

EPILYRA: OFFICIAL USER GUIDE



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Zero-Latency Syndromic Surveillance in Humanitarian Crises

1. Introduction: What is EpiLyra?

Welcome to EpiLyra. In a disaster setting, a Cholera epidemic does not wait for paper forms to be digitized and analyzed. EpiLyra is a two-part system designed to save lives by moving the timeline from *noticing a symptom in the field* to *intervention by an epidemiologist* to near zero.

This guide is divided into two sections: **Part A** for the Community Health Worker (CHW) in the field, and **Part B** for the Epidemiologist at headquarters.

PART A: For the Community Health Worker (Field App)

Your job is exhausting, and your time is critical. EpiLyra is designed to have **zero friction**. You do not need to type long paragraphs or navigate complex forms.

1. The Top-Threat Matrix

When you open the app, you will not see a blank form. You will see a simple matrix of primary syndromes (e.g., Fever, Respiratory, Gastrointestinal) based on the Sphere Project's minimal health action benchmarks.

- **Action:** Simply tap the primary syndrome you are observing.

2. Adaptive Branching

Once you tap a primary syndrome, the app instantly opens specific secondary options tailored to the known epidemiology of your specific camp or region.

3. Multimodal Input (Skip Typing)

If you do not have time to tap through menus, use the multimodal features:

-  **Voice Notes:** Tap the microphone and simply describe what you see (e.g., "Patient has acute watery diarrhea and severe dehydration"). The AI will automatically transcribe and code this.
-  **Images:** Take a photo of the symptom or the environment.

4. Data Privacy & Offline Mode

- **No PII:** Do not record the patient's name. The app locks down personal data at the local level to protect vulnerable populations.
- **Offline Mode:** If the grid fails, keep recording. EpiLyra will store the data securely on your device and instantly push it to headquarters the moment you catch a signal.

PART B: For the Epidemiologist (Dashboard)

You are dealing with too much messy data. EpiLyra's **Clarity Engine** acts as your automated assistant, operating in two layers to give you clean, actionable intelligence.

1. The Semantic Parser (Standardization)

You no longer need to manually clean Excel sheets. As data flows in from CHWs (whether text, voice, or image), EpiLyra's AI instantly matches the field data with the most plausible **WHO ICD-11 classification codes**. You receive clean, standardized data in real-time.

2. The Spatial Anomaly Trigger (Alerting)

You do not need to constantly refresh the map to look for outbreaks.

- EpiLyra continuously monitors the baseline health data within specific geospatial radiuses.
- If the algorithm detects a sudden spike or variation in the baseline (e.g., a cluster of ICD-11 codes for acute respiratory distress in Sector 4), **it will generate an immediate, automated alarm.**
- **Action:** When an alarm triggers, review the standardized data cluster and design your intervention immediately.

3. Antifragile Surveillance

By relying on EpiLyra to clean, align, and analyze the data, you save hours of logistical workload. Your focus shifts entirely from *data management* to *public health response*.