongside improved data visualization and data use for supervision and monitoring). We reviewed district- and provincial-level experiences with these interventions to document changes that emerged as a result of HSSC interventions, comparing two well-performing districts with two districts where performance metrics were less advanced.

4.1 DHPMT

The HSSC worked directly with the Provincial DOH to improve district-level management capacity. They based many of the governance reforms undertaken from 2013 to 2017 on a strategy to build on and revitalize the District Health Management Team, a concept that was introduced more than ten years ago in a few districts throughout Pakistan as part of an earlier project. The effectiveness and viability of the initial DHMTs declined quickly after the earlier project ceased, mainly because their role was not well defined or well supported (Israr and Islam, 2006). The HSSC redefined these teams as DHPMT, a cross-sectoral group of district managers and decision makers representing health and other sectors, private sector organizations, and the community (Box 1) and strengthened capacity through training, mentoring, technical support, and encouraging a supportive policy environment. At the core of this strategy were steps to create a sense of shared responsibility for district health activities, a shared commitment to district level planning, problem solving and performance-based management, and, critically, to build trusted relationships among the members of the team. The HSSC briefing note on the rationale and strategy for supporting the DHPMT notes that "The fundamental step for revitalization will be consensus building among all stakeholders with reference to the roles, responsibilities, scope of work and legal framework for the institutionalization of the DHPMTs" (JSI, 2015b). By mid-2013, partly as a result of advocacy by the HSCC team, the Chief Secretary of Sindh issued a notification to establish DHPMTs in all districts as part of provincial health systems reforms (Annex VIII).

Box 1. DHPMT

The revitalization of DHPMTs aims to promote continuous performance improvement of the district health system by providing a platform for sharing and exchanging views, experiences, information and resources. This revitalization will result in optimization of resource utilization for improving health care services. The aim is to revitalize these existing teams in the form of DHPMTs. Inclusion of representatives from district population welfare departments in this forum is expected to further strengthen coordination at the district level and improve health and population outcomes.

Across the four study districts, we found nearly universal acceptance and appreciation of the reconceptualization and revitalization of the DHPMTs. The DHPMTs were described by respondents as "power forums" for coordination and problem solving. These teams brought together health, population, education and, at times, district-level local government actors on a quarterly basis to plan district-level activities, and review progress against these plans, to raise and address problems, and to form a district-level coalition that brought intractable issues to the attention of the DGHS. Respondents reported that since DHPMTs were revitalized, expectations related to roles and responsibilities were clarified. They also noted that their district teams became more efficient in solving problems and formerly disparate groups came together more frequently to address challenges and achieve health sector results jointly. Communication and transparency between the district and provincial levels have also improved. A senior provincial-level health official explained,

> "Previously no one was considering the problems. Now the structure is there, so we get a list of problems so I can take action. I give feedback [to districts] and health facilities [in-charges] have changed their behavior. The district is now giving me the reports I want."

In some cases, for example, the DHO and the contractor (PPP Node and PPHI) have begun to work in tandem, sharing strategies and conducting joint monitoring visits. Respondents valued the increased communication among team members and some teams even introduced closed WhatsApp groups to promote communication outside the formal meeting process.

The HSSC also introduced performance-tracking for DHPMTs so that standards and expectations were clearly stated. DHPMTs used a dashboard to monitor their own performance and were able to compare their performance across teams. A scoring system was also created to hold districts accountable for implementing DHPMT activities and functions. The criteria for this scoring system are found in Table 1.

Table 1. Criteria for DHPMT Scoring

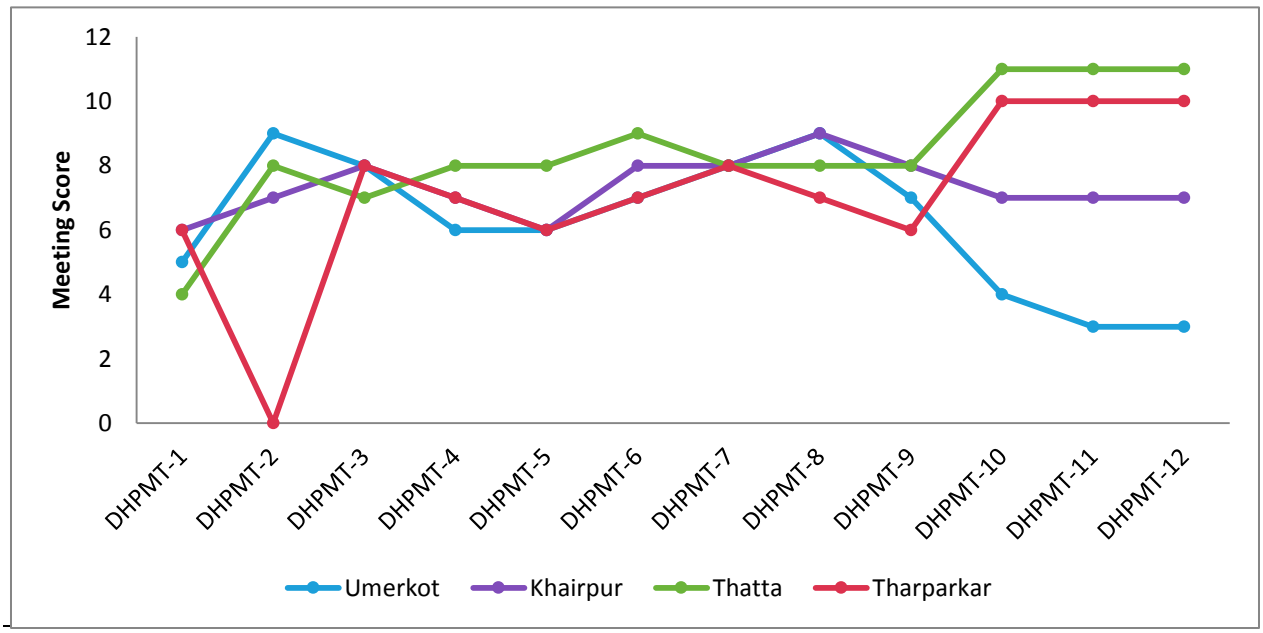
	Criteria for scoring (since Q1 year 2014)	Revised criteria for scoring (Since Dec 2015)
1	Meetings are held within 100 days of previous meeting	Meeting held within 100 days of previous meeting
2	Meetings are chaired by designated chairman	Participation of notified members (80 % attendance of notified members)
3	Meeting agenda is circulated prior to meeting	Meeting minutes circulated within two weeks of the meeting
4	Meeting minutes circulated in a timely manner	District-level decisions implemented out of total decisions made during last meeting (70%)
5	Participation is 80%	Follow-up actions taken of Provincial-level decisions made during last meeting

6	Progress on DAP is discussed and reviewed	DAP activities conducted out of total planned activities during the last quarter (80%)
7	Data from various MIS is presented	Activities conducted jointly with stakeholders (i.e., PPHI, PWD, Education etc.) during the last quarter
8	Review the implementation of the previous meeting decisions	Community issue(s) identified during this meeting
9	Performance shared with Provincial Authority	Community issues resolved out of total identified issues during last meeting (50%)
10		KPI data reviewed
11		Monitoring and supervisory reports of last quarter reviewed and discussed

Figure 2 compares DHPMT meeting scores across the four study districts from 2014 to 2017.

The HSSC also introduced a quarterly meeting between DHPMT leadership and the DGHS so that the DGHS could support the DHPMTs and monitor their performance. At these meetings, DHPMTs discussed and resolved problems with provincial-level support and the DGHS provided feedback to the district teams. By the end of 2015, the project reported that more than 80% of the issues and challenges identified at the DHPMT meetings were resolved at the district level. Since 2016, the HSSC team reports that DHOs are conducting DHPMT meetings without technical assistance from the project, and the DGHS conducts DHPMT provincial review meetings every quarter.

Figure 2. DHPMT Meeting Score by Study District, 2014-2015



4.2 District Action Planning and MTBF

The second pillar of the HSSC strategy to operationalize governance focused on the introduction of DAP, training district teams in the process of performance-based planning (Box 2) and the use of the MTBF (Box 3). The goal was to enable districts to work increasingly as independent units that could define resource needs based on evidence and in consultation with stakeholders, estimate and justify resource needs, and secure and manage resources to execute the functions of the district health system. The HSSC team introduced the DAP and budget preparation to district teams through workshops and coached team members over time. A provincial-level respondent noted,

> "The first activity of DAP [preparation] was done by JSI, with the help of some of the workers from the government. The second time, we involved our workers [and conducted planning] with some support from JSI. We designed a good DAP [focusing on] training and procurements. "

Box 2. Localizing Planning with DAPs

The District Action Plans that were costed with the MTBF provided an opportunity for the districts to prioritize local needs and target spending to address gaps. Since 2015, the Finance Department has released the budget directly to the districts as requested, allowing district managers the flexibility and authority to direct resources according to district plans.

Respondents reported that the training, technical assistance and coaching they received from HSSC was instrumental in gaining skills, experience, and especially confidence in planning and budgeting processes. Moreover, they noted that plans were now responsive to district needs, and not simply a repetition of the past year's plan. The ability to respond to needs was repeatedly reported as an essential benefit of DAPs since they enabled the districts to fill gaps (e.g. in pharmaceutical supply) that have remained unaddressed for years. A respondent in Umerkot district spoke of "learning to prioritize" through the DAP capacity-building process. Another respondent in Tharparkar noted, "We now have the freedom to address our issues."

District-level respondents from the four district teams spoke less about the detailed steps in the budgeting process, in terms of challenges they faced and skills they have gained, than of the overall value of having a reliable plan and budget. They noted the importance of using longer-term and performance-based budgeting to improve their ability to oversee district activities and ensure accountability to the Health and Finance Departments at the provincial level. In contrast, respondents at the provincial level in the Departments of Finance were far more enthused about the new skills acquired at the district level to conduct performance-based planning and budgeting. From their perspective,

Box 3. Defining MTBF

MTBF involves increasing the length of the budgetary cycle from one year to three years. The multi-year budget horizon provides departments the space and flexibility they need to formulate, plan and implement policies that focus on service delivery or 'outputs'… The budgeting system should provide a strong link between government policies and the allocation of resources through the budget and, because most public policy decisions cannot be implemented in the short term, a multi-year fiscal perspective is necessary.

Government of Sindh (2016b)
MTBF Manual, p.3-4.

the two most critical outcomes related to district-level governance that have emerged because of DAP and MTBF training and mentoring include increased accountability of the DHPMTs and their confidence to conduct district management. A senior Finance Department official discussed the changes he had seen since HSSC began, noting,

> "One indicator says a lot. In terms of proposals received from cost centers (budgeting units at the implementation level), last year 88% of them shared their budgets with us. It was not like that before, 3 years ago, when only 25% of cost centers sent their proposals to Finance."

