

# WHO Prequalification of In Vitro Diagnostics

## WHO post-market surveillance for HIV related IVDs

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World Health Organization



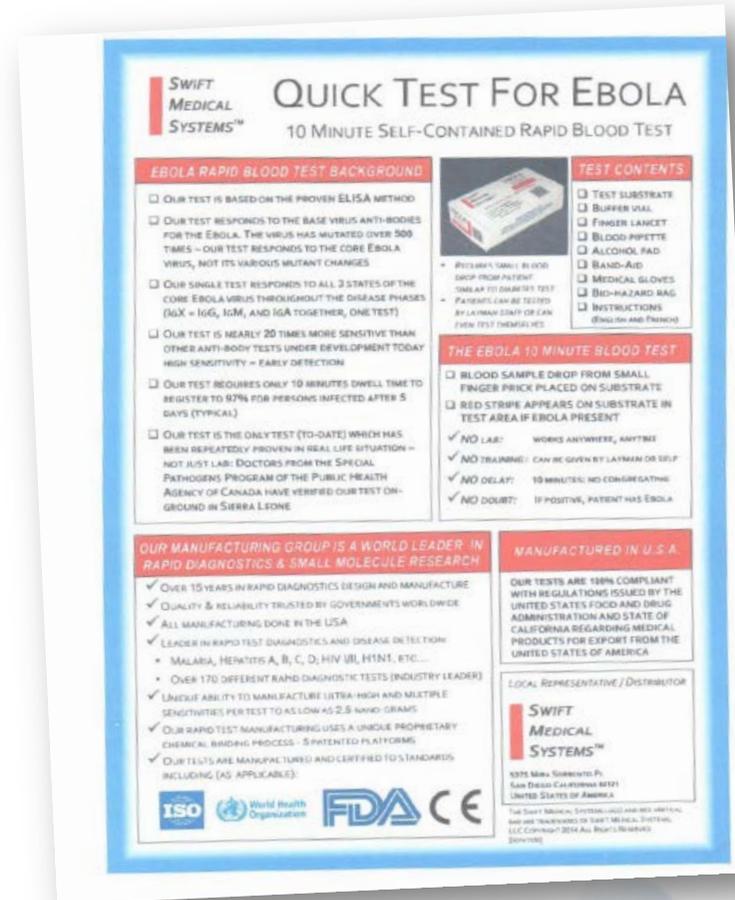
# About post-market surveillance of IVDs

- **Some quality, safety and performance issues may only arise after an IVD is placed on the market**
- **Requirements for post-market activities by manufacturers are listed in:**
  - ISO 9001, ISO 13485, ISO 14971



# About post-market surveillance of IVDs

- Adequate post-market surveillance is necessary to detect, investigate and act on any issues that could or have compromised individual health or public health related to use of an IVD



**SWIFT MEDICAL SYSTEMS™** **QUICK TEST FOR EBOLA**  
10 MINUTE SELF-CONTAINED RAPID BLOOD TEST

**EBOLA RAPID BLOOD TEST BACKGROUND**

- OUR TEST IS BASED ON THE PROVEN ELISA METHOD FOR THE EBOLA. THE VIRUS HAS MUTATED OVER 500 TIMES – OUR TEST RESPONDS TO THE CORE EBOLA VIRUS, NOT ITS VARIOUS MUTANT CHANGES
- OUR SINGLE TEST RESPONDS TO ALL 3 STATES OF THE CORE EBOLA VIRUS THROUGHOUT THE DISEASE PHASES (IgX + IgG, IgM, AND IgA TOGETHER, ONE TEST)
- OUR TEST IS NEARLY 20 TIMES MORE SENSITIVE THAN OTHER ANTI-BODY TESTS UNDER DEVELOPMENT TODAY  
HIGH SENSITIVITY – EARLY DETECTION
- OUR TEST REQUIRES ONLY 10 MINUTES DWELL TIME TO REGISTER TO 97% FOR PERSONS INFECTED AFTER 5 DAYS (TYPICAL)
- OUR TEST IS THE ONLY TEST (TO-DATE) WHICH HAS BEEN REPEATEDLY PROVEN IN REAL LIFE SITUATION – NOT JUST LAB: DOCTORS FROM THE SPECIAL PATHOGENS PROGRAM OF THE PUBLIC HEALTH AGENCY OF CANADA HAVE VERIFIED OUR TEST ON-GROUND IN SIERRA LEONE

