



**EWARS in a box**  
Early Warning, Alert and Response System

# EWARS in a box

**Electronic Early Warning, Alert,  
and Response System in emergencies**



**World Health  
Organization**

WHO Health Emergencies Program

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# When emergency happens, it...



**Displaces**  
populations to  
temporary camps,  
shelters or  
settlements



**Disrupts**  
pre-emergency  
surveillance  
mechanisms



**Damages**  
existing health  
centers,  
demanding  
reporting from  
newly settled  
temporary  
health facilities,  
field and camps  
clinics, mobile  
clinics, and the  
community



**Deranges**  
WASH and  
shelter  
conditions  
increasing risk  
of spread of  
outbreak,  
while poor  
nutrition and  
food security  
threatens high  
mortality

# Why Early warning, alert and response is important in emergencies?



**Emergencies increase risk of spread of communicable diseases**

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**Detecting communicable disease outbreaks early ensures reduction of preventable morbidity and mortality**

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**Ensuring effective disease early warning system in emergencies is a core commitment of WHO emergency response (WHO Emergency Response Framework)**



# How does EWARS in a box work?

## EWARS in a box mobile application

**Collect data with EWARS in a box mobile application**

## EWARS in a box web

**Manage alerts, and response at the surveillance office**

### Interacts

**with the field  
with laboratories  
with response teams**





# What does EWARS in a box offer?

## Real-time reporting from the field

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**From the primary health care when a clinician suspects a disease from the community, or a rumor is heard**

## Interactive alert management

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**Alert verification, risk assessment, and confirmation between the field, surveillance office and the laboratory**

## Line-listing when an outbreak is identified

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**Real-time mobile reporting can be established from treatment centres and hospitals for case-based data**

## Advanced data analysis, GIS mapping

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**In-built plots, mapping, notebook functions for data analysis**

## Easy data visualization and dissemination for rapid response

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**Automated bulletins, dashboards and websites**

# EWARS in a box is always ready to be deployed...

**Emergencies allow no time for procurement, not enough human resources to assemble equipment to collect data**

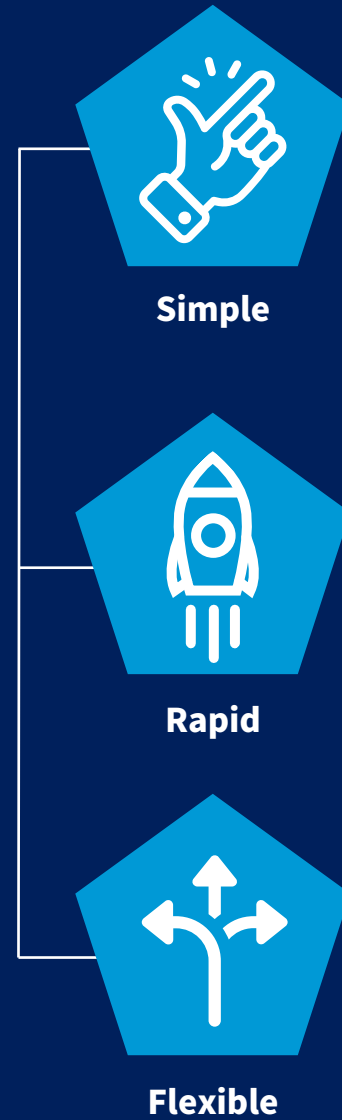
**EWARS in a box  
is always ready  
to be deployed  
within 48hrs  
of emergency  
being declared**

**Each KIT supports  
50 Primary care  
facilities  
= 500 000 population**



**EWARS in a box is designed with the needs of frontline users in mind.**

**It is a simple, rapidly deployable and flexible tool.**





## Since 2015...

**EWARS in a box has supported over 100 Million emergency-affected population across regions**



**with early warning of disease outbreaks**

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**with response when outbreaks were detected e.g. Cholera, Measles outbreaks**

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**Early warning around specific disease outbreaks e.g. Ebola, Hep A outbreaks**

# Key areas of EWARS in a box?

## Collect data from various sources

### Primary health care

- Camp clinics
- Mobile clinics
- PHCs
- Field laboratories

### From the community

- CHWs
- CHVs
- Hotlines
- Community itself

## Alerted to disease outbreaks

### Interactive alert management between the field and the surveillance office

- Use standard case definitions
- Use standard alert thresholds
- System-generated alerts for increasing trends, seasonal increments