The HSSC worked closely with the Economic Reform Unit of the Finance Department, and engaged them in orientation and training of district-level staff, leading to changes in practices that they expect will have a lasting effect because district managers see the benefits in investing in budgeting practices. A finance department respondent reported,

> "What has helped is motivation and capacity building. At the cost center level in the districts the people making budget proposals are actually being trained. We made them realize that what they are drafting has utility. If something is not in the regular budget; then in the DAPS, a lot of things are covered. So, if [the district teams] [conduct costing and budgeting], it is not futile."

A key outcome of investment is increased consistency and completeness in the production of DAPs and budgets.

> "During fiscal year 2015-16, for the first time in the history of Sindh, all 580 cost centers under the Health Department prepared budgets based on MTBF. Each of 24 districts prepared Annual Operational Plans and estimated additional cost for identified health problems and systems' challenges" (JSI, 2015a).

> *With this exposure, they gained confidence. They learned that if we want it and have a justification, someone will consider it.*
>
> - Department of Finance Official

Improved planning and budgeting at the district level has, in turn, prompted provincial-level decision makers to respond more readily to district-level requests for support and financing. HSSC advocacy with politicians and senior decision makers in the Departments of Health, Finance, and Planning and Development by the HSSC added additional pressure at the provincial level to address funding requests from districts. Previously, provincial–level officials were not responsive to district requests, which demotivated district managers. However, in recent years, provincial staff's faith in the value of planning and budgeting has increased and they are more inclined to trust the decisions of district managers. A Finance Department respondent explained that district leadership now understands that,

> "[DAPs and budgets] have a purpose. But we [provincial managers] motivate them [district-level officials] as well. We don't just train them. If an accountant or finance manager had in mind that it doesn't matter if he sends in his budget, because the district [used to] receive the same amount [every year] either way, we help them realize that we do look at the budgets and we try to accommodate their requests."

In 2015-2016, each of the 23 districts prepared operational plans and estimated the costs for addressing health problems and resource gaps. Subsequently, additional budgetary resources amounting to PKR407.1 million were released for addressing those needs outlined in the operational plans that were not adequately addressed in the recurrent budget (JSI, 2015b). Although 2015-2016 funds were not distributed directly to the districts to allow them to spend according to their plans, in fiscal year 2016-2017, after concerted advocacy by the HSSC, district-level funds totaling PKR165,435,000 were released directly to the districts for direct spending. The event marked an important transition of authority from higher to lower levels and increased trust in the capacity of districts to manage funds effectively (Annex VI).

Through their engagement with the HSSC and health teams, the Finance Department has learned about the strengths and gaps at the district level and the reasons for their limited efforts made in planning in the past. They have developed an appreciation for the performance improvements they have seen firsthand, and feel connected and responsible for these changes. In contrast, the provincial-level health department officials seem comparatively removed from the processes and the behavioral changes that the district teams demonstrate. Provincial officers noted the improved capacity of districts to produce and use data and to justify their plans and budgets, but they did not appear to have direct experience with district-level planning and budgeting processes nor a deep understanding of how these changes came about through the careful coaching, training, and support that the project provided at the district level. One respondent pointed out that planning for health projects has improved but that gaps remained at the tertiary level related to hospitals and their resource needs. This distance and lack of full appreciation of the changes that have taken place at the district level was also observed by district respondents and they expressed concerns that the provincial staff could not continue to provide the same support for and insights into district-level planning as the JSI team.

The need for provincial capacity to support and continue to advance district-level governance is possibly less pronounced in well-performing districts like Thatta and Tharparkar. Respondents from these districts felt secure in their ability to carry on planning independently once the HSSC team completes its work. They reported that “80% of the most recent DAP and MTBF was completed by the district team itself.” Whereas in the two lower-performing districts, district officials noted that their experience with planning and budgeting was “new”; they felt that they would require continued support because they did not yet feel confident in their ability to plan and budget independently. In Umerkot, a respondent attributed his reservation about planning to the fact that leadership had changed recently and there was need for refresher trainings. Even in Tharparkar, a higher-performing district, one respondent described JSI as “the bridge” between the government and PPHI.

4.3 M&E Cell, Data Visualization, Monitoring and Supervision

The third pillar of the strategy to operationalize governance in Sindh was the formation of an M&E Cell in each of the district health offices and the office of the DG at the provincial DGHS office. The HSSC team strengthened the capacity of staff, who regularly generate and use data, through training, face-to-face support, updating information system tools, and introducing and testing checklists and guidelines for data management and supportive supervision. The strategy also emphasized the importance of

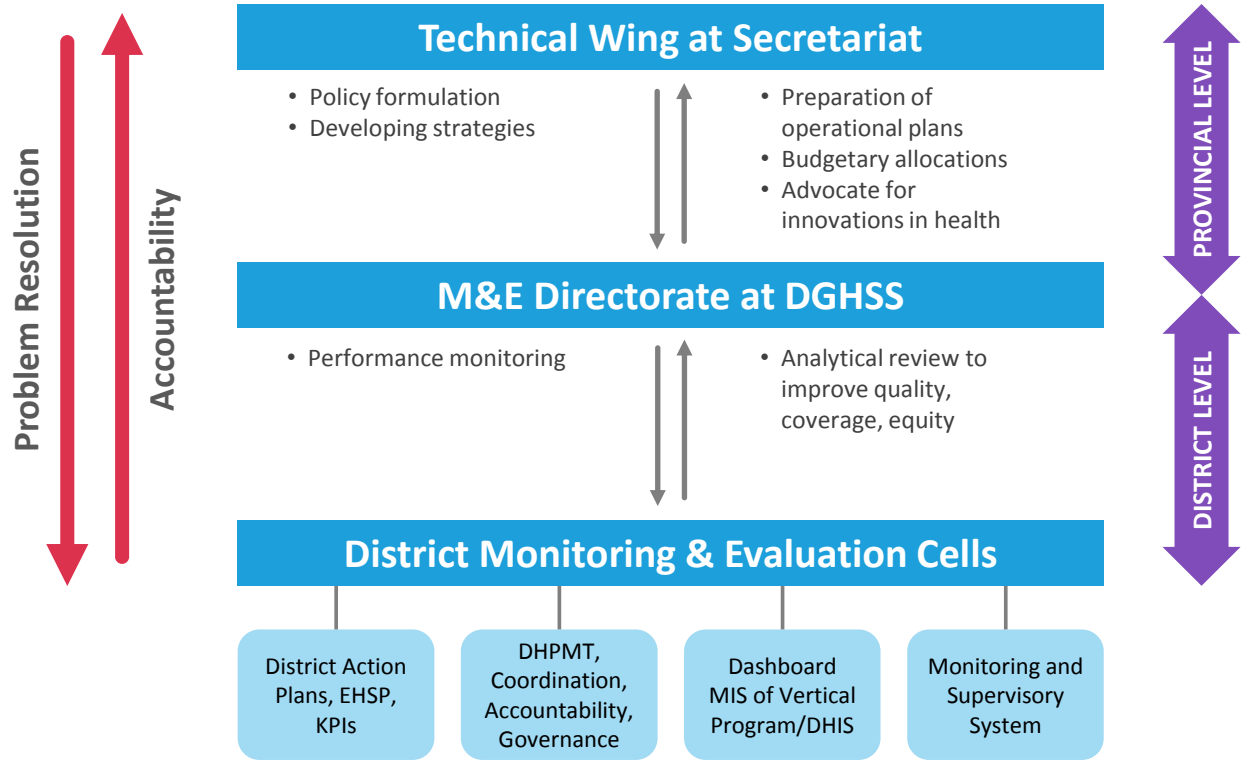
accessible, quality data in the practice of health system governance, linking district planning, budgeting, coordination, technical and managerial oversight, and reflective performance monitoring to evidence-based analysis of health and management data at all levels and among all teams. The digitization of health system data and the development of a user-friendly, interactive dashboard brought the data into the hands of all managers and decision makers in new and exciting ways. The HSSC reported in a briefing document:

> "The system is being used by all the districts and vertical programs for improving the quality of services and evidence-based decision making. The M&E cells are permanent structures created at the district and provincial level along with trained health managers posted as a sustainable intervention to improve the quality of data and health services."

Figure 3 illustrates the role of the M&E Cells in strengthening linkages and communication between the district and provincial levels for improved accountability and governance.

The establishment and strengthening of M&E Cells, along with the digitization of provincial HIS and other health information subsystems (supervision and monitoring; LHW data; etc.) provided the foundation for the governance-improvement strategies - DHPMT and DAP/MTBF – and we illustrate this phenomenon below. More importantly, however, is the perception of the value of information and its use in health system governance that emerged from the HSSC intervention. Among all the system-strengthening interventions that were implemented by the HSSC, the majority of respondents reported that gaining regular access to health information was the most powerful and critical. It was truly

Figure 3. Role of the District Monitoring & Evaluation Cell



transformative as it served an important driver of key governance-improvement outcomes: coordination, transparency, accountability, and trust-building. The intervention itself drew attention to the issue of data quality among managers and decision makers, introducing routine steps for reviewing and correcting incomplete and inconsistent reports as part of the process of governance, supervision, and evidence-based decision making.

4.3.1 Visualization of Data with the Dashboard

The integrated dashboard[4] that HSSC introduced was built to contain and visualize data from nine different information systems, including the DHIS, Pakistan's national HIS, the Monitoring and Supervision system and the data used to monitor the performance of districts focusing on planning, management, health services, and monitoring and supervision (Box 4). It also enables easy access to key survey data such as the Multiple Indicator Cluster Survey (MICS) and the Pakistan Demographic and Health Survey (PDHS). In addition to tracking the performance of each district as a whole, health managers can now review the performance of each health facility, LHW, and Community Midwives (CMW) and provide feedback on the quality of their reports, helping to improve the quality of data that are used to track progress against targets. Over the course of the project, 2,300 public sector staff and 226 health facilities have been trained to improve the quality of data reported into the system (JSI, 2015c). As reported in late 2015, the project documented that 95% of Sindh districts discussed data reported into the system at district meetings to make decisions regarding health issues. The DG summarized their experience as follows:

