CONFIDENTIAL — LEADERSHIP ONLY

MMDM
MEDICAL MISSION OF DIVINE MERCY

TECH OPERATIONS · FIELD REPORT

Costa Rica *2026*

Mission Review & the Path to Laredo

PRESENTED BY
Andrew Castor
Lead, Tech Operations

LEADERSHIP MEETING
June 4, 2026 · Houston

What we'll cover.

01 Before We Landed

Infrastructure, security, forms — built before boots hit the ground.

02 During the Mission

What we deployed and what we documented in the field.

03 Signal Held, Signal Dropped

Where the network worked, where it failed, what Laredo inherits.

04 Operations Rebuild

The mid-mission failure and the decision to rebuild from scratch.

05 Laredo & HIPAA

Why November is not Costa Rica twice, and how we stay compliant.

06 Roadmap & Decisions

The path to April 2027 and five specific asks of leadership.

LIVE EMR DEMONSTRATION

Q & A

30 MINUTES TOTAL

Before we landed.

The mission did not start at the airport. By the time the team arrived in Costa Rica, the EMR was deployed, the network was hardened, and three form specifications were on paper.

WORKSTREAM · 01

Infrastructure

- OpenEMR deployed on dedicated host
- HTTPS with private Certificate Authority
- Automated backups configured
- Snapshot strategy in place pre-departure

WORKSTREAM · 02

Security & Operations

- Firewall rules & SSH hardening
- 8 station accounts provisioned
- Static IPs assigned by role
- Access reviewed against station map

WORKSTREAM · 03

Forms & Data

- Registration specification
- Vision specification
- Dental specification
- Each spec mapped to a clinical station

Deployed and documented.

DEPLOYED

What we put on the ground.

Network gear — APs, switch, runs between buildings

Android tablets — connected via HTTPS

Ethernet — inter-building cabling, server core

Stations — 8 active accounts, role-mapped

DOCUMENTED

What we captured for next time.

Photo documentation — every station, every rack

WiFi dead-spot map — measured, not estimated

Lunch interviews — every station lead

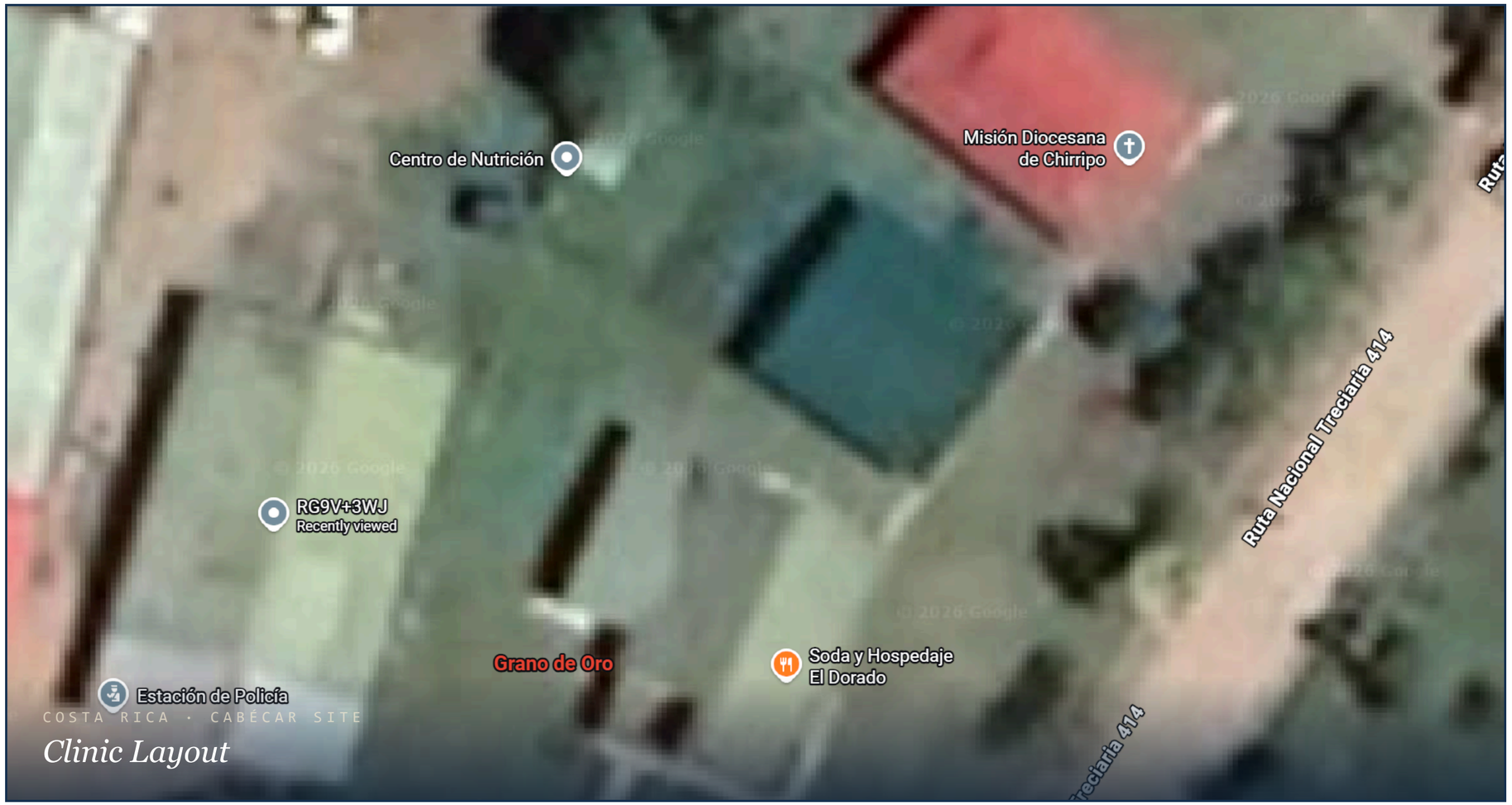
Post-mission survey — issued at week's end