## Response

### Interactive response with the field, surveillance office, lab and response teams

- Direct lab confirmation with unique identifiers
- Line-listing during outbreaks
- Data analysis
- Data dissemination



# Can EWARS in a box mobile work in difficult emergency settings?

## Yes, Can.



**under reliable internet**

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**via EWARS-in-a-mobile app**

**in settings with unreliable internet connection**

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**via EWARS in a box SMS gateway app**

**in remote localized settings with no internet**

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**Mobile reporting with hotspots via QR code scanning**



## EWARS in a box web



**Supports the surveillance office  
at sub-national and national level**

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**Supports surveillance officers to manage  
alerts timely, interactively with the field**

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**Supports advanced data analysis,  
and visualization**

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**Supports data dissemination with  
response teams, health partners**

# EWARS in settings with unreliable internet connection

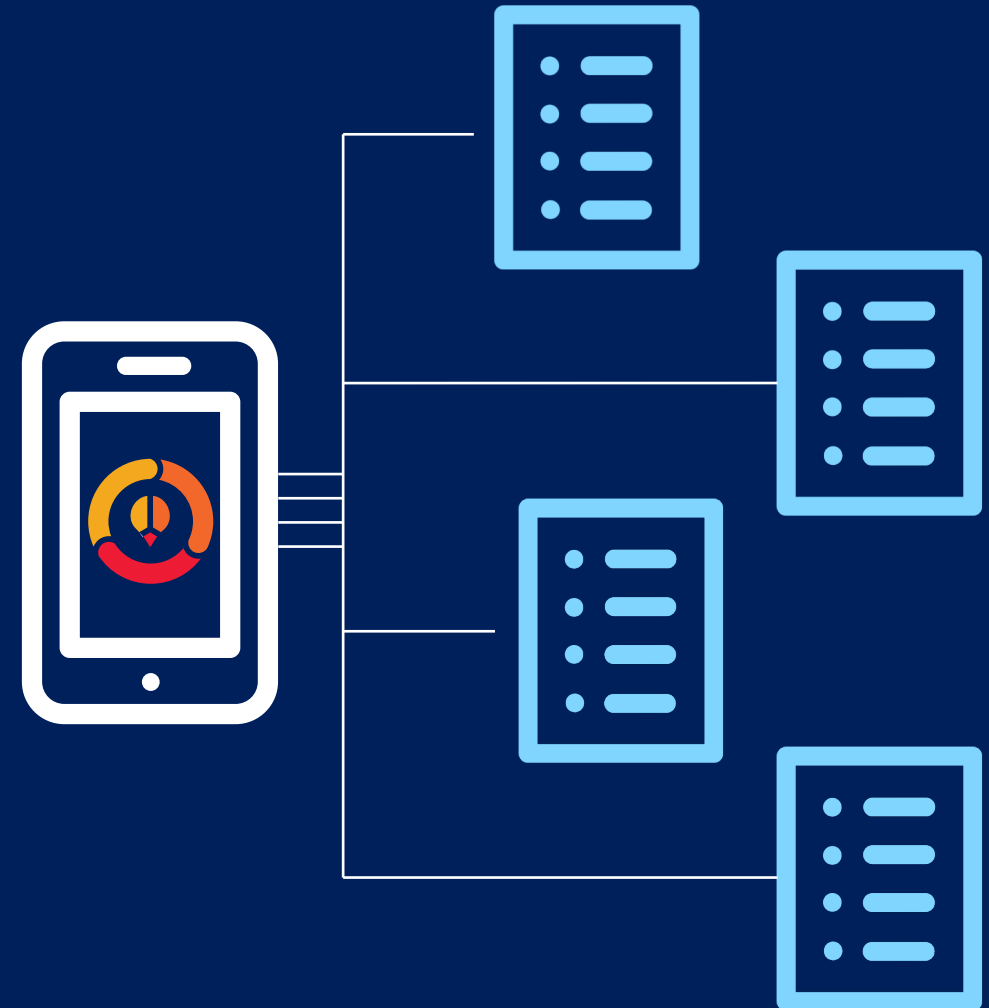
**EWARS mobile app collects data from various field settings**