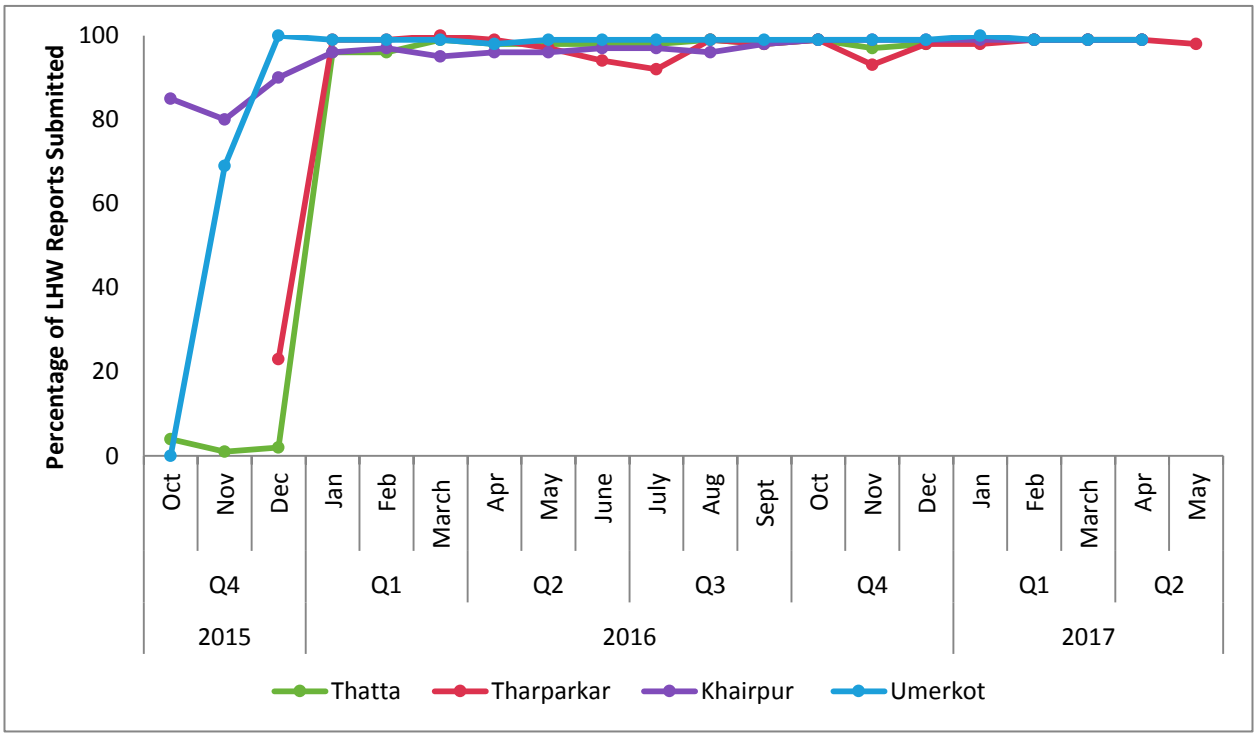
> "We have the online system of DHIS. Previously, we used [paper-based] reports to transfer information from facility to the district then to the province. All health facilities are registered including the NGOs and private sector who are taking over the health facilities and dispensaries. When I joined, there was not more than 50-60% reporting to the system and of those, 70% were incomplete. After the dashboard, we started giving feedback to improve the information and the [health] situation. Now, the reporting system has improved. We have 98% [of LHWs] reporting and the completeness is there" (Figure 4).

Box 4. Increased Accountability through Monitoring and Supervision

The Monitoring and Supervision system is now online in all districts. All senior management staff can review the data and assess the performance of individual health facilities and health care providers. The system also provides an opportunity to validate the data reported through different MISs/ dashboards. The feedback on performance helps improve health care delivery and serves as a source of encouragement for high performers and of caution for poorer performers. The success of the Monitoring and Supervision system from the perspective of health system managers in Sindh relates mainly to the increased ease of access to and visibility of data at the provincial level to review monitoring visits, read reports, provide feedback, and take actions to support district and facility-level health activities.

[4] http://shis.sindhealth.pk/index.php#

Figure 4. Lady Health Worker (LHW) Reporting Compliance: Percentage of LHW Reports Submitted to the M&E System



The Thatta District team boasted to us that its district M&E Cell was the first. They described that the ways in which they use the online data system prompted them to use KPIs more systematically to inform DHPMT meetings, monitoring and supervision of health facilities and vertical programs, and to provide justification for their plans and budgets. Tharparkar District respondents remarked that the data visibility from the dashboard was nothing short of "a miracle" because it has helped them compare KPIs over time, provide feedback to program managers and facility teams, and improve the completeness of reporting. The lower-performing districts were equally positive about the dashboards and increased use of data reporting; respondents mentioned that they now have a clearer picture of what is happening throughout the district as the documentation of performance and gaps enables them to coordinate internally and demonstrate their accomplishments and needs to the DGHS and the Secretary of Health.

At the provincial DOH level, a director noted that they also use the M&E dashboard at the DGHS level, noting,

> "We can access it and we use the info for planning purposes. When we get a statement of new expenditures request, we refer to the dashboard info to justify the request and then recommend action to the finance department."

A Finance Department representative linked the success in securing resources for the districts to the use of the information system and building capacity to collect and use data, explaining

> "[The HSSC] came up with [the M&E dashboard] and the budget was allocated. They developed an online system. Now districts are able to show where they are spending and to reconcile that they

are spending where they said they would. This has generated a 30% enhancement in the budget from last year [2016-2017] as a result of setting up a data system that can track and justify what you plan to spend the money for."

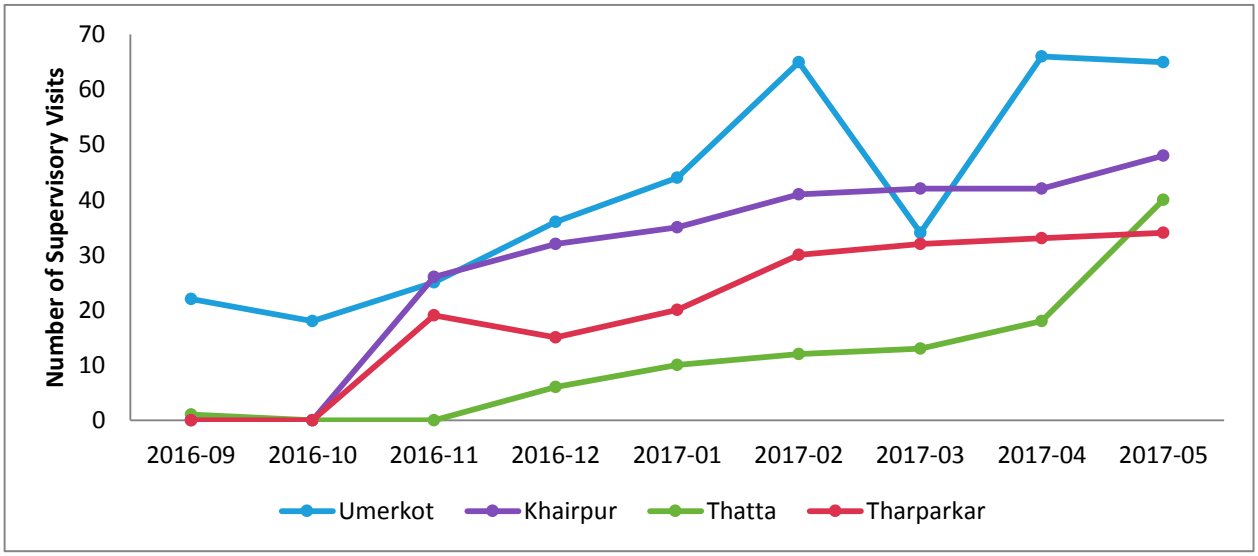
At the service delivery level, the M&E dashboard manages and visualizes data related to the services of LHWs. Figure 4 illustrates the increase in reporting compliance of LHWs over time, stimulated by improved access to real-time data following the launch of the dashboard, and the response by districts and provincial managers.

Similar to the changes that emerged with the introduction of the LHW dashboard, the M&E dashboard rendered data accessible and transparent, prompting behavior change at all levels of the health system. Through these dashboards, health workers became aware that their work was being monitored, which spurred behavior change around better documentation and more accurate data-entry related services provided and resource availability (e.g., data that demonstrated actual gaps in the stock of family planning commodities).

4.3.2 Standardizing Monitoring and Supervision

The HSSC, in the context of introducing the M&E cell and dashboards, also helped the districts introduce a standardized monitoring and supportive supervision system starting in May 2016. The HSSC team worked with supervisors and program and health facility managers to clarify and define their roles in monitoring and supervision, and to support them by constructing written guidance, checklists, providing training and support, and introducing an innovative methods to conduct online performance monitoring (Government of Sindh, Health Department, 2016a). The system requires supervisors to plan, register, and report their visits through the online system. Additionally, supervisors document the use of the supervisory checklist and their presence at a health facility by taking a photograph with the facility staff using the Monitoring and Supervision mobile application developed for this system which gives date/time and GPS coordinates for the facility visited. The supervisor then uploads the completed

Figure 5. Number of Supervisory Visits Conducted by District Managers since Sept 2016



checklist to the online system, and their visit and observations are made immediately visible and accessible to district-level managers.

Figure 5 illustrates the impact this supervisory system has had on field visit completion rates over the life cycle of the HSSC intervention.

Respondents from all four districts visited for this review noted improvements in the supervision process, including increased consistency in the approach, improvements in receiving up-to-date reports on health facility performance, provision of timely feedback, and the use of joint monitoring strategies between the government and PPHI to share experiences and link the two service providers.

Feedback from respondents at all levels also linked the improved supervisory system to improved performance at district and health facility levels. As the DGHS noted,

> "The HSSC has been a helpful resource. They are not imposing their ideas on us. For example, the supervisors used to give us false reporting. Now they have to prepare a schedule [for supervision] and put it on the computer. We give approval for supervision and they go and apply the checklist. Once they post the checklist they get the Travel Allowance and Daily Allowance."

When asked if these HSS interventions improved staff performance, the DGHS responded,

> "Yes, of course. In the past, only a few of [the health staff] were reporting their work. Now everyone is capable of reporting correctly using the online system. Now because of increased monitoring and feedback they are scared about not doing duties. If the report is late or incomplete we call and ask about the reason. We issue a warning if the report is late again and again. Lady Health Workers know someone will come and check so the work is much better than before. They are scared of the checking, so reporting and timeliness has improved from 55% to more than 90%. For example, through the dashboard [managers] are better able to do stock management for the LHWs."

Feedback from the province to the district and from the district to the facility levels has also improved and encouraged health managers to take steps to address issues based on the data they have analyzed and reported. As a district manager noted the following about the district's response to data generated at the facility level:

> "We give them feedback. They give us reports and if there are issues we give them an alert. The feedback is there and we give feedback. For example if we see an increase in measles then we can investigate to see the problem. This has become an early warning system."

Respondents also noted how the introduction of transparent monitoring and information systems has motivated supervisors, managers and service providers to improve their own performance. Several district managers noted how data quality, health worker punctuality, and communication between levels within teams have changed for the better.

4.3.3 Sustainability and Next Steps for the Information System

The HSSC's plan for sustaining the M&E Cells and the information systems that support the district is to "hand over software and the MIS system to DOH eight months prior to close of program activities for smooth transition and hand holding" (JSI, 2015a). The appreciation for the system and the increased demand for data and data use practices are strong at all levels of the system; however, some respondents raised concerns about future investment in the system and data quality. According to several respondents in Sindh, improved access to and use of data through the dashboards has brought about a planning culture, but there are gaps in capacity around data use and some concerns about the overall quality of the data in the system which makes it challenging to execute interventions based on the data. For example, a senior provincial manager reported, "If you look at our health indicators, things are good. But third party surveys show poorer performance, (i.e. we show 85% fully immunized but in MICS and PDHS it is 35%)."