**TEST CONTENTS**

- TEST SUBSTRATE
- BUFFER VIAL
- FINGER LANCET
- BLOOD PIPETTE
- ALCOHOL PAD
- BAND-AID
- MEDICAL GLOVES
- BIO-HAZARD BAG
- INSTRUCTIONS (ENGLISH AND FRENCH)

**THE EBOLA 10 MINUTE BLOOD TEST**

- BLOOD SAMPLE DROP FROM SMALL FINGER PRICK PLACED ON SUBSTRATE
- RED STRIPE APPEARS ON SUBSTRATE IN TEST AREA IF EBOLA PRESENT

✓ **NO LAB:** WORKS ANYWHERE, ANYTIME  
✓ **NO TRAINING:** CAN BE GIVEN BY LAYMAN OR SELF  
✓ **NO DELAY:** 10 MINUTES; NO CONGRATULATIONS  
✓ **NO DOUBT:** IF POSITIVE, PATIENT HAS EBOLA

**OUR MANUFACTURING GROUP IS A WORLD LEADER IN RAPID DIAGNOSTICS & SMALL MOLECULE RESEARCH**

- ✓ OVER 15 YEARS IN RAPID DIAGNOSTICS DESIGN AND MANUFACTURE
- ✓ QUALITY & RELIABILITY TRUSTED BY GOVERNMENTS WORLDWIDE
- ✓ ALL MANUFACTURING DONE IN THE USA
- ✓ LEADER IN RAPID TEST DIAGNOSTICS AND DISEASE DETECTION:  
• MALARIA, HEPATITIS A, B, C, D, HIV, ULL, HTLV, ETC...
- ✓ OVER 170 DIFFERENT RAPID DIAGNOSTIC TESTS (INDUSTRY LEADER)
- ✓ LINEAR ABILITY TO MANUFACTURE ULTRA-HIGH AND MULTIPLE SENSITIVITIES PER TEST TO AS LOW AS 2.5 NANO-GRAMS
- ✓ OUR RAPID TEST MANUFACTURING USES A UNIQUE PROPRIETARY CHEMICAL BINDING PROCESS - 5 PATENTED PLATFORMS
- ✓ OUR TESTS ARE MANUFACTURED AND CERTIFIED TO STANDARDS INCLUDING (AS APPLICABLE):

**MANUFACTURED IN U.S.A.**

OUR TESTS ARE 100% COMPLIANT WITH REGULATIONS ISSUED BY THE UNITED STATES FOOD AND DRUG ADMINISTRATION AND STATE OF CALIFORNIA REGARDING MEDICAL PRODUCTS FOR EXPORT FROM THE UNITED STATES OF AMERICA