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**Mobile app can contain any number of reporting forms, reporting is few clicks**

**Real-time reporting**

**Can be aggregated data or case-based data**



## Alert management

Real-time  
rumour  
reporting with  
event-based  
surveillance  
reporting forms

Indicator-  
based  
reporting  
from  
healthcare  
facilities

EWARS in a box  
system can be  
fed with  
standard alert  
thresholds –  
EWARS alerts  
the surveillance  
officer when  
reporting  
crosses set alert  
thresholds

EWARS in a  
box  
manages  
electronic  
alert logs









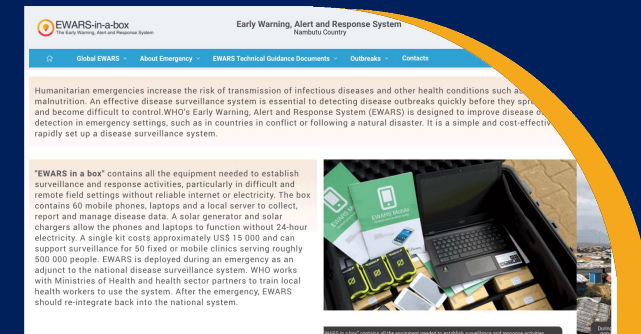
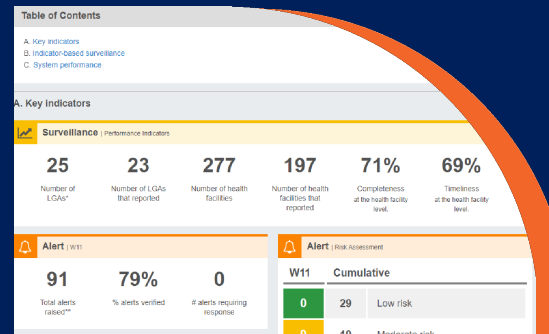
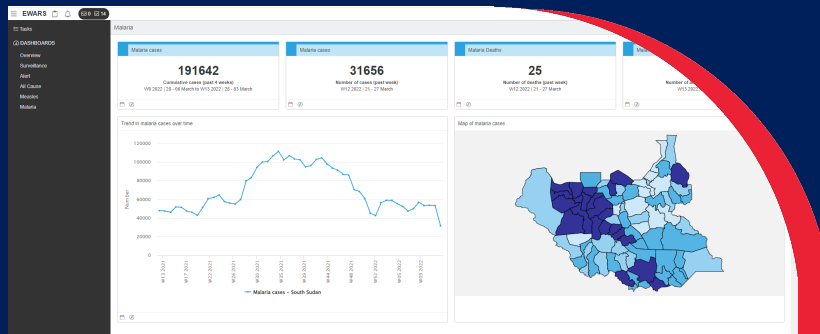
# EWARS in a box web supports surveillance office

It helps build...

