1. Progress (including good examples in the box below)

- TWG meetings were conducted regularly. In 2024, two TWG were concluded successfully.
  1. May 2024 – To review the progress of the impleemtation and electronic immunization registry (EIR) and client health registry (CHR) implmentation
  2. September 2024 - To review the progress of the impleemtation and updates on moving to dhis2 tracker module and updates on hospital electronic medical record (EMR) systems
- Lao PDR has made considerable progress in strengthening the DHIS2-based Health Management Information System (HMIS) since its inception in 2013. Over the last decade, HMIS has become well established and integrated, providing data for informed decision-making. Additionally, Lao PDR is transitioning toward the adoption of the DHIS2 Tracker module, which will enable individual-level data tracking, improve health monitoring, and facilitate more informed decision-making across health programs.
- Launch of the Digital Health Strategy 2023-2027 in January 2023, marking a significant step towards leveraging digital technologies for the enhancement of healthcare delivery. In the Digital Health Strategy, five strategic priorities have been identified: governance, workforce, infrastructure, standards, and applications. Under five strategic pillar, 37 strategic projects were identified and 51% of them were completed on commenced by the theird quarter of 2024 and 14% to be initiated in 2024.
- MOH has established a dedicated committee on digital transformation to provide strategic guidance and oversight for the country's digital health initiatives. To further streamline and oversee the implementation of these initiatives, the MoH has also created the Digital Health Transformation Coordination Office. This office plays a crucial role in coordinating stakeholders, managing resources, and facilitating the rollout of various digital health solutions.

2. Challenges

- **Limited Funding:** Both government and development partners face financial constraints, as funding for digital health and health information systems is often channeled through other health programs, leading to insufficient direct investment in digital health initiatives.
- **Lack of Standards and Interoperability:** The absence of established data standards, such as   Health Level 7 – Fast Healthcare Interoperability Resources (HL7-FHIR) and International Classification of Disease (ICD), results in fragmented systems that operate in silos, hindering effective data sharing and integration across health information systems.
- **Capacity Gaps:** There is a lack of technical capacity among Ministry of Health staff, limiting their ability to effectively utilize and manage digital health systems.
- **Limited Internet Access:** Connectivity issues, specially in remote and rural areas, pose significant barriers to the implementation and maintenance of digital health applications.
- **Health worker registry:** Human Resource for Health (HRH) information systems are currently fragmented

3. Priorities

- **Improving Data Quality and use:** Focus on enhancing data accuracy, reliability, completeness and timeliness to ensure informed decision-making and effective health interventions.
- **Capacity Building:** Implement comprehensive training programs for healthcare workers to enhance their digital literacy and proficiency in using health information systems. Additionally, introduce digital health into the undergraduate and graduate health degree curricula.

- **Introducing Standards and interoperability:** Develop and enforce data standards for interoperability, including frameworks such as HL7-FHIR, and ICD, to ensure consistent data exchange and integration across various systems.

4. Gaps in Support

- **Funding:** There is a critical need for dedicated funding streams for digital health initiatives, separate from other health programs, to support ongoing development and sustainability.
- **Capacity Building:** There remains a substantial gap in training and educational resources for healthcare workers, which is necessary to maximize the benefits of digital health systems.
- **Technical Support:** Ongoing technical assistance and support by various development partners are needed to maintain and upgrade their digital health systems effectively.

Good examples of progress in Digital Health and Health Informatin Systems

1. **Moving to dhis2 tracker module – EIR**
   Until 2022, HMIS primarily utilized the DHIS2 aggregated module, which facilitated countrywide data collection but often lacked the detailed insights necessary for targeted interventions. In 2023, the introduction of the tracker module for the EIR marked a significant advancement in HMIS, allowing for a more comprehensive and detailed registration of individual immunization records. This module successfully registered 70% of newborns in its first year, reflecting its effectiveness and potential for improving health outcomes. Building on this success, other health programs like Maternal and Child Health, are now transitioning to the tracker module. The key advantage of the tracker module is its capability to provide granular data, enabling health authorities to conduct equity analyses that can identify disparities in health access and outcomes among vulnerable groups.

2. **Roll out of Client Health Registry (CHR)**
   CHR is crucial to data exchange and interoperability among various HIS. By uniquely identifying individuals across different information systems, CHR allows the aggregation and integration of patient data from multiple sources, making it easier to track health outcomes and monitor disease trends at the population level. This is vital for creating a cohesive digital health infrastructure, where patient information can flow securely between hospitals, clinics, and public health programs.

3. **Integration of hospital electronic medical record systems with HMIS**
   The integration of hospital EMR systems with the HMIS has been initiated as a crucial step towards enhancing healthcare data management. Currently, healthcare providers face the challenge of entering data into two separate systems: individual patient information is recorded in EMRs at hospitals, while health facilities manually aggregate data for HMIS. This dual-entry process not only burdens staff but also increases the potential for errors and inconsistencies in reporting. By initiating the integration of EMR systems with HMIS, the aim is to eliminate the need for duplicate data entry, thereby reducing administrative workload and improving the accuracy of health data. This integration will streamline workflows, facilitate timely access to critical health information, and enhance the quality of data for decision-making.

4. **Integration of HMIS and eCRVS**
   HMIS has been functioning across all health facilities nationwide since 2013, while the electronic Civil Registration and Vital Statistics (eCRVS) system is a more recent initiative, supported by the World Bank to capture birth and death data. Efforts are currently underway to integrate HMIS and eCRVS, enabling birth and death notifications to be pushed automatically from HMIS to eCRVS. This integration will minimize the need for double data entry, streamline workflows, and ensure a more accurate and efficient registration process for vital events.