The HSSC conducted an HIS assessment between March and May 2016 using the PRISM framework[5] developed by USAID's MEASURE Evaluation that focused on the DHIS and compared results to a baseline assessment conducted in 2013. Key findings from district and facility levels are summarized in Annex VII. In this assessment, interviews were conducted with medical and senior medical officers, and management staff, which included the Medical Superintendent, and MIS-related officers. In addition, continued investment and funding was raised as a barrier to sustainability. The DGHS reported that there was still scope for tracking the execution of plans and following budgetary expenditure, noting, "We have to change the system of budgeting. Whenever the budget is released [the district managers] are not using the money for the proposed purpose. We have to improve monitoring and evaluation systems to link them to budgets." There is also need for computers in many places and trained staff to manage the system. The head of the M&E Cell in Hyderabad also expressed concern about the willingness of the government to sustain these M&E Cells at the same level, explaining,

> "I think that the government is not fully funding the Cell. When I saw the Cell at the provincial office, it was made by JSI, and all district M&E Cells were provided by JSI at first, except two districts where there is no staff available. We have written many times that the [newly created] districts (Sajawal and Kamber) need more resources for this cell [to function properly]."

5. DISCUSSION AND CONCLUSION

For the discussion, we return to the framing questions of this review:

- What did the HSSC do to improve district-level governance?
- How was the HSSC intervention experienced by key stakeholders at the provincial and district levels?
- What changes in health system governance and performance were documented or observed?

[5] https://www.measureevaluation.org/resources/tools/health-information-systems/prism

- What was learned about the drivers of change in the context of health system governance at district level?
- What was learned about the barriers to change?

The HSSC implemented a range of interventions to define policy and practice, strengthen structures, and introduce and build teams and processes that provided the foundation for effective resource management and health service delivery in Sindh province (see Annex III for detailed list of all interventions). This review focused on those interventions that were directed at improving the operationalization of governance throughout the province but emphasized efforts at the district level – an area of documented need and a focal point for transforming health system performance. The main changes in health system governance that were influenced by the HSSC are summarized below:

- Successful establishment of functional DHPMTs in all districts. These teams have gained experience and confidence in district action planning and preparing MTBFs based on evidence generated through the health system and have learned to draw on other data sources as needed to justify and defend proposed expenditures. They have joined together different sectors for the purpose of improving health and social welfare in the district and serve as a forum for advocating for resources and increased district-level authority.

- Increased integration of decision making and dialogue between provincial- and district-level stakeholders to support the devolution of decision-making responsibility from the province to the district level. Quarterly meetings between district and provincial leadership have strengthened the involvement of provincial-level actors in supporting and improving district health sector operations and addressing challenges that DMPMTs cannot address on their own.

- Improved confidence in district-level capacity among provincial level managers to generate resources and govern activities. The Department of Finance found evidence of improved DHPMT capacity to construct reasonable and defendable plans and budgets and to track spending and performance. The release of funds directly to the districts is a testament to the new levels of capacity and confidence. DHPMTs found planning and budgeting processes empowering because they can now manage for performance and accountability, rather than simply responding to short-term crises and issues. They are also able to use these plans and budget to advocate for support from the province.

- Greater and more consistent documentation and visualization of health system data – administrative, financial and service delivery – through the DHIS, M&E and other dashboards, which has increased the use of and appreciation for data and served as a driver to improve health system governance. The information system improvements enabled managers at the district and provincial levels to have access to timely and sometimes real-time data for monitoring facility and community-level performance. Among the three HSS interventions studied, improving access to data was described by respondents as a 'game changer' in terms of increasing transparency, efficiency and accountability. Increased data visibility inspired performance comparisons among district-level teams, the tracking of individual facility and

vertical program activity, feedback to reporting units on the quality of reporting, the discovery of ghost health workers, and staff motivation to complete routine reporting as well as basic service delivery tasks. Both district and provincial-level leadership report that they are using data more frequently and acting on these data to contact facility teams and discuss performance issues with them. As a tool for operationalizing governance, the dashboards rest at the hub of district and provincial action.

Drivers of Change in Operationalizing Health System Governance

There is a strong foundation for continuing to strengthen the practice of health system governance at the district level in Sindh Province. HSSC program managers, government respondents, and stakeholders reported several drivers of change that supported system change and also noted challenges to continued advancement of reform in Sindh, particularly in preserving and nurturing the new structures, processes, and responsibilities that were established in the past five years. Respondents understand that the challenge of institutionalizing change in health system governance in Pakistan is neither new nor easily resolved (Box 5). For example, in a case study on the Family Health Project that worked to strengthen district-level governance from 1992-1999, Israr and Islam (2006) reported that project efforts to introduce DHMTs were not sustained partly because of the lack of support from higher authorities in the MOH. DHMTs "ended up being more symbolic than real." Their work to empower districts in financial management was likewise poorly accepted by the Finance Department in the government of Sindh. In contrast, among the standout accomplishments of the HSSC, implemented some 15 years later, is its work to secure agreement for reform among high-level decision makers, and ensure their buy-in before moving to affect operational change at the district level. The success of the HSSC in securing buy-in for reform in governance at all levels, as well as commitment to improving financial security and accountability, testifies to the effectiveness of their implementation strategies and suggests that there is a much greater likelihood of sustaining reform in health system governance than resulted from similar efforts two decades ago when the heath system was centralized not devolved.

Box 5. Governance

Health System Strengthening is a package of interventions which are interdependent. The planning at all levels, rationalize budgets, regular reporting, validation of data, building capacity and use of information help improve governance. The M&E Cell established in all districts and DGHS office have worked to establish the accountability process to address the disconnect between the provincial offices and the districts even more once the M&E unit at Secretariat is established and becomes functional.

Moreover, we observed that HSSC implementation strategies – the principles and actions that guided the project – provide important lessons for how to work as a true partner in the health policy and technical space when trying to bring about change in health systems. For example, the HSSC leadership and program managers took an approach to project implementation that was designed deliberately to work in close alignment with national and provincial plans and policies and in close coordination with decision makers in leadership positions. They would advocate for, discuss and advise on the introduction of new or improved structures and practices, and only when agreement was reached on a particular

approach, would they move forward to implement as supportive partners. The HSSC leadership and technical team members describe their roles as advocates, allies, troubleshooters, and coaches. By design and to promote sustainability, they chose not to displace government managers and staff or government resources with external advisors and project funds, even for the purpose of piloting and demonstration. The HSCC strategy is therefore distinguished by its actions to better define and strengthen the role of existing managers and teams working at the operational levels, building from within the system on reforms that have been defined and agreed with the government, demonstrating and communicating the benefits of reforms, and then investing in ways to ensure that these reforms stick through advocacy as well as securing policy and administrative endorsement of reform. For example, in advancing DHIS implementation, the HSSC field teams provided hands-on support to district and facility teams, spending a full day at each facility to demonstrate all DHIS functions from data recording to data reporting. The result of this tailored support included improved recording of information, better record maintenance, and more timely and complete reporting. As documented for this review, there is also a widespread appreciation of the value of data and data transparency.

A second highly effective implementation strategy includes the decision to not only build capacity to govern (i.e. to plan, budget, and monitor) among DHPMTs and health managers, but also to identify and meet local needs through coalition building, shared decision-making, and use of information systems and evidence to channel resources and demonstrate accountability. As noted by Kooiman (1999), the heart of governance is "solving problems and creating opportunities, and creating the structures and processes for doing so." The HSSC team brought the tools of governance (e.g. DAPs, budgets, and information systems) and helped install them and make them work by building relationships within districts, between districts and the province, and between the HSSC team and local decision makers. Their experience in Sindh highlights the critical importance of relationships among key stakeholders to the process of operationalizing governance, the need to build coalitions among people with a shared purpose (e.g., the DHPMT) and to facilitate routine engagement around problem solving (e.g., feedback loops).

Traditionally, health system governance interventions have focused mainly on reforming structures, breaking down institutions, roles, and behaviors that centralize power (Scott, 2014), but neglected to define new ways for people to work together. The work of the HSSC team took a more advanced approach to operationalizing governance that addressed practical and actionable ways to gain commitment for new practices at both province and district levels, emphasizing the role of information and feedback for making the system responsive rather than rigid, thus catalyzing policy and bureaucratic rule change. Their intent and accomplishments are well defined in a 2015 brief, *Management and Coordination Continuum: DHMPT and Steering Committee*: "The HSSC has revitalized the district management teams while focusing on good governance, effective stewardship, inter-sectoral collaboration, and participatory decision-making rather than a previous 'command and control' approach."

Barriers to Operationalizing Health System Governance

Even with the context of widespread appreciation of the benefits and progress of the HSSC among provincial and district stakeholders, government and funder respondents acknowledged several barriers to continued progress and sustainability of system advances that have emerged over the past four years. All four districts reported the same three obstacles to continuing to improve district-level capacity and performance. These obstacles stem from long-standing, institutionalized structures and patterns of behavior that have affected the Pakistan health system prior to devolution in 2011 (LaFond, 1995).

1. The first barrier is the lack of district-level authority to directly manage and influence human resource acquisition and allocation in the district. In addition to districts experiencing serious shortages of staff in key and basic positions, health sector leaders, managers and team members are transferred frequently and often without clear purpose, and the public sector competes unfavorably with the private sector contractors (PPHI and PPP Node) in being able to attract and retain staff with competitive salaries. The influence of this barrier is felt most acutely at the leadership and management level when DHOs, who have been oriented, trained and coached in preparing DAPs and MTBF submissions, are removed, thus undermining continuity in executing district plans and budgets and undermining efforts to solidify governance capacity and commitment. The HSCC investment in building a cadre of qualified health managers is intended to address this barrier. The project enabled 80 health and population government employees to be trained in a two-year master's in public health program. However, a respondent who is completing his Master's degree this year noted that there is no plan for posting him against a management position raising concerns that newly qualified professionals will not be integrated into management positions.

2. The second barrier, as reported by district stakeholders, is the gradual pace of the release of operational budgetary funds to districts in spite of their adherence to the MTBF. Although district-level capacity has improved to make planning and budgetary requests that are informed by data and reflect local needs, there is still a disconnect between the districts and the province and possibly a lack of appreciation among provincial-level actors for the extent to which districts have taken on the responsibilities and the capacities needed to govern. District-level respondents frequently expressed concern about the provincial authorities' commitment to continued advancement of decentralized governance and doubted the ability of the province to support them technically as well as emotionally in the same way they received support from the HSSC team.

3. A third barrier is the reluctance to devolve authority to district teams to enable them to govern the entire district health portfolio effectively. This barrier manifests itself in a lack of interest and commitment among provincial-level leadership to enabling and supporting devolved authority and capacity to govern at the district level. Provincial-level health department respondents often seemed disengaged from district-level progress in operationalizing devolved governance and seemed unlikely to be able to continue to support devolved planning and budgeting at the same level as provided by the HSSC. In addition, district-level governance is hindered by the resource flows that go directly to private health contractors and the different rules that apply to these

contractors with respect to compensating and recruiting health staff and working under the auspices of the DHO. Nevertheless, relationships between district teams and the private sector contractors (PPHI and PPP Node) are evolving in a positive direction, and budgeting, reporting and monitoring are beginning to align.