LOCAL REPRESENTATIVE / DISTRIBUTOR

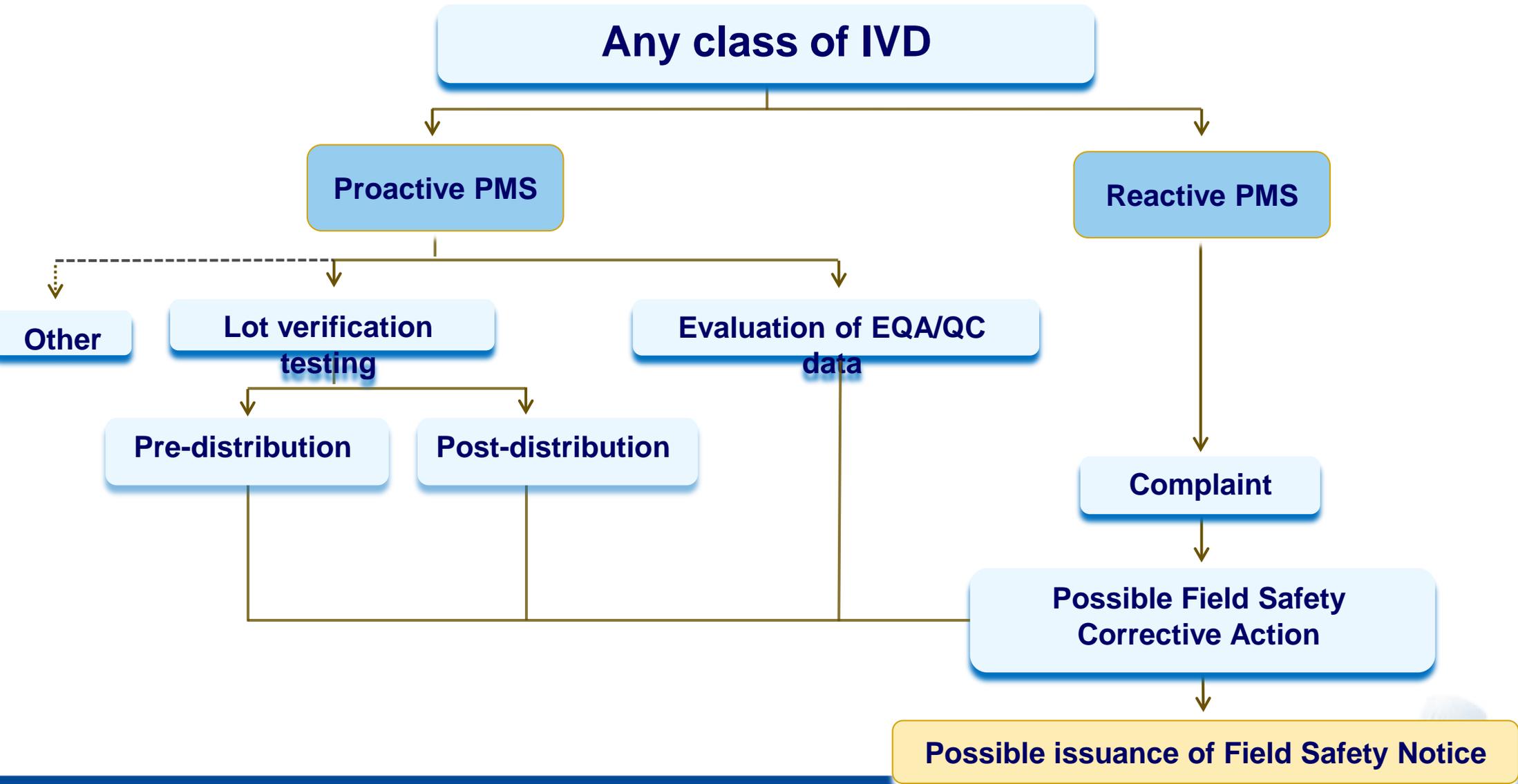
**SWIFT MEDICAL SYSTEMS™**

3575 MIWA, SUITE 210, P.O. BOX 210, SAN DIEGO, CALIFORNIA 92121, UNITED STATES OF AMERICA

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ISO World Health Organization FDA CE

