VitaAlert Health Grid

THE PLAYBOOK · PROTOTYPE · 2026

Move faster than the outbreak.

An AI-assisted operational intelligence platform for epidemic response — predicting where an outbreak is moving, coordinating the field, and directing scarce resources before transmission expands. Built offline-first for low-resource, low-connectivity environments.

Ministries of Health · Africa CDC · WHO-aligned responders · NGOs · Community health workers

INSIDE

01 THE PROBLEM

The outbreak is already spreading. The response is a step behind.

In low-resource settings the decisive weakness is no longer only detection — it is the days lost between a case appearing and a coordinated response reaching it. Every day the response lags, transmission compounds.

14–21d

Median lag from index case to coordinated alert in low-resource settings (WHO IDSR + post-event reviews).

<72h

Detect-and-respond window needed to hold a Filovirus or Mpox outbreak below exponential growth.

3.5×

Growth in zoonotic spillover events since 2000 — driven by climate, urbanisation, and migration.

THE REAL QUESTION

It is no longer whether outbreaks continue — it is whether prediction, coordination, and resource movement can outrun transmission.

02 THE GAP

The tools that exist weren’t built for the last mile.

Existing systems assume connectivity the worst-affected zones don’t have, and none turn scattered field reports into a forecast of where the outbreak is heading next.

TODAY

Paper forms take days to reach a database while cases double weekly. Web-only, hospital-centric tools go dark where there is no network. Coordinators drown in undifferentiated reports.

THE COST

The response stays reactive — chasing cases instead of getting ahead of the corridor the outbreak is travelling.

WITH VITAALERT

Offline-first field intelligence, explainable AI triage, and forecasting turn every report into a live picture of where the outbreak is moving and where to act.

THE SHIFT

From reacting to cases → to positioning teams and supplies before cases arrive.

03 WHAT IT DOES

Predict. Coordinate. Deploy.

One operating loop that gets responders ahead of the spread — from a community health worker's phone to a national command dashboard.

PREDICT

Where it's heading next

Forecast likely spread across villages, corridors, markets, and borders over the next days and weeks.

COORDINATE

One operating picture

Cases, risks, resources, facilities, and contacts in a single real-time view shared across responders.

DEPLOY

Resources to the right place

Direct teams, PPE, ambulances, beds, and lab capacity where they'll matter before cases arrive.

IN ONE LINE

The problem isn't only detecting Ebola → once it's spreading, the need is to predict where it's going, coordinate the response faster, and move scarce resources to the right place first.

04 THE PLATFORM

Four operational layers, built to interoperate.

Mobile-first, AI-augmented, offline-resilient — and designed to plug into the systems responders already use, not replace them.

FIELD

Offline field intelligence

Android app for community health workers. Structured cases plus rumours, unexplained deaths, and funerals. Multilingual (EN/FR/SW); syncs when connectivity returns.

INTELLIGENCE

Explainable AI + forecasting

Risk scoring with a plain-language rationale, cluster and super-spreader detection, and a forecast of likely next hotspots.

OPERATIONS

Mission-control dashboard

Live geospatial view, contact-transmission graph, and resource-stress modelling for PPE, beds, and clinic capacity.

COORDINATION

Cross-border workflow

IHR (2005) notifications, WHO / Africa CDC pathways, and a full audit trail for after-action review.

05 WHERE IT ACTS

Six intervention points across the outbreak lifecycle.

The platform creates value at each stage a pathogen moves through a population.

Spillover detection

AI RISK IN <3S

Symptoms, exposure, and outbreak proximity scored at the point of contact — no connectivity needed.

Community spread

CONTACT CLUSTERING

Household, funeral, and market exposure mapped in real time; clusters flagged before hospital presentation.

Cross-border movement

IHR ALERT IN <1H

Corridor crossings surfaced against the contact graph; IHR (2005) notification triggers automatically.

Cluster amplification

SUPER-SPREADER FLAGS

High-density transmission nodes identified so investigation and containment can focus fast.

Resource saturation

7-DAY FORECAST

PPE, isolation beds, and clinic capacity stress-modelled a week ahead, routed to the nearest capacity.