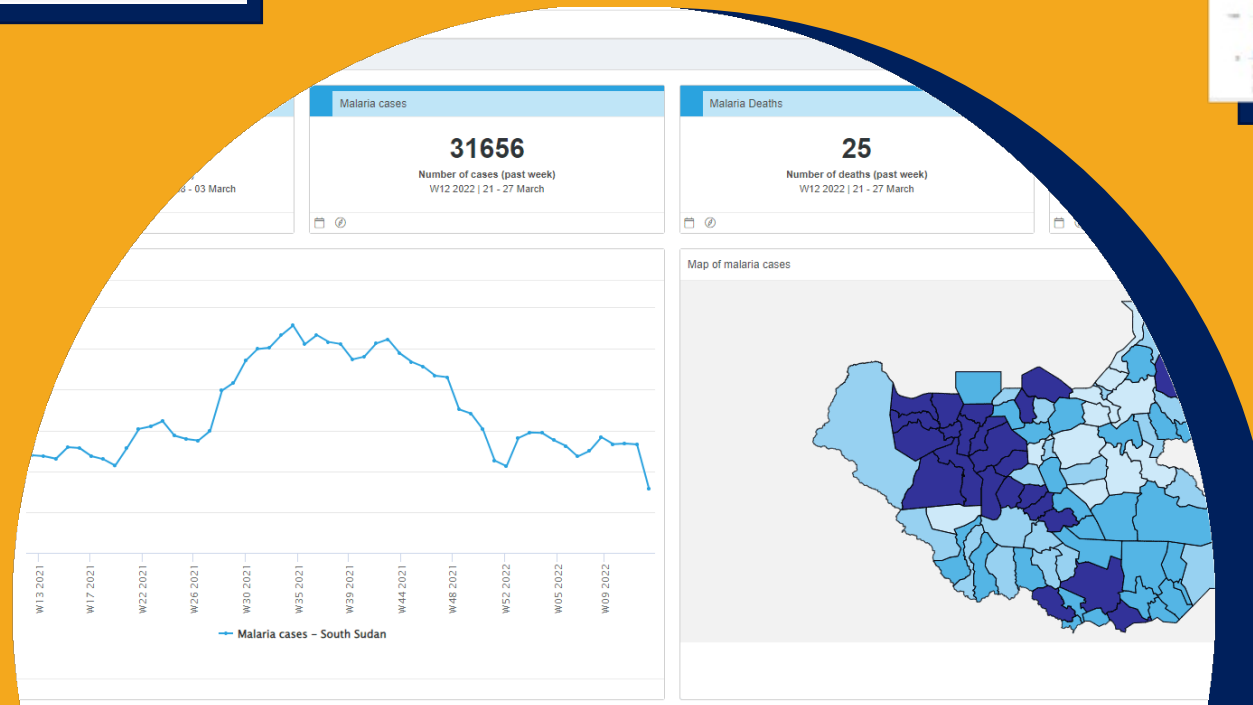
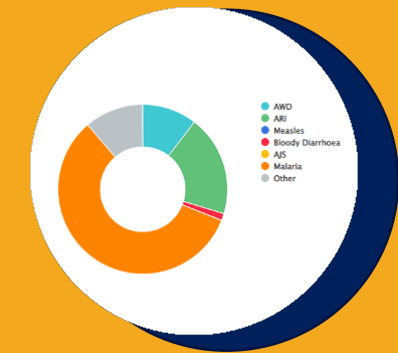
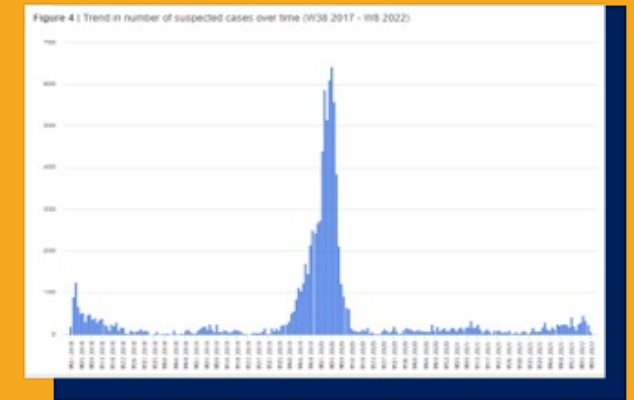
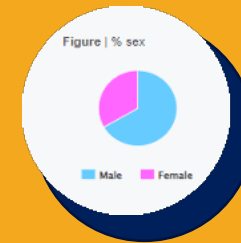
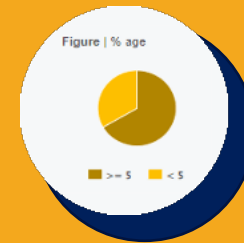
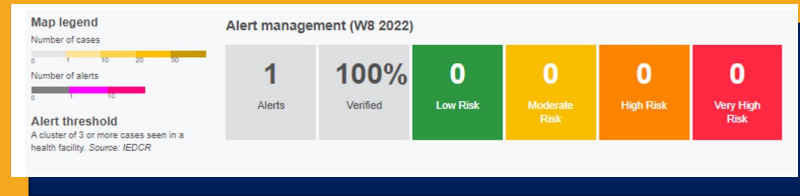
Automated EWARS  
bulletins

Dashboard

Web builder




# EWARS in a box support multiple dashboards depending on your needs





# Supports easy building of websites to connect with the public



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Outbreaks

Contacts


Humanitarian emergencies increase the risk of transmission of infectious diseases and other health conditions such as severe malnutrition. An effective disease surveillance system is essential to detecting disease outbreaks quickly before they spread, cost lives and become difficult to control. WHO's Early Warning, Alert and Response System (EWARS) is designed to improve disease outbreak detection in emergency settings, such as in countries in conflict or following a natural disaster. It is a simple and cost-effective way to rapidly set up a disease surveillance system.