37%

14 of 38 survey responses returned.

> *A structured volunteer-feedback dataset that drives every form-design decision going forward.*

The site we worked.



HARDWARE KEY

- Indoor AP
- Outdoor AP
- Network Switch
- VPN Gateway
- Firewall
- Ethernet Run

STATUS

- Existing · Deployed
- Needed · Planned

SIGNAL HELD

Held.

Where the network worked.

STATIONS	Per-station signal reliable across active rooms
TABLETS	Connected to EMR over HTTPS, no certificate issues
SERVER	Stable all week — no hardware-level incidents

A working baseline — the parts of the design that earn the right to be repeated.

SIGNAL DROPPED

Dropped.

Where the network failed us.

COVERAGE	Outdoor corridors lost signal between buildings
MEDICAL	Coverage barely reached the medical clinic
PORTS	Switch ran out of ports — capacity exhausted
SAFETY	One cable interfered with dental equipment — lifted overhead

Laredo will be harder — buildings separated by a street, stricter compliance.

We rebuilt.

A patient-flow failure that started as a single button became a structural decision. The path from symptom to resolution, in five steps.

1

Patient button stops responding.

Mid-mission, mid-shift. A core EMR action quietly stops working under load.

SYMPTOM

2

JSON error surfaces.

The server is returning plain text where structured data was expected.

DIAGNOSIS

3

Patch attempts fail.

Multiple configuration fixes applied. None hold under real station traffic.

FRICTION

4

Decision to rebuild.

Triage the cost of one more patch versus the cost of starting clean.

DECISION

5

Fresh install holds.

Clean OpenEMR install. No blockers remain. Demoed live later in this deck.

RESOLUTION

FIELD RULE

For deep system errors, rebuild beats patch.

Infrastructure gaps & what we need.

Indoor Access Points

BOM-01

GAP OBSERVED

Coverage too sparse for the campus footprint; outdoor corridors and the Medical clinic had dead zones.

REQUIRED

2–3 additional indoor APs with wall mounts, sized to the campus.

Network Switch

BOM-02

GAP OBSERVED

Ran out of available ports during deployment.

REQUIRED

Higher-port-count switch or second unit, sized for full 13-station load.