Coordinated response

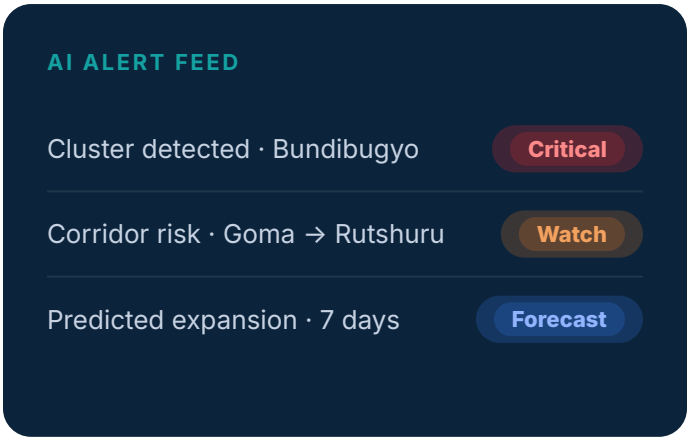
HUMAN-APPROVED

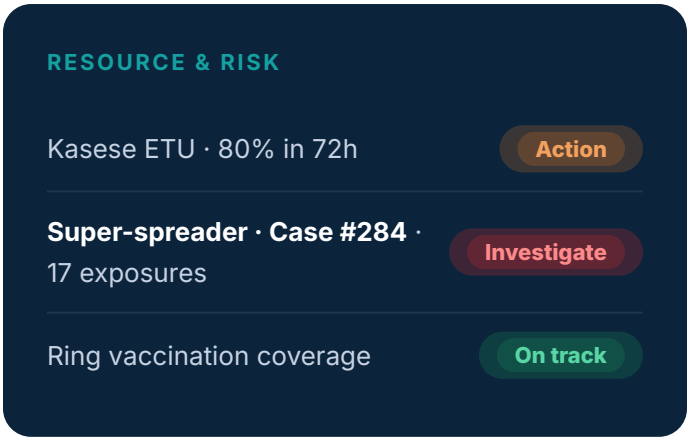
Ranked interventions proposed with rationale and a human approval gate — AI augments, never replaces.

06 WHAT YOU SEE

A shared operating picture, updated in real time.

Every field report becomes an alert, a forecast, or a resource decision on one screen — with the reasoning attached.





EXPLAINABILITY

Every score shows its drivers — e.g. “High risk: haemorrhagic symptoms + funeral exposure + within 5km of an active cluster.” The AI flags and ranks; the human decides.

07 THE 14-DAY STORY

From one phone report to a coordinated response.

How the operating loop plays out over a fortnight of an outbreak.

Day 1 A CHW in Kasenyi reports a suspected case — fever, haemorrhagic signs, recent funeral. AI scores it **CRITICAL in under 3 seconds**, fully offline.

Day 5 A trader carries the outbreak toward the Uganda border. VitaAlert flags the corridor and an **IHR (2005) notification fires within the hour**.

Day 7 One click surfaces a **super-spreader — 11 downstream exposures** across three villages. Weeks of manual tracing, instantly.

Day 10 With 64 cases across 5 districts, VitaAlert proposes **ranked actions** — forward base, ring vaccination, added beds — each with a human approval gate.

Day 14 R-effective holds **below 1**. 86% of cases under monitored isolation. The after-action review begins automatically.

> **NOTE**
>
> A simulated scenario in the DRC–Uganda Albertine corridor — illustrative of the operating model, not field-validated results.

08 WHO IT SERVES

One platform, every actor in the response.

VitaAlert is an operational layer shared across the people who run the response — from the village to the continental command.

INSTITUTIONAL & OVERSIGHT

- Ministries of Health
- Africa CDC
- WHO AFRO
- Border health authorities
- National laboratories

FIELD & HUMANITARIAN

- Community health workers
- Clinics & ETUs
- NGOs — MSF, IRC, Red Cross
- Response coordinators
- Donor programmes

Each sees the same outbreak at the right resolution and decision authority. →

09 WHY IT MATTERS

The objective isn’t more alerts.

It is faster containment, fewer deaths, and stronger epidemic resilience — measured in outcomes, not dashboards.

Faster containment

Compress the gap between spread and response — the variable that most decides whether an outbreak is held at tens or escalates into thousands.

Fewer deaths & HCW infections

Earlier isolation, protected responders, and safer facilities as PPE and overload risks are surfaced first.

Scarce resources, well spent

Teams, beds, and lab capacity directed to the points that matter — before cases arrive.

THE BOTTOM LINE

Less human, institutional, and economic cost per outbreak → and a field network that grows stronger between them.

10 WHY NOW

The window to build the last-mile layer is open.

Three forces converge — and the response architecture VitaAlert plugs into is live today.

- **Accelerating spillover.** Zoonotic events have more than doubled since 2000; the human–wildlife interface keeps widening across sub-Saharan Africa.
- **The response architecture is live.** The 2026 Africa CDC–WHO continental plan, national incident-management structures, and IHR (2005) mechanisms are active — VitaAlert is the missing last-mile layer, not a competing system.
- **Institutional & donor alignment.** Ministries, responders, and mission-aligned funders are actively seeking field-deployable AI for outbreak response.

Build the last mile with us.

We're standing up a supervised pilot in the DRC–Uganda Albertine corridor — and inviting ministries, responders, and mission-aligned funders to shape it. VitaAlert supplies the platform, training, and field support; partners retain full ownership of their data.

Partner or pilot with us →

Read the Scientific Brief →

Talk to us →

VitaAlert Health Grid is a prototype in active development. We're raising a catalytic round to fund the pilot and an independent evaluation — figures on request. info@vitaalert.org