PROGRAM IMPLEMENTATION REPORT: THRIVE INDONESIA (OpenSRP)

An Integrated Electronic Health Information System Framework for RMNCH Care Continuum

1. Executive Summary

The THRIVE Indonesia initiative represents a pioneering, multi-site research endeavor designed to establish an integrated mobile health (mHealth) platform known as the Open Smart Register Platform (OpenSRP). Developed to address the profound geographic diversity and maternal/neonatal mortality challenges across Indonesia, this open-source digital registry systematically replaces archaic paper-based health ledgers used by frontline health workers (FHWs). By replacing passive logs with active, point-of-care digital registers, OpenSRP ensures real-time client management, automated risk assessment, and direct data tracking across the Reproductive, Maternal, Newborn, and Child Health (RMNCH) continuum.

System Transformation Concept

MANUAL PAPER SYSTEM	DIGITAL OPENSRP SYSTEM
Massive Paper Ledgers: Overtaxed, slow to manually navigate, and prone to duplication or physical damage.	Optimized Android Tablet: Light, durable touchscreen form factor intuitive for field deployment.

Delayed Action: Data sits statically in books, meaning critical care windows are routinely missed or backlogged.	Real-Time Clinical Flags: Instant automated notifications guide work planning and trigger immediate risk profiling.

2. Program Governance & Leadership Profile

Program Manager Role & Core Contributions

The successful operationalization and localized deployment of OpenSRP in Indonesia was anchored by Devis Wawan Saputra serving in the critical capacity of Program Manager. Bridging the divide between raw software engineering, data architecture, and grassroots community health execution, the Program Manager orchestrated the following key strategic outcomes:

- **Field Staff Mobilization & Local Operations:** Organized and led field deployment teams across localized healthcare points. He systematically embedded the digital prototype directly into daily operational environments within regional Puskesmas (Community Health Centers) and Posyandu (Integrated Health Posts).
- **Frontline Midwife Interfacing:** Supervised the direct training and deployment of tablet prototypes to village midwives (Bidan di desa). He successfully transformed real-world field friction into actionable product updates.
- **Data Layout Alignment with Kemkes:** Managed the ingestion and structural mapping of massive longitudinal health datasets. He spearheaded the specific data organization strategies required to keep localized patient metrics seamlessly aligned with the rigid national data layouts mandated by the Ministry of Health (Kemkes).
- **Development Team Leadership & Agile Releases:** Headed the software engineering team to translate active data and feedback from field staff into iterative product releases. This process ensured that bug fixes, UI enhancements, and offline sync stabilization matched real-world field constraints.
- **RMNCH Data Generation:** Architected the structural generation of the application's foundational data columns. He strictly anchored the system around core modules tracking the mother, the child, and automated longitudinal RMNCH indicator mapping.
- **Global Stakeholder Diplomacy:** Acted as the primary operational conduit to external research and technical entities. He personally coordinated high-level data syncs and collaborative implementation calls with academic partners at Harvard University, consortium stakeholders in Bangladesh, and emerging implementation peers across the African region.

3. Project Blueprint & Foundational Architecture

The multi-country research trial operates under an explicit structural framework designed to transition the digital health platform from localized deployment and rigorous scientific assessment to sustainable government integration.