# About post-market surveillance of IVDs



# Proactive post-market surveillance of IVDs

## Lot verification testing

Independent of the manufacturer

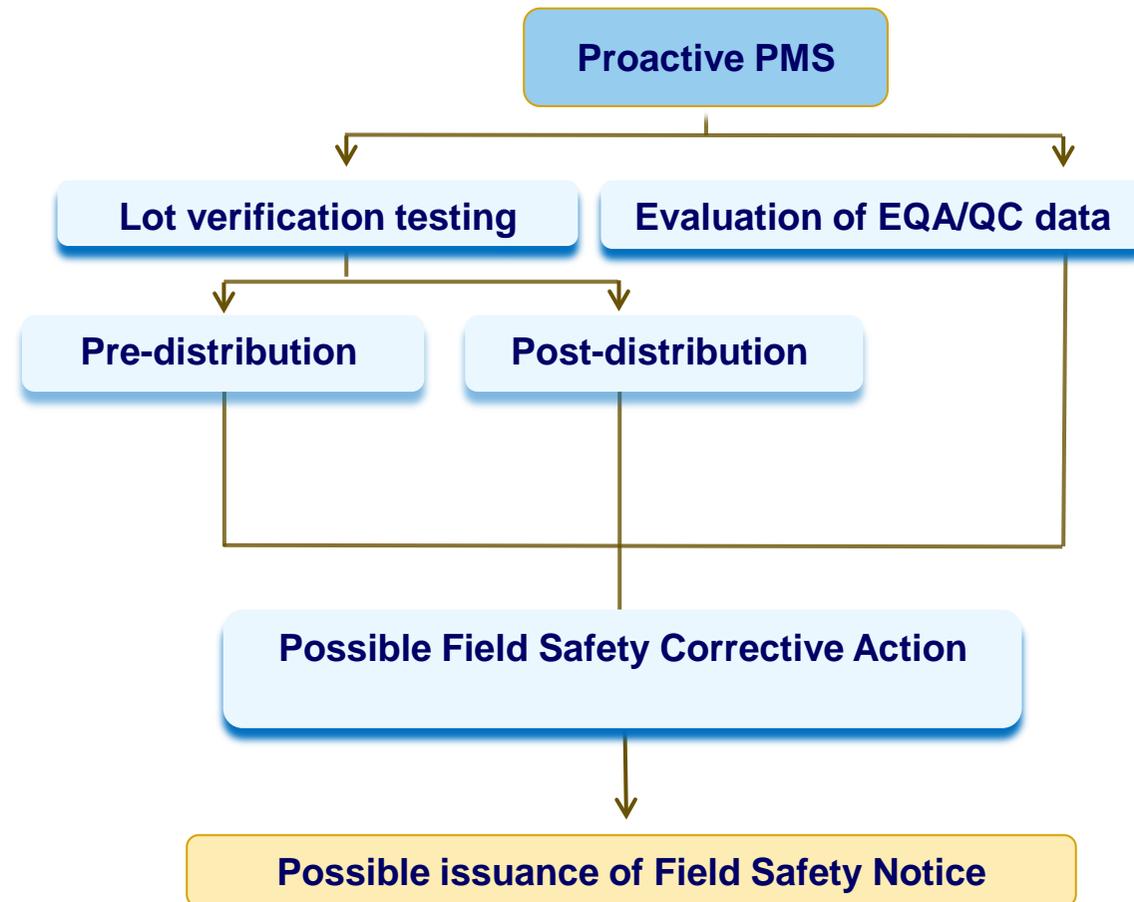
- Not lot release testing

Ensures that only lots meeting established criteria are delivered to users

- Using a risk-based approach

## Evaluation of EQAS and QC testing results

Across sites using the same assay, same/different lot



# Lot verification testing

## Sampling for lot testing

### Pre-distribution sampling

Systematically test all lots or test a random sample

Easier to prevent delivery of poorly performing lots to the testing sites

### Post-distribution sampling

Random lots from each level of health system

More difficult to recall defective lots

Individuals may already have been tested using those lots

May use a risk-managed approach to decide on sampling interval, depends on size of lot and evidence of previous acceptable testing results



# Lot verification testing

- Lot verification by suitably qualified laboratory using SOPs so that each lot testing event is consistent
- Through physical inspection of packaging, labelling and instructions for use
  - Looking for breaches of packaging that might affect stability
- Testing of samples from each lot of the same IVD
  - Against a well-characterized panel of specimens, same panel for both pre-distribution and post-distribution lot testing
- Lot acceptance criteria must be in place (pass/fail) for both inspection and testing



# Lot verification testing

## results of lot testing

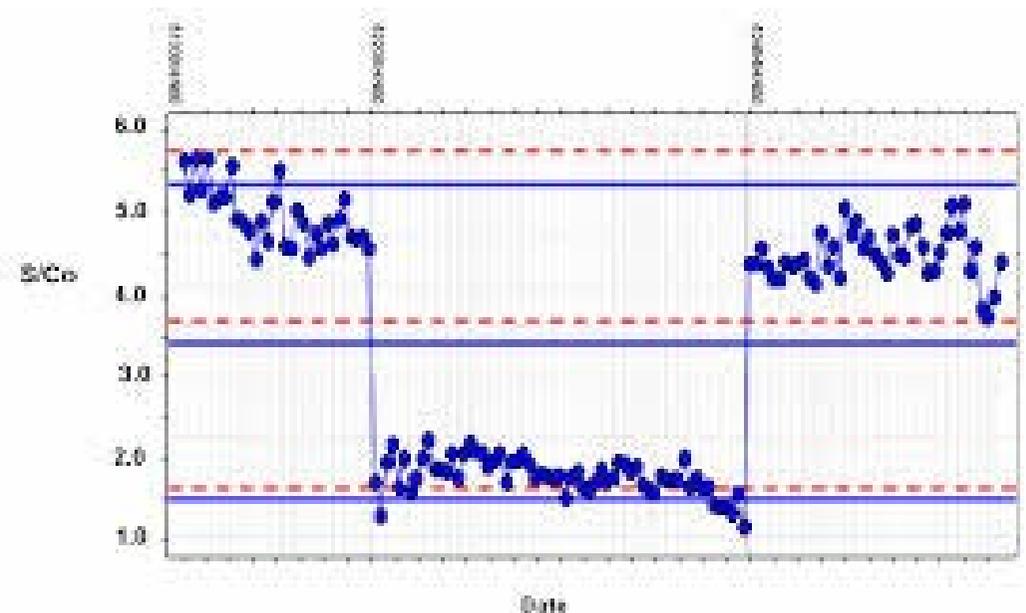
### Lot testing panel characterized by an agreed reference standard

