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# WEB-BASED DASHBOARD SINDH:

## A Key Intervention to Strengthen Health Systems



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### RATIONALE

A well-functioning health information system is a central building block of health system strengthening. Health information is a planning tool that if available and used by policy-makers, planners, health care providers, development partners, and the general public, can increase transparency, track health-system performance, support health policies and health-related decisions, and ultimately improve the quality of care (see Figure 1). However, monitoring the delivery of health care services and ensuring accountability of performance has remained one of the most challenging areas in the health sector, where responsibility for developing policies, plans, monitoring, and accountability is at the provincial level. The Sindh Health Sector Strategy 2012–2020 noted that provincial health management information systems (MIS) were inadequate and under-utilized.

The Sindh Department of Health (DOH) requested the Health Systems Strengthening Component (HSS Component) of USAID’s Maternal and Child Health Program to provide technical assistance to develop an integrated, on-line, interactive MIS dashboard. This dashboard was envisaged to link data from all vertical service delivery programs, including national, provincial, and district levels health and social sector surveys. The vision was to develop a “one-stop shop” where routinely updated information on service delivery, human resources for health and district level efforts to supervise and improve service delivery could be monitored and accessed at the district and provincial levels for evidence-based decision making.

**FIGURE 1.** Improving the Quality of Care through a Web-based Integrated Data Dashboard



Here, a lady health worker, trained by the HSS Component, visits a house to provide vaccinations and collect data on the health conditions of the women and children living there. The data she collects will be uploaded to the integrated dashboard, where district and provincial health managers will analyze and use it to continually improve health services. (Picture by Veronique de Viguerie/ The Verbatim Agency for JSI)



## ACTIVITIES

The HSS Component developed an online dashboard integrating the existing district health information system (DHIS) with the lady health worker (LHW) MIS; maternal, newborn, and child health (MNCH) MIS; and other vertical program MISs. The HSS Component also developed and incorporated systems that allow district and provincial managers to validate the data, plan and track monitoring and supervisory (M&S) visits, and district-level health system performance (see Figure 2). Standard operating procedures (SOPs) were developed for all data entry points to clarify roles and responsibilities for managers and staff at each level of the health system. SOPs and guidelines were printed and are displayed in the provincial and district monitoring and evaluation (M&E) cells, which have been refurbished with support from the HSS Component. The SOPs help program and health facility managers monitor and supervise the quality of health care service delivery and data.

Standardized tools and checklists, along with user guidelines, have been developed for all vertical programs for M&S visits. Integrated checklists, to be used by district health officers, focal persons of the vertical programs, managers of the Directorate General Health Services and secretariat levels have been developed to present aggregated data to measure district and provincial health system performance. The HSS Component's focus has remained on improving the quality of data generated through the routine health information system and its use for evidence-based decision-making. The HSS Component provided hands-on technical support to staff working at the data generation and on-line entry points to improve the quality of data being entered into the system.

**FIGURE 2:** Homepage of the Integrated Dashboard



## RESULTS

The integrated dashboard currently serves as the provincial dashboard and incorporates DHIS, LHW-MIS, MNCH-MIS, and performance ranking of districts in Sindh. In addition to the routine health information systems, it includes the national, provincial, and district level health and social sector surveys (i.e., PSLM, PDHS, MICS, NNS). The Sindh dashboard allows desk-based, routinely updated data monitoring, and visual data display. Currently, online data of all public health facilities and individual LHW and CMW data are in place in all districts across Sindh province. Health managers are now reviewing the performance of each health facility through an online geo-located monitoring and supervision mechanism.

Dr. Akhlaque Khan and his team from the DGHS office are using data from Sindh's online integrated dashboard to improve planning and budgeting. (Picture by Veronique de Viguerie/The Verbatim Agency for JSI)



M&E cells have been rehabilitated in all the districts, and the HSS Component has provided training to more than 200 health managers. Over the life of the project, data quality has improved significantly; data accuracy rose from 64 to 79 percent between 2014 and 2016 and data are now used for advocacy. Prior to the HSS Component's intervention, data did not influence district level budgeting or planning; now data from the integrated dashboard are used to develop district action plans and district-level medium-term budgetary frameworks in all the districts.

The HSS Component handed over the cloud-based server hosting control panel and MIS administration panels to relevant Sindh DOH staff. Financial support for the dashboard is now included in the annual health budget. The integrated dashboard system is currently being scaled to other provinces in Pakistan.

## THE WAY FORWARD

Technology and digital platforms can be used to deliver health services, increase health service demands, and hold governments and providers accountable for the delivery of high-quality services. In the context of Sindh, the development of an online integrated dashboard was critical to redressing the lack of transparency, accountability, and evidence-based resource allocation that have plagued the Pakistani health system. Sindh's experience highlights the fact that the digital health landscape must also focus on systems-level efforts to ensure that innovations are implemented successfully, have the flexibility to adapt and improve, and ultimately are fully owned and operated by stakeholders.

There are several steps that the Sindh DOH must take to ensure that efforts to create a virtuous cycle of improved data quality and use are sustained. Primarily, the DOH must maintain and strengthen systems to ensure that all the districts comply with the SOPs developed for improving data quality and use, and that provincial health managers have the capacity to maintain and improve data quality in the system. Data must be validated at health facilities; LHW and CMW data quality must be assessed as part of supervisory visits. Bi-directional communication and feedback loops must be institutionalized to ensure that M&E cells at the provincial and district levels ensure timely, quality data each month. Regular review meetings must be conducted to ensure evidence-based decision making and continued quality improvement for good governance. These health system strengthening efforts will drive data-driven health policies and financing across Sindh and beyond.

The Health Systems Strengthening Component of USAID's Maternal and Child Health Program was a five-year cooperative agreement (2013-2018) implemented by JSI Research & Training Institute, Inc. (JSI) to develop and support cost-effective, high-quality, and integrated reproductive, maternal, newborn, and child health programs and services in Pakistan. The HSS Component supported the Federal Ministry of National Health Services, Regulations, & Coordination and Sindh Province's Department of Health to develop management systems and human resource capacity for a stronger health system and improved health services.