Conclusion

Based on our interviews and discussions with the HSSC team, it is clear that they have learned, over time, about the delicate nature of operationalizing governance. They indicated that the progress is often "one step forward and two steps backward" and requires patience and persistence, alongside respect for existing governance structures and processes, even if barriers to lasting change remain. The team is consistent, however, in their commitment to initiating and advancing system-strengthening activities in ways that optimize the chances of sustainability rather than undermine them. The growing culture of performance-based planning and management is already taking hold, and the increased demand for accessible, actionable data is a positive driver for sustaining and advancing the reforms in governance that have been introduced. Improved governance has emerged alongside increased financial security at the district level and greater transparency and accountability that comes from universal access to administrative health services and program management data. There is a need, however, to align the provincial actors more directly with the advancement of district-level governance capacity and devolution of authority. Within the Finance Department, there is increased understanding and appreciation of the progress districts have made in financial planning and management. In contrast, at the Provincial Health Department, the level of commitment to and engagement in advancing the work of HSSC was not always evident. Access to real-time data has improved understanding of district-level operations among provincial decision makers, but most expressed frustration with the performance of districts and concern for the remaining gaps in the reliability of reporting and management, for example, rather than true enthusiasm for the changes in capacity and performance that have emerged in the past four years.

Continuing the strategy of advocacy for reforms, securing commitment, and enabling and demonstrating the benefits of better governance as practiced in the HSSC can help to address some of the system-wide barriers to improving district-level performance. However, maintaining the momentum started under the HSSC may require additional technical assistance and a concerted effort to help the provincial health leaders to become catalysts for reforms while they serve as stewards of government and external resources in the health sector. In the meantime, committed district-level teams are excited to continue in their expanded governing roles. They acknowledge the challenges inherent in the institutional and organizational context and are finding ways to work within it, implementing new practices and patterns until they are considered the norm.

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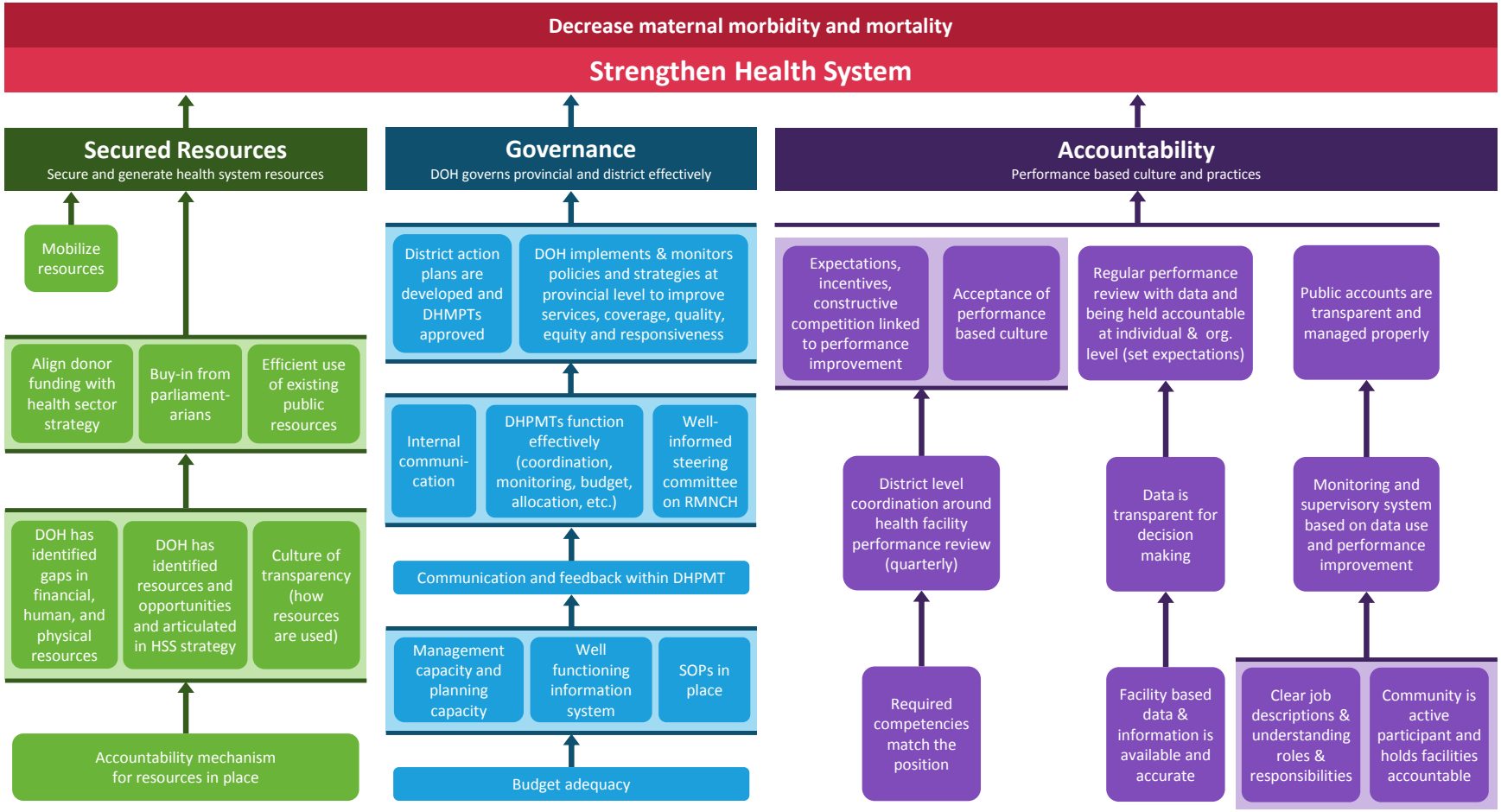
Annex I: Complete Theory of Change



Annex II: WHO and Antwerp HSS Models

Figure A. WHO Health System Framework

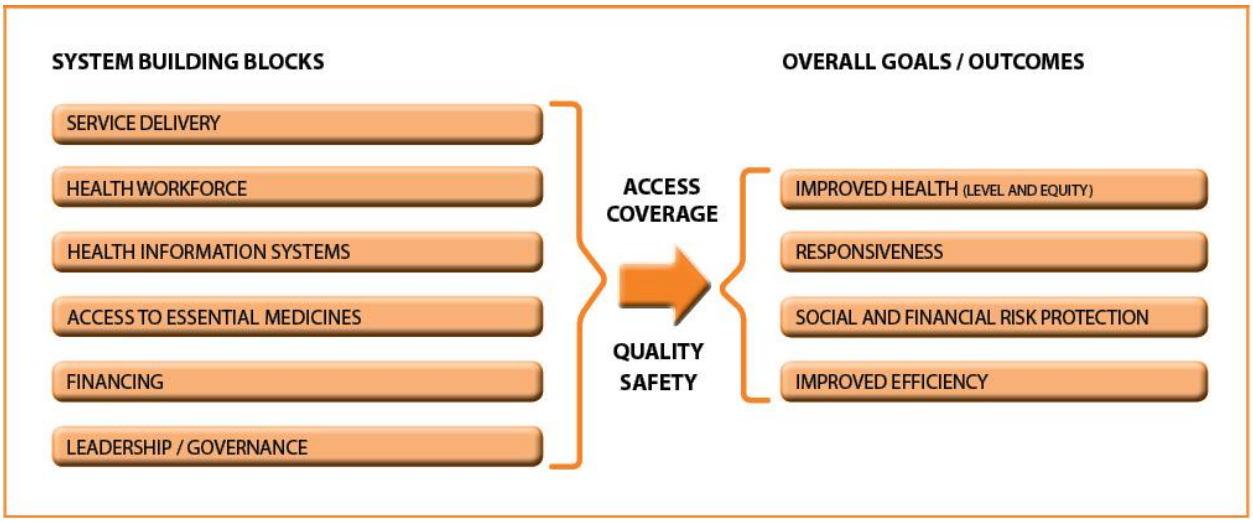
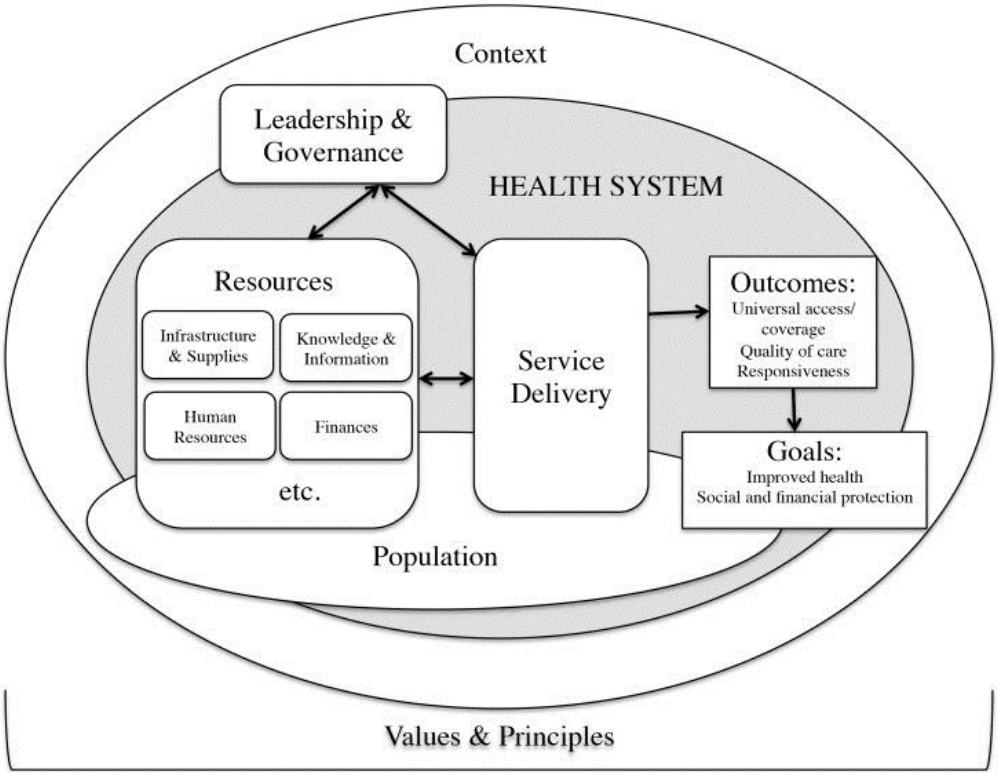


Figure B. Antwerp model (Van Olmen et al., 2010)



Annex III: List of All HSSC Interventions

Below is a list of all the HSSC program interventions in Sindh Province. The first four are described in the main body of this report:

- Capacity building of DHPMTs
- Introduction and use of DAP and MTBF
- The digitization and development of the DHIS and other dashboards
- Implementation of the HSS monitoring and supervisory system

The remaining interventions are described below:

Capacity Building

In 2014, the HSS project conducted a capacity assessment of managers of the DOH, Population Welfare Department (PWD), and People's Primary Health Care Initiative (PPHI) based on WHO's six health system building blocks and developed a capacity building strategy for the health and population managers. Based on the assessment, the HSSC initiated the capacity building process by enrolling health and population mangers into long- and short-term management courses. Overall, 80 managers were trained in a two-year Master's in Public Health program. More than 85 managers trained in short-term management courses. This intervention aimed to provide a stronger basis for sustained management capacity in the DOH. These newly trained managers are expected to serve the Sindh DOH upon their return.