- Reactive and nonreactive clinical specimens
- Diluted specimens to test analytical sensitivity (LoD) (ensure appropriate matrix for dilution)
- Record invalid rates and other anomalies as these are significant too
  - Incomplete clearing, high background, faint lines



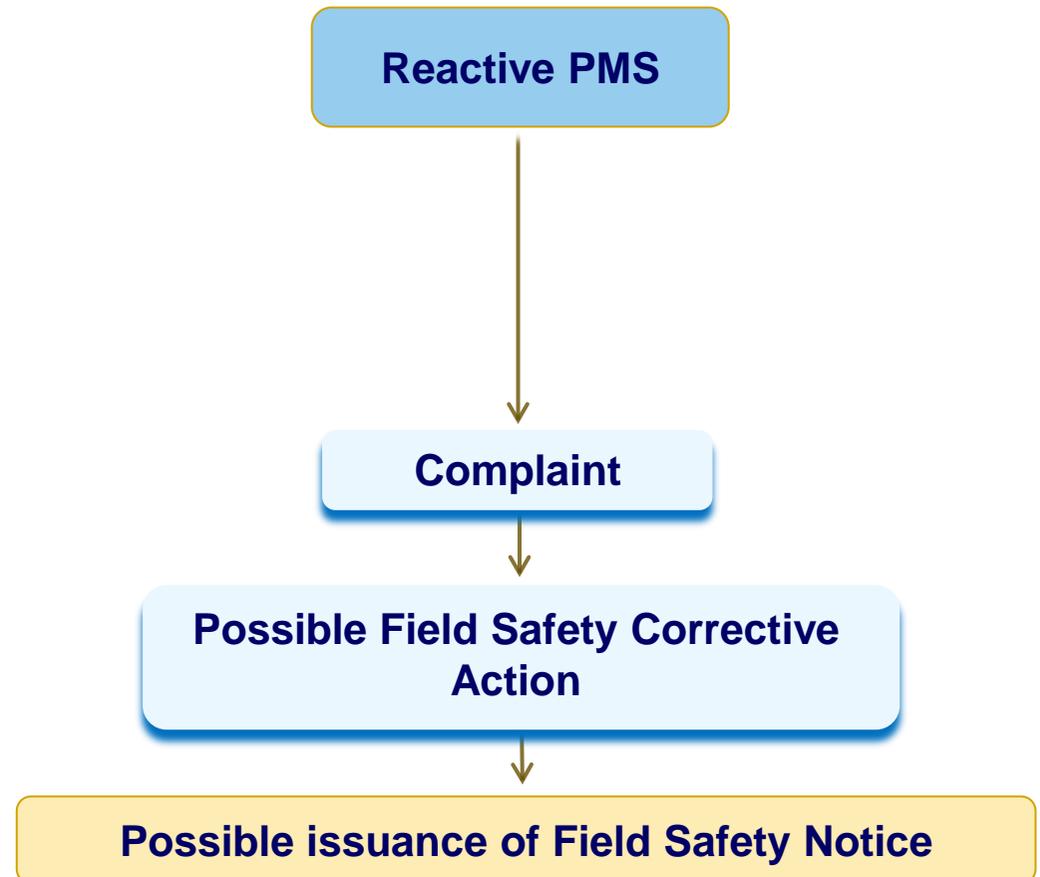
# Evaluation of EQA/QC data

- Review data from external quality assessment schemes (proficiency testing) and end-user QC
- Greatest value when there are many users are of the same assay
- Useful to report differences in performance such as this example of a shift (lot to lot)



# Reactive post-market surveillance of IVDs

- Reporting of administrative and technical complaints by end-users/procurers/implementers
- As soon as you become aware
- Ensures that any necessary FSCA is undertaken, and notified to users via a FSN
- e.g. lot recall, modification of test procedure (IFU), etc.