Ethernet Cabling

BOM-03

GAP OBSERVED

Runs barely reached the Medical clinic; inter-building distances were underestimated.

REQUIRED

Pre-measured, terminated runs sized to actual inter-building distances.

Starlink Cable Extension

BOM-04

GAP OBSERVED

Current kit length insufficient for the Priest's House to Church run — approx. 3× too short.

REQUIRED

Approximately 3× extension of the current Starlink cable kit length.

AP Wall Mounts

BOM-05

GAP OBSERVED

APs were placed on surfaces, not walls, during the mission.

REQUIRED

One wall mount per AP with hardware kit included.

Cable Management

BOM-06

GAP OBSERVED

One ground-run cable physically interfered with dental equipment; required manual workaround mid-mission.

REQUIRED

Clips, conduit, and overhead routing hardware. Safety-grade. No cables on the floor.

STATUS

Carried forward from Costa Rica 2026 — all six items remain unresolved.

New equipment for a 13-station mission.

Android Tablets (×13) BOM-07

GAP OBSERVED

Current tablet pool is insufficient for 13 fully active station accounts.

REQUIRED

13 Android tablets, one per station account.

Tablet Charging Hub BOM-08

GAP OBSERVED

No centralized overnight charging solution; tablets charged individually or left unsupervised.

REQUIRED

Multi-port charging hub with integrated cable management, safe for unattended overnight charging.

Firewall Appliance BOM-09

GAP OBSERVED

No dedicated network perimeter device in the current deployment. Required for Laredo HIPAA posture.

REQUIRED

Hardware firewall appliance for clinic network perimeter.

Stylus Pens (×13) BOM-10

GAP OBSERVED

Form input accuracy on small clinical fields requires precision touch; fingertip input creates errors.

REQUIRED

Tablet-compatible stylus, one per station.

Screen Protectors (×13) BOM-11

GAP OBSERVED

Tablets used in mixed outdoor and indoor clinical environments without screen protection.

REQUIRED

Anti-glare screen protectors, one per tablet.

NAS — Shared Storage BOM-12

GAP OBSERVED

Photo and document sharing required manual device-to-device transfer, causing delays at end of mission.

REQUIRED

Network Attached Storage on the clinic LAN — shared photo and document repository, all tablets.

DECISION REQUESTED

Total cost to be scoped — approve sourcing within 30 days.

Laredo is *not* a repeat of Costa Rica.

01	HIPAA Jurisdiction	US law governs everything from registration through referral. The compliance posture we used in Costa Rica is not transferable.
02	Physical Layout	A public street separates Registration / Triage from the clinical buildings. The network spans a right-of-way we do not control.
03	Patient Population	Cross-border patients with different identification and address conventions. Registration assumptions from Cabécar do not hold.
04	Registration Partner	Catholic Charities runs intake and prints to paper for our handoff. We design around a paper edge we did not own before.
05	Referral Network	Webb County Indigent Health, Gateway, Prevent Blindness. Real downstream relationships that survive the mission week.

Same EMR. Completely different configuration and network plan.

A three-step approach to compliance.

STEP 01 · DURING

Paper-first capture.

No real-time EMR exposure during the November Laredo mission. Every encounter is recorded on paper at the point of care.

STEP 02 · AFTER

Digital entry, controlled.

Paper-to-digital transfer is performed after the mission, in a controlled environment, by trained team members only.

STEP 03 · SUSTAINED

Year-round volunteers.

Recruit volunteer data-entry support that is auditable and scalable — the path toward fully digital operations in 2027.

GOAL Costa Rica April 2027 — the first fully digital, fully compliant MMDM mission.

RISK A single audit finding could shut MMDM out of US operations permanently. *We do not rush.*

From feedback to forms.

14

Volunteer responses analyzed from the post-mission survey.

8

Clinical stations documented with workflow notes.

5

Forms specified against station workflows.

1

Comprehensive build brief consolidating it all.

Minnie Davidsohn

Former Epic EMR · Medical workflow review

CONFIRMED

Linda

Dental form authority (referred by Cathy)

CONTACT REQUESTED

Dr. Carol Gambrill

Laredo dental & referrals (referred by Dr. Byrd)

CONTACT REQUESTED

Janice Holley

Vision Lead · will review the vision form

AVAILABLE

Feedback from the field.