Expanding Routine Immunization

The HSSC supported the DOH in conducting a pilot that sought to improve the coverage of routine immunizations in pregnant women and children aged two years and under. Implemented in 15 districts at Sindh, the pilot utilized a health systems perspective and consisted of building the capacity for improved data reporting and monitoring and supervision of staff, procuring transportation for the Expanded Program on Immunization staff, and engaging communities through LHWs and the Regional Support Programs Network.

The University Research Co., LLC conducted a third-party evaluation of the pilot in four districts (Jacobabad, Kashmore, Tharparkar, and Thatta) and found the program to be relatively efficient in improving the system of immunization for pregnant women and children under 24 months, comparing favorably to WHO norms.[6] The evaluation supported the pilot's implementation in other parts of the country, especially in regions where there is low immunization coverage of the target population. The

[6] https://www.usaidassist.org/sites/assist/files/broughton_pakistan_immunization_cea_nov2016.pdf

relatively low cost per disability-adjusted life year averted suggested that with a relatively small investment in such a program, the health system can largely impact the welfare of women and children.

Technical Assistance provided to the DOH

The HSSC supported the DOH in the following activities: (1) assessing the Sindh health care financing system, (2) restructuring the Provincial Health Development Center to ensure quality implementation with greater clarity and transparency, (3) preparing project proposals to upgrade the Center into the Provincial Health Services Academy and to expand the LHW program in Sindh province, (4) creating a new health management cadre at the DOH, and (5) developing operational manuals and human resource and business plans for a new hospital in Jacobabad, the Jacobabad Institute of Management Sciences .

Federal Component

Technical Assistance provided to MNHSR&C in 2015-2016

In 2011, Pakistan went through major reforms and devolved implementation along with several functions of health to the provinces. This changed the role of Federation and as a result the role of MNHSR&C also changed. Under the current setup there was a dire need to adopt systems approach to streamline functions by establishing platforms and to ensure implementation of National Health Vision, SDGs and GHSA, and further to track the progress on these international obligations a robust placement of monitoring and tracking system became mandatory.

The HSSC supported the MNHSR&C to adopt a systems approach in streamlining functions after the 2011 devolution of health services from the federation to provinces. In particular, the HSSC helped the Ministry create a sustainable system introducing chlorhexidine to Pakistan and scaling up its use across the country. It also supported the development of the Pakistan Health Information System; the Health Planning, System Strengthening and Information Analysis Unit within the ministry; the Antimicrobial Resistance Containment; and the International Health Regulation PC-1. Assistance was further given to help the MNHSR&C obtain an International Standards Organization Certification and prepare a ten-year "National Health Vision" report harmonizing provincial and federal efforts around a central health objective. The report provides national strategic directions and a guideline of best practices for the provinces to enact their own policies and initiatives within their respective domains.

Annex IV: District Performance Criteria for Site Selection

The selection criteria for high/low-performing districts are set forth in the table below. These criteria, along with length of tenure of the DHO, were used to select districts for this critical review.

Table of Selection Criteria for High/Low-Performing Districts

Basis for Selection of the District's (Low/high performing)	Evaluation Criteria	Criteria for Ranking of Districts as Low or High
1. Establish and operationalize M&E dashboard	• DHIS is online • More than 90% monthly reports received on time • M&E Cell staff at district trained in use of database and online data entry and DHIS data analysis • Quality assurance system made operational	**Low** • < 90% of reports from facilities are uploaded by 15th of every month **High** • >95% of facilities reported and information uploaded within 15 days of month's end Dashboard ranking is based on the following (higher ranking high performer and lower ranking Low performer): • Ranking overall • Ranking on planning and management sub-domain • Ranking on individual indicators
2. Establishment and operationalization of DHPMTs	• Meetings held every 100 days (i.e., quarterly) • Agenda shared with stakeholders • Minutes of the meetings recorded and shared • Follow-up actions of agreed actions conducted	**Low** • 3 out of 4 meetings not held every 100 days • Agenda not shared 15 days in advance of the scheduled meeting • Minutes not recorded or shared within 1 week • No follow-up action conducted **High** • 3 out of 4 meetings held every 100 days • Agenda shared 15 days in advance • Minutes recorded or shared within 1 week • Follow-up actions initiated and any updates are recorded in the minutes
3. Supervisory visits	• Monthly supervision plan developed and shared • Supervisory visits conducted as planned • Reports on supervisory visits uploaded timely and regularly	**Low** • Monthly supervision plan not developed and available online • Reports on supervisory visits not uploaded **High** • Monthly supervision plan developed and available online • Reports on supervisory visits uploaded

Basis for Selection of the District's (Low/high performing)	Evaluation Criteria	Criteria for Ranking of Districts as Low or High
4. LHW Program	• Regular and timely uploading of individual LHW reports • Reports by Lady Health Supervisors submitted on follow-up actions	**Low** • < 90% of LHWs uploaded their reports by the 20th of every month • Reports by Lady Health Supervisors not uploaded **High** • >95% of LHWs upload their reports by the 20th of every month • 100% of Lady Health Supervisors upload reports
5. DAPs	• District Action Plans developed and annual work plan in place	**Low** • District has not operationalized the DAP **High** • Implementation of DAP started

Annex V: Interview Respondents

Name	Position	Organization/Department/Program
Dr. Saqib Ali Shaikh	Deputy Program Manager	DOH, Sindh
Dr. Syed Murad Ali Shah	Director General	
Dr. Amir Ansari	Program Officer	Ministry of Finance
Dr. Mohammed Sharif	Program Officer	Ministry of Finance
Mr. Memon	Data Visualization Manager	Ministry of Finance
Mr. Basit	Assistant Program Officer	Ministry of Finance
Dr. Mohsin Shaikh	Deputy Director	Health Secretariat
Dr. Pir Mohammad	M&E Officer; Acting in-charge of LHWs	
Dr. Mubin Memon	DHIS Coordinator	M&E Cell, DG Office
Dr. Ijaz Khanzada	Additional Secretary, Technical	DOH, Sindh
Dr. Ahsanullah Wazir	Director	PPP Node
Dr. Saima Hamid	Assistant Professor	DOH, Sindh
Dr. Malik Mohammad Safi	Director of Programmes	MNHSR&C
HSS team		
Dr. Dileep Kumar	Director of Operations	HSSC, USAID MCH Program
Ms. Jamila Soomro	Senior Program Manager M&E	HSSC, USAID MCH Program
Dr. Gordhan Dass	Program Manager HSS	HSSC, USAID MCH Program
Dr. Wali Muhammed Rahimoon	Manager Health Reforms	HSSC, USAID MCH Program
Thatta district		
Dr. Abdul Fatah Mahar	District Health Officer	Thatta District Health Office
Dr. Khalid Nawaz Qureshi	DHIS Coordinator	Thatta District Health Office
Dr. Arjun Dev	Assistant District Health Officer	Thatta District Health Office
Dr. Iqbal Khalidi	FP government dispensaries	Thatta District Health Office
Khairpur district		
Dr. Nisar Ali Phulopoto	District Health Officer	DOH, Sindh
Dr. Safdar Hussain	DHIS Coordinator	DOH, Sindh
Dr. Abdul Aziz Bhutto	MNCH Coordinator	DOH, Sindh
Mr. Abdul Razak Junejo	District Support Manager	PPHI
Engineer Tariq Azam Larik	District Population Welfare Officer	Department for Population Welfare

Umerkot district		
Dr. Madhuri K. Lakhani	District Health Officer/MNCH Coordinator	DOH, Sindh
Dr. Hemji Chohan	DHIS Coordinator	DOH, Sindh
Dr. Syed Anwar Ali Bokhary	LHW Coordinator	DOH, Sindh
Mr. Ibrahim Qasim Palejo	District Support Manager	PPHI
Mr. Rabdino Somro	District Population Welfare Officer	Department for Population Welfare
Tharparkar district		
Dr. Mohammad Akhlaque Khan	District Health Officer/MNCH Coordinator	DOH, Sindh
Dr. Nasrullah Thebo	DHIS Coordinator	DOH, Sindh
Dr. Bansi Dhar	LHW Coordinator	DOH, Sindh
Mr. Capt. Sobdar Shahani	District Support Manager	PPHI
Mr. Ghulam Rasool Memon	District Population Welfare Officer	Department for Population Welfare

Annex VI: DAPs Funding Release

NO.FD(B&E-V)10(167)/2014-15
GOVERNMENT OF SINDH
FINANCE DEPARTMENT
Karachi, dated the December 9, 2016.

To

The Secretary to Government of Sindh,
Health Department,
Karachi.

SUBJECT: **BUDGET ALLOCATION FOR IMPLEMENTING ANNUAL OPERATIONAL PLANS ACTIVITIES 2016-17-RELEASE OF DAP FUNDS TO DISTRICTS.**

I am directed to refer to letter No. **SO(B)1**-15/2015-16 dated 20-08-2015 on the subject noted above and to state that Finance Department agrees to release funds amounting to **Rs.165,435,000/=** (Rupees one hundred sixty five million four hundred thirty five thousand only) for District Action Plan (DAP) during the current financial year 2016-17 and place the same at the disposal of Health Department for further disbursement to the quarter concerned, during the current financial year 2016-17 as per details below:

S#	Object Code	Detailed Object Description	Release
1	2	3	4
1	**GO0067**	**DISTRICT HEALTH OFFICER GHOTKI**	
	A03805	Travelling Allowance	2,786,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	193,000
	A03901	Stationery	106,000
	A03902	Printing and Publication	410,000
	A03919	Payments to Others for Service Rendered	1,468,000
	A03970	Others	309,000
	A06301	Entertainment and Gifts	420,000
	A13001	Transport	140,000
		GO0067 Total	5,832,000
2	**JK0066**	**DISTRICT HEALTH OFFICER JACOBABAD**	
	A03805	Travelling Allowance	2,885,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	206,000
	A03901	Stationery	127,000
	A03902	Printing and Publication	463,000
	A03919	Payments to Others for Service Rendered	1,765,000
	A03970	Others	353,000
	A06301	Entertainment and Gifts	430,000
	A13001	Transport	140,000
		JK0066 Total	6,369,000
3	**BI0075**	**DISTRICT HEALTH OFFICER BADIN**	
	A03805	Travelling Allowance	2,769,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	108,000
	A03901	Stationery	154,000
	A03902	Printing and Publication	29,000
	A03919	Payments to Others for Service Rendered	610,000
	A03970	Others	152,000
	A06301	Entertainment and Gifts	25,000
	A13001	Transport	140,000
		BI0075 Total	3,987,000