Multi-Year Horizon Roadmap

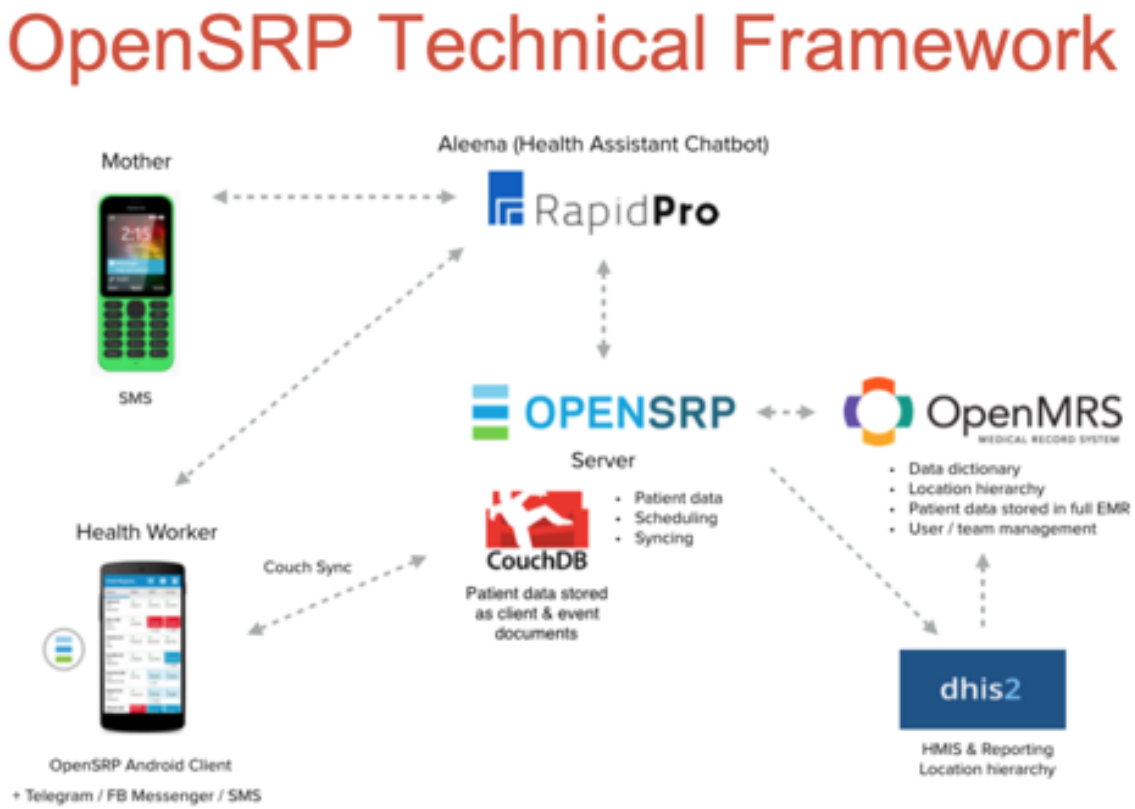
Phase	Duration	Core Focus Areas & Deliverables
Phase 1: Common Protocol Framework	Two Years	Conduct exhaustive baseline needs assessments of frontline health workers, adapt user interfaces to localized constraints, prioritize modular features, evaluate technical barriers to adoption, and execute initial pilot field testing.
Phase 2: Multi-site Impact Trial	Three Years	Launch a robust, multi-site Randomized Controlled Trial (RCT) to comprehensively evaluate health outcomes, coverage quality, intervention timeliness, and exact per-unit cost-effectiveness of

	OpenSRP over traditional paper registries.

4. Technical Implementation & Data Framework

The OpenSRP ecosystem re-imagines traditional tabular health registers within a responsive, mobile touch interface optimized for Android tablets. Key platform features and interoperability paradigms include:

- **Digitized Smart Registers:** Secure patient records are formatted in a clean matrix view. This layout maintains the high visual scanning efficiency of traditional paper books while embedding reactive buttons.
- **Color-Coded Service Reminders:** Real-time visual buttons alert users to critical scheduling statuses. These use green for done, light blue for upcoming, and red for overdue.
- **Enketo Smart Webforms:** XLSForm-backed capture engines are built with native skip logic. These tools fully cache data offline until an internet connection allows safe cloud synchronization.
- **Automated High-Risk Profiling:** Embedded screening algorithms instantly cross-reference physiological indicators like severe maternal anemia or blood group details. This system dynamically flags high-risk mothers and prioritizes them at the top of the interface.



OpenHIE Systems Integration

The platform is intentionally engineered to complement, feed, and strengthen national health enterprise structures rather than operate in isolation. OpenSRP integrates directly with OpenMRS to act as the primary, individual-level longitudinal clinical health record store, while simultaneously exporting structured aggregate metrics to DHIS2 for sub-district, district, and national reporting streams.

5. The Global Collaboration Network

The project framework thrives on a multi-layered global network that coordinates research excellence, engineering development, and government ownership:

- **World Health Organization (WHO / HRP):** Functions as the central international coordinating body overseeing cross-site core research protocols, quality standards, and global meta-analysis.
- **Ona Systems:** Acts as the primary global technical lead coordinating base platform engineering and cross-country developer capacity building.
- **Indonesia Deployment Structure:** Comprises a collaborative triad between Harvard University for academic research direction, the Summit Institute of Development (SID) for technical delivery and localized operational execution, and local Government Partners including the Lombok Tengah Department of Health.
- **Global Peer Sites:** Interfaces directly with Johns Hopkins and mPower in Bangladesh for pregnancy surveillance and routine childhood immunizations. It also links with IRD/IHS in Pakistan for vaccination financial incentive modules, and clinical trial networks in Africa for exploratory OpenMRS nodes in Kenya, Ghana, and Benin.

6. Program Impacts & Strategic Evolution

Transitioning from static paper tracking to an active digital registry provides explicit institutional benefits across health clusters:

INPUT FIELD REALITY: Fragmented, heavy manual registries stacked in Puskesmas.
OUTPUT ACTIONABLE HEALTH LAYER: Streamlined electronic workspace completely removing arithmetic transcription errors.

INPUT FIELD REALITY: Missing care milestones due to invisible data logs.
OUTPUT ACTIONABLE HEALTH LAYER: Proactive color alerts maintaining a 100% on-time care threshold window for RMNCH services.

INPUT FIELD REALITY: Delayed aggregate data preventing timely programmatic management.
OUTPUT ACTIONABLE HEALTH LAYER: Real-time supervisory dashboards populating indicators for remote health directors instantly.

Through the implementation framework established under the Program Manager's operational tenure, the OpenSRP infrastructure successfully laid the groundwork to scale mobile registry platforms out of isolated trial zones and transform them into permanently institutionalized, national health structures.