PROGRAM MONITORING AND EVALUATION SYSTEM ASSESSMENT

A. Description of the Monitoring and Evaluation System

1. The Punjab Nursing and Health Workforce Reform Program is a results-based lending (RBL) program designed to support the Government of Punjab's goal to increase the availability of skilled human resources, provide quality health care services, and improve governance in the health sector. The intended outcome of the RBL program is geared to enhance the availability of an adequately qualified nursing workforce to fulfill evolving health needs with increased access to employment opportunities for women in the nursing profession. Associated with the outcome, there are two disbursement linked indicators (DLIs): DLI 1 will track at least 800 nursing professionals (of which at least 60% are women) graduating from center of excellence (COE) degree programs, specialized courses, and faculty development programs; and DLI 2 measures COE student and faculty quality assessment scores improving by at least 2 percentage points.

2. The RBL has three outputs which will contribute to achieving the outcome. Seven DLIs, with three having sub-DLIs, will be used to demonstrate the achievement of these outputs. DLI 3 measures nursing education faculty strengthened through three sub-indicators: sub-DLI 3a, where (i) at least 15 nursing education leaders (of which at least 80% are women) are enrolled in eligible international doctor of philosophy programs, (ii) at least 45 nursing educators (at least 80% women) sponsored to pursue master of science in nursing (MScN) degrees from accredited national institutions, and (iii) at least 150 nursing educators (of which at least 80% are women) from government nursing colleges completed COE faculty development program training. DLI 4 will track the number of nursing students enrolled in COE degree programs and is bifurcated in sub-DLIs based on degree type: (i) at least 800 nursing students (of which at least 80% are women) are enrolled in COE bachelor of science in nursing (BScN) program, and (ii) at least 100 nursing students (of which at least 60% are women) are enrolled in a COE MScN program. DLI 5 focuses on international participation certificates in public health, health security, or elderly care being obtained by at least 150 nursing students (of which at least 60% are women). Integral to the RBL program is the construction and operationalization of COEs, and accordingly, DLI 6 concentrates on construction of three climate-resilient and gender-sensitive COEs for nursing education, while DLI 7 tracks three COEs being furnished with modern equipment and digital infrastructure. DLI 8 will measure improved health workforce governance through two sub-DLIs: (i) a COE governance framework comprising rules, regulations, and policies including workplace gender equality being approved by the independent COE board of governors, of which at least 33% are female; and (ii) a dedicated human resource for health (HRH) management unit within the Specialized Healthcare and Medical Education Department (SHC&MED) is established to oversee workforce planning, management, and quality assurance.

3. Institutional arrangements for monitoring and evaluation (M&E) need considerable strengthening at the SHC&MED, and the RBL program attempts to build on existing institutions and their M&E systems to enable adequate monitoring of program results. Existing M&E systems can be leveraged to provide the mechanisms necessary for tracking progress on the achievement of the DLI targets, however several require system enhancements, incorporation of new data elements, and the implementation of new data collection processes and reporting procedures. Central to the overall program's M&E will be the SHC&MED's IT unit, which is also the custodian of the human resource management information system (HRMIS). The HRMIS will be enhanced to integrate data from COEs and government nursing colleges, setting the basis for the HRH management system. Data from the expanded HRMIS will inform DLIs 1, 3a–3c, 4a–4b, and 5. The Infrastructure Development Authority of Punjab (IDAP) will be the source of information related to COE construction and the procurement of allied furniture and fixtures (DLI 6), while the

PIU itself will be procuring digital infrastructure and equipment (DLI 7). The program implementation unit (PIU) under the SHC&MED will provide evidence of progress and achievement for DLIs 2 and 8a–8b.

4. **SHC&MED.** The SHC&MED, falling under Punjab's Department of Health, oversees specialized and tertiary health care facilities and is responsible for health workforce education. Government medical universities and nursing colleges are within the domain of the SHC&MED. Its strategic management and internal policy unit undertakes monitoring and supervision of government teaching hospitals and provides guidelines for improvement in service delivery. However, the focus of the strategic management and internal policy unit is primarily on the clinical aspect. For hospital monitoring, the department has deployed an IT-based solution (the hospital information management system [HIMS]), with dashboards including medicine inventory system, online local purchase system, equipment control system, ventilator management system, complaint management system, maintenance and cleanliness system, and disease surveillance system. Daily situation reports summarizing key findings from functional IT dashboards are generated for monitoring health care facilities.

5. **PIU.** A separate and dedicated PIU for this RBL will be established according to the structure and staffing indicated in the program implementation document. The PIU will have overall responsibility for managing the implementation of this RBL, which will include ongoing oversight, coordination, and periodic reporting. The PIU will obtain data, information, and reports from sources identified in the verification protocols and design and monitoring framework (DMF) to report progress on DLIs and program indicators to the SHC&MED, ADB, and the independent verification agencies (IVAs).