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4	DD0079	DISTRICT HEALTH OFFICER DADU	
	A03805	Travelling Allowance	2,679,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	135,000
	A03901	Stationery	161,000
	A03902	Printing and Publication	150,000
	A03919	Payments to Others for Service Rendered	869,000
	A03970	Others	280,000
	A06301	Entertainment and Gifts	127,000
	A13001	Transport	140,000
		DD0079 Total	4,541,000
5	JO0063	DISTRICT HEALTH OFFICER JAMSHORO	
	A03805	Travelling Allowance	3,068,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	118,000
	A03901	Stationery	151,000
	A03902	Printing and Publication	76,000
	A03919	Payments to Others for Service Rendered	642,000
	A03970	Others	235,000
	A06301	Entertainment and Gifts	65,000
	A13001	Transport	140,000
		JO0063 Total	4,495,000
6	HB0277	DISTRICT HEALTH OFFICER HYDERABAD	
	A03805	Travelling Allowance	2,021,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	103,000
	A03901	Stationery	127,000
	A03902	Printing and Publication	12,000
	A03919	Payments to Others for Service Rendered	368,000
	A03970	Others	197,000
	A06301	Entertainment and Gifts	10,000
	A13001	Transport	140,000
		HB0277 Total	2,978,000
7	HB0578	PROVINCIAL HEALTH DEVELOPMENT CENTER / HOSTEL HYDERABAD	
	A03805	Travelling Allowance	42,836,000
	A03901	Stationery	818,000
	A03919	Payments to Others for Service Rendered	516,000
	A03970	Others	665,000
		HB0578 Total	44,835,000
8	KK0054	EDO HEALTH KASHMORE	
	A03805	Travelling Allowance	2,572,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	205,000
	A03901	Stationery	106,000
	A03902	Printing and Publication	458,000
	A03919	Payments to Others for Service Rendered	1,807,000
	A03970	Others	428,000
	A06301	Entertainment and Gifts	355,000
	A13001	Transport	140,000
		KK0054 Total	6,071,000
9	NX0068	DISTRICT HEALTH OFFICER NAUSHAHROFEROZE	
	A03805	Travelling Allowance	2,774,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	118,000
	A03901	Stationery	163,000
	A03919	Payments to Others for Service Rendered	359,000

	A03970	Others	148,000
	A13001	Transport	140,000
		NX0068 Total	3,702,000
10	**SY0149**	**DISTRICT HEALTH OFFICER (ADMIN) SUKKUR**	
	A03805	Travelling Allowance	3,077,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	102,000
	A03901	Stationery	196,000
	A03902	Printing and Publication	6,000
	A03919	Payments to Others for Service Rendered	423,000
	A03970	Others	202,000
	A06301	Entertainment and Gifts	5,000
	A13001	Transport	140,000
		SY0149 Total	4,151,000
11	**SN0075**	**DISTRICT HEALTH OFFICER SANGHARR**	
	A03805	Travelling Allowance	2,061,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	121,000
	A03901	Stationery	72,000
	A03902	Printing and Publication	14,000
	A03919	Payments to Others for Service Rendered	233,000
	A03970	Others	100,000
	A06301	Entertainment and Gifts	30,000
	A13001	Transport	140,000
		SN0075 Total	2,771,000
12	**SL0014**	**DISTRICT HEALTH OFFICER SUJAWAL**	
	A03805	Travelling Allowance	1,823,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	102,000
	A03901	Stationery	91,000
	A03902	Printing and Publication	6,000
	A03919	Payments to Others for Service Rendered	253,000
	A03970	Others	402,000
	A06301	Entertainment and Gifts	5,000
	A13001	Transport	140,000
		SL0014 Total	2,822,000
13	**UT0058**	**DISTRICT HEALTH OFFICER UMERKOT**	
	A03805	Travelling Allowance	2,572,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	511,000
	A03901	Stationery	98,000
	A03902	Printing and Publication	145,000
	A03919	Payments to Others for Service Rendered	570,000
	A03970	Others	212,000
	A06301	Entertainment and Gifts	175,000
	A13001	Transport	140,000
		UT0058 Total	4,423,000
14	**KQ0627**	**DISTRICT HEALTH OFFICER CENTRAL (ADMN) KARACHI**	
	A03805	Travelling Allowance	2,048,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	102,000
	A03901	Stationery	99,000
	A03902	Printing and Publication	26,000
	A03919	Payments to Others for Service Rendered	258,000
	A03970	Others	132,000
	A06301	Entertainment and Gifts	135,000

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	A13001	Transport	140,000
		KQ0627 Total	2,940,000
15	KQ0617	DIRECTOR HEALTH SERVICES (ADMN) KARACHI	
	A03805	Travelling Allowance	2,330,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	108,000
	A03901	Stationery	110,000
	A03902	Printing and Publication	51,000
	A03919	Payments to Others for Service Rendered	294,000
	A03970	Others	139,000
	A06301	Entertainment and Gifts	195,000
	A13001	Transport	140,000
		KQ0617 Total	3,367,000
16	KQ0621	DISTRICT HEALTH OFFICER KORANGI (ADMN) KARACHI	
	A03805	Travelling Allowance	2,320,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	112,000
	A03901	Stationery	103,000
	A03902	Printing and Publication	74,000
	A03919	Payments to Others for Service Rendered	268,000
	A03970	Others	140,000
	A06301	Entertainment and Gifts	235,000
	A13001	Transport	140,000
		KQ0621 Total	3,392,000
17	KQ0625	DISTRICT HEALTH OFFICER MALIR (ADMN) KARACHI	
	A03805	Travelling Allowance	2,790,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	108,000
	A03901	Stationery	133,000
	A03902	Printing and Publication	53,000
	A03919	Payments to Others for Service Rendered	334,000
	A03970	Others	187,000
	A06301	Entertainment and Gifts	195,000
	A13001	Transport	140,000
		KQ0625 Total	3,940,000
18	KQ0615	DISTRICT HEALTH OFFICER SOUTH (ADMN) KARACHI	
	A03805	Travelling Allowance	2,796,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	112,000
	A03901	Stationery	120,000
	A03902	Printing and Publication	67,000
	A03919	Payments to Others for Service Rendered	453,000
	A03970	Others	155,000
	A06301	Entertainment and Gifts	160,000
	A13001	Transport	140,000
		KQ0615 Total	4,003,000
19	KQ0622	DISTRICT HEALTH OFFICER WEST (ADMN) KARACHI	
	A03805	Travelling Allowance	4,566,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	108,000
	A03901	Stationery	98,000
	A03902	Printing and Publication	51,000
	A03919	Payments to Others for Service Rendered	462,000
	A03970	Others	135,000
	A06301	Entertainment and Gifts	195,000
	A13001	Transport	140,000

		KQ0622 Total	5,755,000
20	SQ0069	DISTRICT HEALTH OFFICER SHIKARPUR	
	A03805	Travelling Allowance	2,833,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	197,000
	A03901	Stationery	110,000
	A03902	Printing and Publication	422,000
	A03919	Payments to Others for Service Rendered	1,618,000
	A03970	Others	356,000
	A06301	Entertainment and Gifts	395,000
	A13001	Transport	140,000
		SQ0069 Total	6,071,000
21	QS0071	DISTRICT HEALTH OFFICER KAMBER @ SHAHDADKOT	
	A03805	Travelling Allowance	2,386,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	184,000
	A03901	Stationery	97,000
	A03902	Printing and Publication	365,000
	A03919	Payments to Others for Service Rendered	1,394,000
	A03970	Others	326,000
	A06301	Entertainment and Gifts	340,000
	A13001	Transport	140,000
		QS0071 Total	5,232,000
22	SB0109	DISTRICT HEALTH OFFICER (S) BENAZIRABAD	
	A03805	Travelling Allowance	2,888,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	117,000
	A03901	Stationery	102,000
	A03902	Printing and Publication	76,000
	A03919	Payments to Others for Service Rendered	320,000
	A03970	Others	136,000
	A06301	Entertainment and Gifts	160,000
	A13001	Transport	140,000
		SB0109 Total	3,939,000
23	TQ0049	DISTRICT HEALTH OFFICER TANDOALLAHYAR	
	A03805	Travelling Allowance	2,194,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	112,000
	A03901	Stationery	125,000
	A03902	Printing and Publication	46,000
	A03919	Payments to Others for Service Rendered	439,000
	A03970	Others	109,000
	A06301	Entertainment and Gifts	55,000
	A13001	Transport	110,000
		TQ0049 Total	3,190,000
24	TN0055	DISTRICT HEALTH OFFICER TANDOMUHAMMAD KHAN	
	A03805	Travelling Allowance	2,496,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	103,000
	A03901	Stationery	122,000
	A03902	Printing and Publication	10,000
	A03919	Payments to Others for Service Rendered	363,000
	A03970	Others	161,000
	A06301	Entertainment and Gifts	15,000
	A13001	Transport	140,000
		TN0055 Total	3,410,000

25	KX0104	DISTRICT HEALTH OFFICER KHAIRPUR	
	A03805	Travelling Allowance	2,227,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	79,000
	A03901	Stationery	143,000
	A03902	Printing and Publication	10,000
	A03919	Payments to Others for Service Rendered	305,000
	A03970	Others	195,000
	A06301	Entertainment and Gifts	15,000
	A13001	Transport	70,000
		KX0104 Total	3,044,000
26	LN0137	DISTRICT HEALTH OFFICER LARKANA	
	A03805	Travelling Allowance	2,676,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	308,000
	A03901	Stationery	145,000
	A03902	Printing and Publication	58,000
	A03919	Payments to Others for Service Rendered	430,000
	A03970	Others	212,000
	A06301	Entertainment and Gifts	85,000
	A13001	Transport	140,000
		LN0137 Total	4,054,000
27	MY0062	DISTRICT HEALTH OFFICER MATIARI	
	A03805	Travelling Allowance	2,877,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	110,000
	A03901	Stationery	129,000
	A03902	Printing and Publication	41,000
	A03919	Payments to Others for Service Rendered	438,000
	A03970	Others	190,000
	A06301	Entertainment and Gifts	35,000
	A13001	Transport	140,000
		MY0062 Total	3,960,000
28	MP0123	DISTRICT HEALTH OFFICER MIRPURKHAS	
	A03805	Travelling Allowance	2,479,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	101,000
	A03901	Stationery	69,000
	A03919	Payments to Others for Service Rendered	271,000
	A03970	Others	95,000
	A13001	Transport	140,000
		MP0123 Total	3,155,000
29	MX0061	DISTRICT HEALTH OFFICER THARPARKAR @ MITHI	
	A03805	Travelling Allowance	2,565,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	107,000
	A03901	Stationery	130,000
	A03902	Printing and Publication	26,000
	A03919	Payments to Others for Service Rendered	352,000
	A03970	Others	173,000
	A13001	Transport	140,000
	A13101	Machinery and Equipment	750,000
		MX0061 Total	4,243,000
30	MX0071	CIVIL HOSPITAL MITHI	
	A03305	POL for Generator	548,000
		MX0071 Total	548,000
31	TX0087	DISTRICT HEALTH OFFICER THATTA	

	A03805	Travelling Allowance	2,564,000
	A03807	POL Charges, Aeroplanes, Helicopters, Staff Cars, Motor Cycles	132,000
	A03901	Stationery	121,000
	A03902	Printing and Publication	135,000
	A03919	Payments to Others for Service Rendered	779,000
	A03970	Others	229,000
	A06301	Entertainment and Gifts	115,000
	A13001	Transport	140,000
		TX0087 Total	4,215,000
		Grand Total	165,435,000

3. The expenditure involved has been sanctioned by way of re-appropriation of funds from the lump-sum provision of Rs.330.870 million kept under the Head of Account "SC21144-07-Health Services-076101-Administration-KQ0593-Health Department (Secretariat) Karachi- A03- Total Operating Expenses-A039 Total General-A03970-DAP-Provision for District Action Plan" and will be debitable under the Head of Account "SC21144-07-Health Services-076101-Administration-as per above cost centers", during the current financial year 2016-17.