"EWARS in a box" contains all the equipment needed to establish surveillance and response activities, particularly in difficult and remote field settings without reliable internet or electricity. The box contains 60 mobile phones, laptops and a local server to collect, report and manage disease data. A solar generator and solar chargers allow the phones and laptops to function without 24-hour electricity. A single kit costs approximately US\$ 15 000 and can support surveillance for 50 fixed or mobile clinics serving roughly 500 000 people. EWARS is deployed during an emergency as an adjunct to the national disease surveillance system. WHO works with Ministries of Health and health sector partners to train local health workers to use the system. After the emergency, EWARS should re-integrate back into the national system.



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During non-emergency settings



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During non-emergency settings

# Real-time laboratory reporting



**Laboratories can directly report  
to EWARS in a box via mobile app**

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**Real-time reporting when priority  
diseases are confirmed**



# Multilingual support



EWARS in a box can speak  
over **60 languages**  
in the mobile app and in  
the web interface.

# Stand-alone offline reporting

**For contexts with no reliable internet connection at the primary healthcare or community level, EWARS in a box can provide a stand-alone system.**

**Stand-alone  
System to  
collect data**



**Global  
EWARS**



**QR Code Sharing via mobile hotspots**

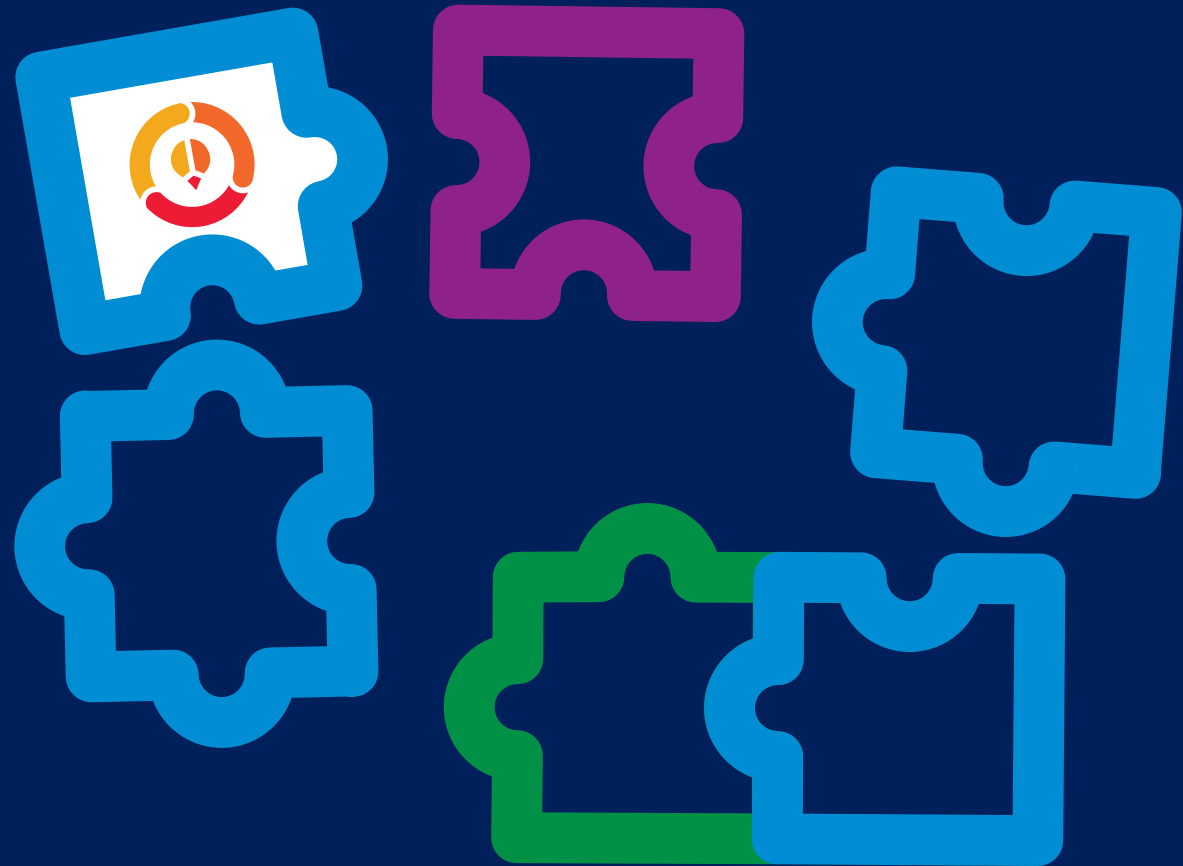


**Offline remote, inaccessible environments**

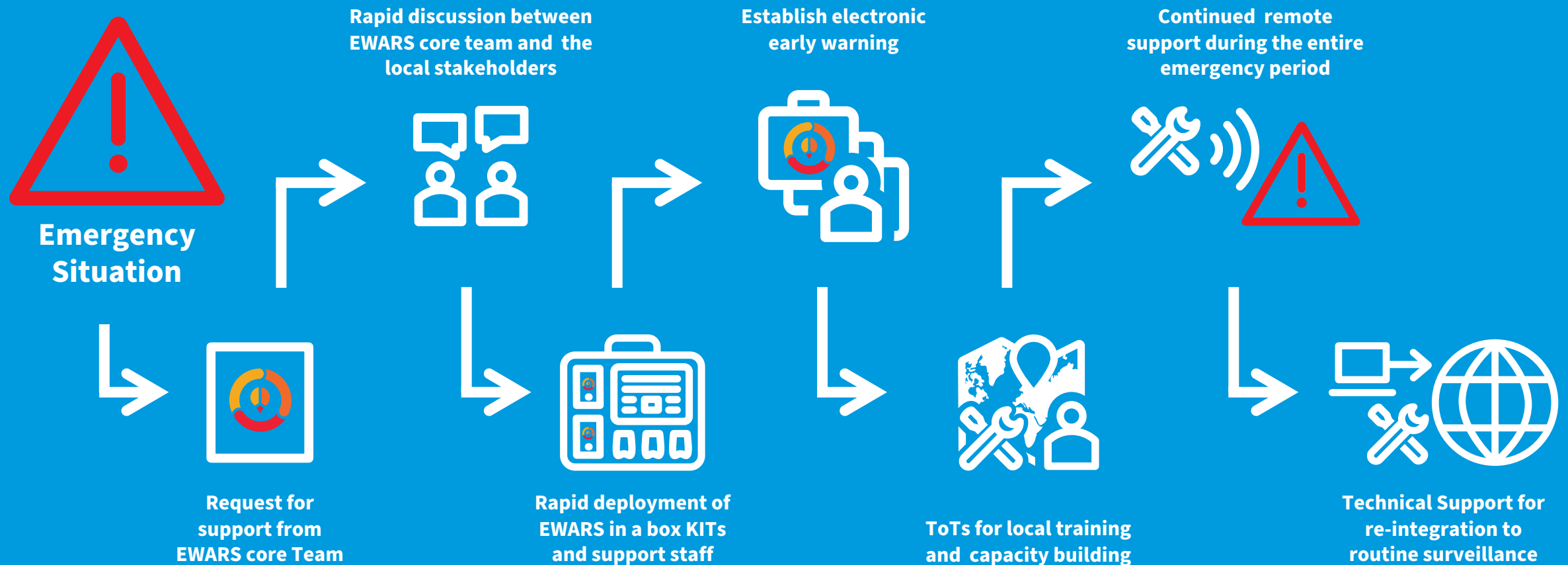


## Integration with other tools & platforms

**Introduction of APIs allows EWARS in a box to integrate with existing emergency, outbreak tools and health Information systems.**



# How to get EWARS in a box support in a crisis?





# EWARS in a box

Early Warning, Alert and Response System

**EWARS in a box is fully supported by  
WHO Health Emergencies Program**

**Please write to us**  
**[ewars@who.int](mailto:ewars@who.int)**

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**Visit us at**

**<https://www.who.int/emergencies/surveillance/early-warning-alert-and-response-system-ewars>**



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