6. **HRMIS.** Data related to health care professionals including doctors and nurses staffing the specialized and tertiary health care facilities as well as medical universities and nursing colleges is digitally compiled in the HRMIS. The IT Cell, housed at the SHC&MED, is the custodian of the data and responsible for its compilation and update. The HRMIS currently includes data on sanctioned strength, vacant slots, and profiles of personnel at health care facilities. The system includes a portal for leave, which employed health personnel can access directly. The HRMIS has other online features to support health professionals, such as obtaining no-objection certificates. The HRMIS has evolved and been strengthened since its inception in 2013, with periodic addition of digital modules, applications, and indicators as required by the SHC&MED. Presently, nine IT officers are employed at the IT Cell under an experienced IT director who led the design and deployment of the HRMIS. Data is stored on the Punjab Information Technology Board's cloud servers, providing necessary data protection and security.

7. However, the HRMIS currently does not compile any data on nursing students enrolled in or graduated from nursing colleges. Data on student enrolment is presently tasked to the Punjab Health Foundation (PHF), an autonomous body mandated to provide financial assistance to doctors, health institutions, and allied projects. The PHF is temporarily tasked with maintaining a database on nursing students enrolled in government nursing colleges. Nevertheless, the IT Unit noted that the HRMIS has the capacity to integrate the PHF data, and in future the IT Unit itself can take charge of collecting nursing student and faculty data by developing dashboards for data entry at the institutional level. Moreover, the HRMIS has the capacity to integrate data from other sources, including planned COEs under this RBL program. Thus, the HRMIS will be expanded to (i) capture data specific to selected DLIs and DMF indicators and (ii) serve as the basis of the HRH management system to be developed during the implementation of the RBL program.

8. **HRH management unit.** As part of the RBL program, a dedicated HRH management unit under the SHC&MED will be established. This unit will focus on policy formulation, workforce planning, and education strategies to address HRH gaps in Punjab. Accordingly, the HRH unit will utilize the expanded HRMIS for workforce (current and future) monitoring, planning, and analysis, which will set the basis of the HRH management system. Moreover, the HRH unit will utilize the HRMIS or HRH management system to extract and share data to periodically report on progress against specific DLIs and DMF indicators to the PIU.

9. **Nursing colleges and COEs.** Government nursing colleges and COEs will be linked with the HRMIS at the institution level. Institutes will have access to the HRMIS dashboard to input data on enrolled and graduate nursing students, faculty, examination results, courses, certifications, and other indicators. IT personnel are sanctioned at the 44 government nursing colleges across Punjab (also to be staffed in COEs) and will be responsible for maintaining digital records of all nursing students and faculty through the developed HRMIS dashboard. Tracking nursing students will be a key task allocated to IT personnel to ensure graduates are traced over the course of their career. Accordingly, nursing colleges and COEs will serve as the source of information on nursing students, graduates, and faculty, feeding into the expanded HRMIS and HRH management system.

10. **IDAP.** As an autonomous body established to plan, design, construct, and maintain infrastructure projects in Punjab, the IDAP executes large infrastructure projects, including hospitals and universities, and is experienced in design, construction supervision, procurement, and overall project management. It is staffed with relevant experts and delivers projects in multiple sectors across the province. The RBL program envisions the role of the IDAP as a service provider to include (i) detailed engineering design for the three COEs; (ii) preparation of detailed bills of quantity for COE construction; (iii) procurement of works for the establishment of the three COEs; (iv) overall project management of COE construction, ensuring timely delivery and compliance with technical standards; (v) procurement of allied furniture and fixtures; and (vi) data sharing and periodic reporting as required under the RBL program. Accordingly, the IDAP will share reports with the PIU and IVA on COE construction and procurement of equipment—key DLIs associated with COE establishment. The procurement of equipment and digital infrastructure will be handled directly by the PIU.

11. **COE board of governors.** An autonomous COE board of governors will be established within the SHC&MED to oversee the governance, staffing, and academic functions of the COEs. It will be responsible for operational oversight, quality assurance, and academic coordination across the COEs. A governance framework for COEs will be developed by the board with support from the SHC&MED. This framework will comprise rules, regulations, and policies pertaining to COE implementation and functioning.

B. Assessment of the Monitoring and Evaluation System

12. The successful implementation of the RBL program will require an effective M&E system able to generate high-quality and timely data on program results. As noted, some institutional arrangements for M&E are available, but will be further built on to enable adequate monitoring of program results. This includes strengthening or expanding existing M&E systems at the SHC&MED and other institutions, and, importantly, integration of data and information in the HRMIS for coordinated, efficient, and timely reporting. The M&E system will include IVAs to optimize transparency and reliability of results.