14 of 38 volunteers responded. Every clinical station documented.

14
Volunteer responses analyzed
Across all 8 stations

50
Form design changes specified
Vision · Dental · Medical · Triage

2
Critical patient safety flags
Emergency MOU + Sterilization

8
Clinical stations documented
Full workflow notes captured

FORM CHANGES · HIGHLIGHTS

— Registration: dual surname, datetime fields, 3 new vitals (Pulse Ox, RR, LMP)

— Medical: dedicated Dx prompt, non-sequential entry, structured 6-field Rx

— Vision: Eyeglass Assembly row, Rx Sunglasses row, 4 redundant fields removed

— Dental: split Procedures from Rx, visit status dropdown, allergy auto-surface

OPERATIONAL · ITEMS

⚠ Emergency MOU required — ambulance refused transport mid-mission

⚠ Sterilization bleach concentration unverified — chlorine test strips needed

— Network: 6 BoM items identified, pending leadership approval

— Vision: glasses inventory gaps + male reader supply deficit flagged

> *A structured volunteer-feedback dataset that drives every form-design decision going forward.*

The platform already lives here.

CAPTURE

Power Apps

Tablet-optimized forms, one per station. Offline-capable — data queues and syncs on reconnect. Volunteers see only the fields their station needs.

Runs on existing Android tablets

STORE

SharePoint

All patient and dispensing data lands in Microsoft 365. Year-over-year records accumulate automatically. Accessible from any authorized device.

Already licensed — zero added cost

REPORT

Power BI

Live dashboard for the evening presentation. Post-mission analysis. Vision inventory by item and by lens strength — no manual counting.

Real-time on any screen

For US missions requiring HIPAA compliance — **Microsoft 365 BAA is available.** Same data, same forms, upgraded security posture.

INTERLUDE

EMR *Walkthrough*

Live, on the rebuilt installation.

Demo · 01

OpenEMR login on a station account.

Demo · 02

Patient creation on the rebuilt installation.

Demo · 03

Current form layouts as they exist today.

Demo · 04

Direction of the build toward Laredo.

Recruiting — status board.

#	CHANNEL	STATUS	WHAT IT DOES
01	**Microsoft Form** Skill-area intake	ACTIVE	Screens candidates by skill area to match them to **specific mission roles**. Live and accepting submissions.
02	**Campus Pamphlets** Houston-area university outreach	IN PROGRESS	Print and distribution for **first-time missioners** in low-barrier roles. Materials in design; distribution begins Q3.
03	**Career Fairs** Technical & healthcare students	TO BE DETERMINED	Researching **Houston-area Fall 2026 events** aligned to technical and healthcare programs. Shortlist in progress.

The path to April 2027.

NOW · JUN 2026

Form Build & BoM

- Forms in active build
- Linda & Gambrill outreach
- BoM approval requested

JUL – SEP 2026

Hardening & Survey

- Form lock-in
- HIPAA features hardened
- Laredo site survey

OCT 2026

Pre-Mission Dry Run

- Network deployment plan
- Volunteer training
- Full dry run

NOV 2026

Laredo Mission

- Paper-first capture
- Post-mission entry plan
- Real-time documentation

DEC '26 – APR '27

Path to Fully Digital

- Post-Laredo data entry
- HIPAA hardening complete
- First fully digital mission

NORTH STAR

April 2027 — the first fully digital, fully compliant MMDM mission.

Five decisions, today.

1

Approve BoM sourcing within 30 days.

Greenlight to begin equipment procurement against the twelve-item bill of materials (BOM-01 through BOM-12).

2

Introduction to Linda — dental form authority.

Warm intro via Cathy. Needed to lock the dental specification.

3

Introduction to Dr. Carol Gambrill.

Laredo dental & referral network, per Dr. Byrd.

4

Endorse the paper-first HIPAA hybrid.

For Laredo November 2026 — written endorsement from leadership.

5

Support the recruiting plan.

Microsoft Form, campus pamphlets, career fairs — three-channel approach.

Five clear asks. No ambiguity.

Questions?