

EIR Recommendations for Country Stakeholders

What are EIRs?

Electronic immunization registries (EIRs) are a solution that can replace the paper-based system of manual recordkeeping that has characterized most countries' immunization services until recently. EIRs are confidential, population-based, computerized information systems that record data on vaccine doses delivered. A growing number of countries have embraced EIRs to improve data quality and immunization program performance.

EIRs track critical information needed to ensure that every child is registered for immunization from birth and receives all recommended vaccines. By providing timely, accurate, and complete data, EIRs enable health workers to deliver immunization services more effectively and efficiently. EIRs can also save health worker time spent on paper-based record-keeping and reporting.

What can EIRs do?

EIRs have the potential to add value for vaccination programs, health systems, and beneficiaries if they are designed and implemented well and appropriate to the context. Reviewing previous experiences with EIRs can help to identify what has worked or has not—and, by doing so, build on the strengths and address the weaknesses of previous implementations. Building on the findings from the Digital Square Report linked at the bottom of this page, we recommend the following steps for decision-makers considering implementing an EIR for the first time. Many of these recommendations can also be used to improve or expand existing EIR implementations as outlined below.

Recommendations for country stakeholders

1 Identify the problem

First, identify the vaccination program or health system challenges you are trying to solve and whether an EIR may be the appropriate tool. EIRs can help to solve several common health system challenges—including poor data quality, lack of unique identifiers, inaccurate population denominators, poor stock management, and poor planning and coordination—that negatively affect vaccination coverage and equity. Reviewing the common challenges that EIRs are designed to address, as well as the potential added value of EIRs captured in [Digital Square's report on EIRs](#), can help to inform this discussion. Health system challenges are categorized by the World Health Organization (WHO) Classification of Digital Health Interventions.

Helpful Resource

[WHO Classification of Digital Health Interventions](#)

2 Use the Readiness Assessment Tool

If an EIR is determined to be a potential solution, use the EIR Readiness Assessment Tool to understand whether the appropriate enabling environment is in place to support an EIR. The EIR Readiness Assessment Tool considers key building blocks, adapted from the WHO/International Telecommunication Union eHealth building blocks,¹ that are necessary to support an EIR. These include:

- Human capacity.
- Standards and interoperability.
- Governance and policy.
- Process and information sources.
- Investments and funding.
- Infrastructure.

Helpful Resource

EIR Readiness Assessment Tool

3

Identify requirements

If there is sufficient readiness, identify EIR system requirements considering the operational lessons learned in [Digital Square's EIR report](#). Identifying clear requirements with input from all key stakeholders is the first step in the software development process. The report outlines functional and nonfunctional requirements for consideration, as well as lessons learned from operationalizing them. Crosscutting themes include:

- Ensure the EIR is acceptable and useful for health workers and aligned to their clinic workflows. This can be achieved with a user-centered design process.
- Start with the critical requirements for a minimum viable product and take an agile development approach to iterate and add new requirements over time based on user feedback.
- Design the EIR to be interoperable with existing systems (e.g., birth registries, facility registries, national identifiers, logistics management information systems).
- Adapt the EIR for the local context and engage the community to understand the health data that are entered into the registry and to address any fears or misconceptions surrounding the digital systems.
- Design the system to be flexible to adapt, change, and scale over time. Similarly, system requirements can be used to expand the functionality of an EIR—creating new workflows and system efficiencies, or otherwise strengthening the software.

Helpful Resource

[Digital Square's Considerations for EIR Design Brief](#)

4

Evaluate adaptability of existing global goods

Consider whether an existing system or global good can be adapted for your context. DHIS2 Tracker, OpenSRP, OpenMRS, and Shifo's Smart Paper Technology Solution have been used as EIRs in multiple LMIC contexts. The Digital Square Global Goods Guidebook identifies other emergent and established global goods that are adaptable to different contexts. Otherwise, digital tools that are already used in a specific context may have the ability to add an EIR module; particularly, given the COVID-19 pandemic, many digital tools have been adapted to include vaccination data.ⁱⁱ

Helpful Resource

[Digital Square Global Goods Guidebook](#)

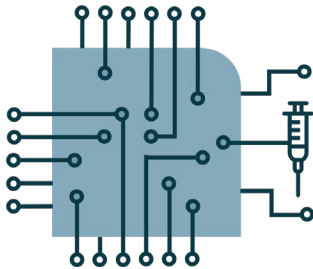
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Align with the national digital health strategy

Design and implement the EIR in line with the national digital health strategy and roadmap. The WHO Digital Implementation Investment Guide provides direction on how to design, cost, and implement digital health interventions as part of a digital health enterprise. Country governments are encouraged to develop a national digital health strategy and investment roadmap to ensure the EIR is integrated with existing systems and contributes to the national digital health enterprise architecture. This supports sustainability and scale of the EIR.

Helpful Resource

[WHO Digital Implementation Investment Guide](#)



As new countries introduce EIRs, stakeholders should continue to share lessons learned on what works—and, importantly, what does not—so that others can learn and iterate on their own systems. And as EIRs are scaled, the evidence base will continue to grow, providing new information on how EIRs add value for vaccination programs.

ⁱ World Health Organization (WHO), International Telecommunication Union (ITU). National eHealth Strategy Toolkit. Geneva: WHO and ITU; 2012. https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-E_HEALTH.05-2012-PDF-E.pdf.

ⁱⁱ Digital Square wiki. COVID-19 page. <https://wiki.digitalsquare.io/index.php/COVID-19>. Accessed May 12, 2021.



Digital Square brings partners together to improve how the global community designs, uses, and pays for digital health tools and approaches. By strengthening the coordination among digital health stakeholders, Digital Square reorients the market to better match tools and approaches to the needs of countries and communities.

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