13. The IT Unit and its HRMIS will be central to the M&E efforts for the RBL program for multiple reasons as it can (i) be expanded to capture nursing student and faculty data of government nursing colleges and COEs, (ii) allow customized data queries for indicator calculation, (iii) incorporate additional data items for new indicators, and (iv) integrate data from other institutional datasets. Data from the expanded HRMIS will be used by the HRH management unit to track DLIs 1, 3a–3c, 4a–4b, and 5 based on newly added data generated from government nursing colleges and COEs.

14. To initiate expansion of the HRMIS, existing database(s) related to nursing colleges need to be obtained from the PHF. As indicated, compilation and monitoring of student enrolment, graduation, and faculty profiling is not within the scope of the PHF. This was a provisional task assigned to the foundation, but the IT Unit is adequately positioned and willing to take on this responsibility. Once existing datasets are integrated into the expanded HRMIS, additional parameters can be added to enable tracking of DLIs and DMF indicators. A dashboard or application to input data at the institute level will be developed by the IT Unit. IT personnel posted to the 44 government nursing colleges as well as the proposed COEs will be required to compile and maintain digital records related to nursing students and faculty (other parameters may be added by the SHC&MED) using the dashboard on an ongoing basis.

15. Having data from government nursing colleges and COEs integrated into the HRMIS will enable tracking of nursing professionals graduating from COE degree programs and specialized courses (DLI 1). In parallel, the captured enrolment data at COEs will measure the number of nursing students registered in COE BScN (DLI 4a) and MScN degree programs (DLI 4b). The expanded HRMIS will also include data on international course participation (DLI 5). Further, nursing educators at government nursing colleges who are sponsored for doctor of philosophy or MScN degrees as well as those who complete the COE faculty development program training will be tracked (DLIs 3a–3c). This data will be integrated into the HRMIS, associated with faculty profiles. Utilizing the expanded HRMIS, the HRH management unit will prepare periodic reports on program results and share these with the PIU.

16. Regarding COE construction and operationalization, M&E systems and processes at the IDAP will be utilized. The IDAP is experienced in infrastructure design, development, contracting, and procurement. The organization also excels in construction project management. The IDAP will design COEs and engage contractors for their construction. Importantly, it will closely monitor the construction of these COEs to ensure quality and adherence to design specifications (DLI 6) while the PIU will oversee the procurement of equipment and adherence to equipment specifications (DLI 7). The IDAP will share periodic reports with the PIU.

17. The COE board of governors established under this RBL will confirm development of the COE governance framework by submitting an official SHC&MED notification copy to the PIU along with the final framework. This framework will set the rules and regulations on COE operations, and the entity will oversee workforce planning, management, and quality assurance. The board will also be responsible for conducting quality assessments of students and faculty by engaging third-party firm(s) and sharing reports with the PIU (DLI 2).

18. An independent verification arrangement system will be set up with up to two third-party firms and an independent government body as the IVAs to verify program results in line with verification protocols related to prior results, construction, and overall program results.

C. Managing Risks and Improving Capacity

19. The SHC&MED needs to ensure that a reliable and robust M&E system is in place to support effective RBL program implementation and monitoring through key measures as follows:

(i) **Mandate the IT Unit to cover nursing colleges and COEs.** While the IT Unit has expressed willingness and capacity to expand the HRMIS to include nursing college and proposed COE data, this should be formalized as part of its mandate by the SHC&MED. Additional resources need to be provided in terms of personnel and equipment to enable the IT Unit to effectively expand the HRMIS and undertake responsibility for integrating data from nursing colleges and COEs.

(ii) **Build capacity of the IT Unit.** IT Unit personnel need to be trained on the RBL program activities, results, and indicator verification protocols. IT Unit personnel also require training on nursing college data parameters and existing systems. This will enable the appropriate expansion of the HRMIS to integrate data aligned to the respective DLIs and DMF indicators.

(iii) **Train IT personnel at nursing colleges and COEs.** The IT Unit will be required to build capacity of all IT personnel staffed at nursing colleges and COEs on the expanded HRMIS and its associated dashboard(s). All sanctioned IT positions need to be filled, and IT personnel need to be trained on data parameters, definitions, data entry, database maintenance, and data updating protocols. This is essential to ensure reliable, accurate, and timely data is generated in the HRMIS.

(iv) **Early establishment of the PIU and HRH management unit.** With the responsibility to manage the RBL program implementation, it is critical for the PIU to be established immediately following loan negotiations to ensure timely program commencement and progress reporting. The HRH management unit should be established before COEs are made operational so that relevant program indicators can be accurately monitored.

(v) **Establish data sharing and reporting protocols.** Data sharing among the RBL program institutions is essential for timely and complete reporting of results. Data can only be integrated into the HRMIS if it is collected according to the prescribed verification protocols and shared with the HRH management unit and PIU in a timely manner. The PIU, with support from the SHC&MED, will need to develop data-sharing protocols among specified institutions and ensure they are followed.0