4. Audit copy of the financial sanction containing the details of expenditure duly signed by the Administrative Secretary/ Principle Accounting Officer may please be sent to the undersigned, for authentication.

5. ***Administrative Department is advised to in place independent monitoring mechanism under USAID-MCH program- HSS component for the expenditure of DAP during current year 2016-17, and establish permanent monitoring & Evolution Cell under Cadre Officers both at District & Central level reporting directly to Secretary Health alike Education Monitoring & Evolution Cell Karachi.***

(GHULAM HASSAN BUGHIO)
SECTION OFFICER (B&E-V)
For Secretary to Government of Sindh

NO.FD(B&E-V)10(167)/2014-15 Karachi, dated the October 9, 2016.

A copy is forwarded for information & necessary action to : -

1. The Accountant General Sindh, Karachi.
2. The Director General Health Services Sindh Hyderabad.
3. P.S to SFS (B&E), Finance Department, Karachi.
4. Budget Grant file/Master file-I/II.

SECTION OFFICER (B&E-V)

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Annex VII: PRISM Assessment Findings

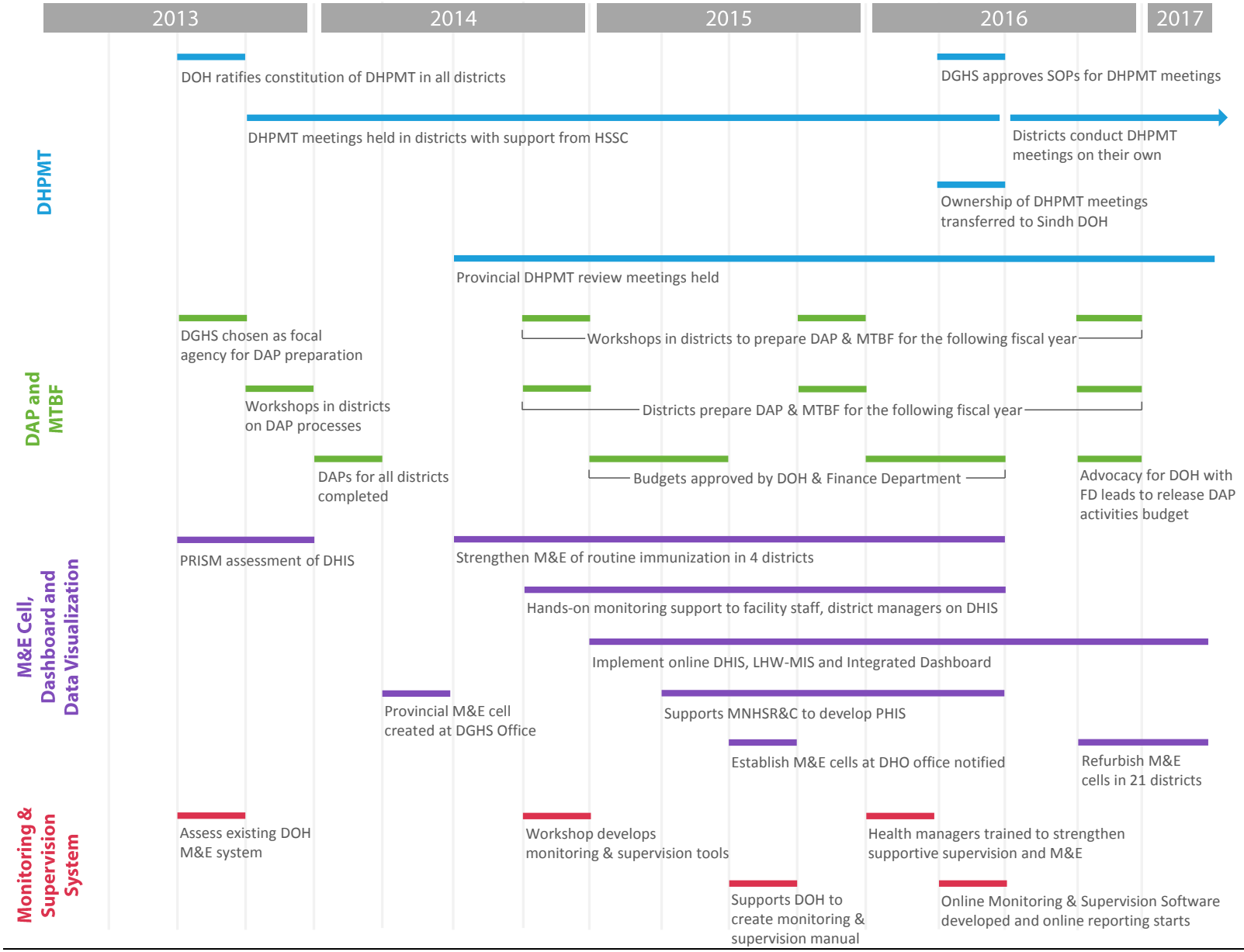
District Level

1. The number of health facilities reporting monthly DHIS performance reports increased from 83% in August 2013 to over 99% in 2016.
2. According to the 2016 assessment, over 78% of the managers, medics and paramedics are now trained in the use of DHIS, relative to 56% in 2013.
3. None of the offices reported an adequate supply of DHIS tools for next 6 months.
4. Most personnel reported the DHIS online system user was user-friendly and over 87% of staff were capable of generating facility comparison reports.
5. There was strong agreement between monthly performance reports kept by the DHO and reported figures in the DHIS; Ninety-seven percent of the total reported figures in the online DHIS were consistent with monthly performance reports kept by the DHO.
6. The 2016 assessment showed that 96% of the districts were offered provincial feedback, verified through district records; zero feedback was offered in the 2013 assessment.
7. In the 2016 assessment, 83% districts reported using DHIS data as an advocacy tool to generate resource allocation and 78% of districts were using DHIS data for annual planning purposes; in 2013, the use of DHIS data for advocacy and annual planning was non-existent.
8. Seventy percent of the District Health Offices reported sharing analyzed data with the People's Primary Health Initiative (PPHI) offices; 57% of them were share it on a monthly basis.
9. In the 2016 assessment, 61% of all districts reported having a monitoring mechanism and standardized checklists designed for monitoring and supervision; no such information for visits was available in the 2013 assessment.
10. Districts universally agreed that decisions are based on superiors' directives and are determined by the costs, evidence base and health needs.
11. Participants felt that data collection was meaningful, and that information is needed for performance monitoring

Facility level

1. Approximately 70% of health facility personnel were trained in DHIS: among those who were trained, more than 60% were in-charges; 55% of them were trained in 2013.
2. 90% of all facilities had electrical power but most BHUs, were without generators or Uninterrupted Power Supply (UPS) for backup.
3. Designated computers and printers were available at less than 35% of all HFs, however every DHIS cell had a functioning computer and printer.
4. DHIS tools, including Medicine Requisition Slips, OT registers were available at 50% of the RHCs and THQHs; none of the facilities reported having 100% of DHIS tools available for the next three months.
5. Almost 70% HFs reported availability of the DHIS manual; 90% were verified.
6. Overall data accuracy rose from 64% to 78% between 2013 and 2016, with the most marked improvement at RHC level.
7. The 2016 assessment showed an overall increase in data display from 69% to 72%, with the most improvement observed at RHCs and DHQHs.
8. About 75% of all facilities reported having routine staff meetings, with at least one meeting per month; only 4% reported doing so in 2013.

Annex VIII: Timeline of HSSC Key Interventions and Outcomes



Annex IX: Key Program Documents

1. Aman, M., Bernstein, R., Habib, H., Khalid, M., Rao, A., & Soomro, A. A. (2016). *Deliver logistics management information system - final evaluation report*. Washington, DC: USAID.
2. Government of Sindh, Health Department. (2016a). *Monitoring and Supervisory Manual - Draft: Standard Operating Procedures (SOPs) and Supportive Supervision Toolkits* (p. 1-35).
3. Government of Sindh, Health Department. (2016b). *MTBF Manual* (pp. 1–24).
4. Government of Sindh, Health Department. (n.d.). *District Action Planning, Implementation, Monitoring and Budgeting Manual* (pp. 2–154).
5. Government of Sindh, Health Department, & JSI Research & Training Institute, Inc. (2015). *Management & Coordination Continuum DHPMT & Steering Committee* (pp. 1–2).
6. Government of Sindh, Health Department & JSI Research & Training, Inc. (2016). Web-based Integrated Dashboard: Health Information Systems Monitoring & Evaluation, Department of Health, Government of Sindh.
7. Government of Sindh, Health Department, & JSI Research & Training Institute, Inc. (n.d.-a). *Monitoring and Supervisory System, Department of Health, Government of Sindh* (pp. 1–2).
8. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-b). Standard operating procedures: For DHIS - District level.
9. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-c). Standard operating procedures: Medium term budgetary framework.
10. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-d). Standard operating procedures: Monitoring and supervisory system.
11. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-e). Standard operating procedures: Organizing DHPMT meetings.
12. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-f). Standard operating procedures (SOPs): DAP preparation.
13. Government of Sindh, Health Department, & JSI Research & Training, Inc. (n.d.-g). Standard operating procedures (SOPs): For DHIS - Health Facility.
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20. JSI Research & Training, Inc. (2015b). *Assessment of Lady Health Workers (LHWs) Program, Sindh* (p. 1-103). Washington, DC.

21. JSI Research & Training Institute, Inc. (2015c). *Capacity building: individual, organization, and systems*.

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23. JSI Research & Training, Inc. (2015e). *DRAFT Operational Plan for Health Development Centre (PHDC), Jamshoro* (p. 1-63). Washington, DC.

24. JSI Research & Training, Inc. (2015f). *Health Situation in Thatta - An Analytical Profile* (pp. 1–66).

25. JSI Research & Training, Inc. (2015g). *HSS Evaluation Meeting Report* (USAID's MCH Program Component 5: Health Systems Strengthening). Washington, DC.

26. JSI Research & Training, Inc. (2015h). *Jacobabad Institute of Medical Sciences: Operational Manual* (p. 1-152).

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