# Complaint reporting for users

 <b>Diagnostics and Laboratory Technology</b>		 <b>World Health Organization</b>	
<b>USER COMPLAINT FORM FOR REPORTING PROBLEMS AND/OR ADVERSE EVENTS RELATED TO DIAGNOSTIC PRODUCTS</b>			
<i>Send to:</i> <b>WHO Prequalification of Diagnostics, World Health Organization, 20 Avenue Appia CH-1211, Geneva 27 Switzerland Fax: +41 22 791 48 36 Email: diagnostics@who.int</b>			
<b>WHO Internal Use Only</b>			
Report Number:		Date received at DLT:	
<b>1. Contact details of the reporting person/organization</b>			
Name of organization:		Street Name and No.:	
City and postcode:		Country:	
Telephone:		Fax:	
Name and position of contact person:		Email of contact person:	
<b>2. Product details</b>			
Product name/commercial name/brand name:		Catalogue number:	
Serial number/batch number/lot number:		Expiry date:	
Associated devices/accessories:		Instructions for use version number:	
Distributor name and address:		Manufacturer name and address:	



# Complaint reporting for users

Serious	Moderate	Mild
Death of patient, user or other person	Any false HIV positive result	Deficiency found by the user prior to use
Serious injury of patient, user or other person	Anomalies that lead to a higher than expected rate of invalid, unreturnable or inconclusive results	Event caused by patient conditions
Death or serious injury of patient, user or other person <b><u>did not occur but might have occurred</u></b>		Service life or shelf life of medical devices exceeded
Any false HIV negative result		Malfunction protection against a fault operated correctly
	Negligible likelihood of occurrence of death or serious injury	
	Expected and foreseeable side effects	
	Adverse events described in FSN	



# Field Safety Corrective Action

- A FSCA is triggered when there is an unacceptable increase in risk associated with use of the IVD
- A FSCA is an action taken by the manufacturer to reduce a risk of death or serious deterioration in the state of health associated with the use of an IVD that is already placed on the market
- FSCAs may include:
  - return of IVD to supplier (recall) , IVD modification (including IFU), IVD exchange (swap-out), IVD destruction, retrofit by modification\design control (usually related to instruments)...



# Field Safety Notice

## If a FSCA is undertaken

- e.g. change to reading time to improve specificity, shortening of expiry date for a particular lot, etc.
- **End-users will be informed using a Field Safety Notice sent by the manufacturer, via their in-country distributor**
- **End-users should follow instructions of FSN and contact WHO when in doubt**



World Health Organization

WHO INFORMATION NOTICE FOR USERS

**Product name:** "Quick Test for Ebola", Swift Medical Systems™

**WHO identifier:** 2015/01

**Type of action:** Advice to users

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**Unauthorized use of WHO logo on promotional material for an Ebola in vitro diagnostic advertised for sale in Equatorial Guinea**

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**Date:** 28/01/2015

**Attention:**  
National Ebola Virus Disease (EVD) control programmes and their implementing partners, humanitarian and procurement agencies, national regulatory authorities for in vitro diagnostics (IVDs), national reference laboratories, and WHO Country Representatives.

**Details of affected IVD:**  
"Quick Test for Ebola" manufactured by Swift Medical Systems™, a rapid diagnostic test (RDT) for detection of Ebola Virus Disease (EVD).

**Description of the problem:**  
World Health Organization (WHO) wishes to draw attention to the sale and promotion of the above-mentioned IVD for the diagnosis of EVD which has been recently advertised in sub-Saharan Africa.

The attached advertisement (Annex 1) bears the logo of WHO, which may be wrongly interpreted as the product having undergone assessment by WHO regarding its quality, safety and performance. The use of the WHO logo to promote this IVD is unauthorised and misleading. This IVD has not been assessed by WHO.

**WHO emergency quality assessment mechanism for EVD IVDs:**  
In view of the unprecedented outbreak of EVD in West and Central Africa, WHO has implemented an emergency mechanism to assess IVDs that will be used to diagnose EVD. Please follow the attached link for further information concerning the WHO assessment of IVDs for the diagnosis of EVD.  
[http://www.who.int/diagnostics\\_laboratory/procurement/purchasing/en/](http://www.who.int/diagnostics_laboratory/procurement/purchasing/en/)

**Advice on action to be taken by end-users, procurers and implementing partners:**  
If product with this name and these promotional materials have been delivered to your facility, please send a notification to WHO via email ([diagnostics@who.int](mailto:diagnostics@who.int)) using the WHO IVD complaint form attached to this notice (Annex 2) and available at:  
[http://www.who.int/diagnostics\\_laboratory/procurement/complaints/en/](http://www.who.int/diagnostics_laboratory/procurement/complaints/en/)

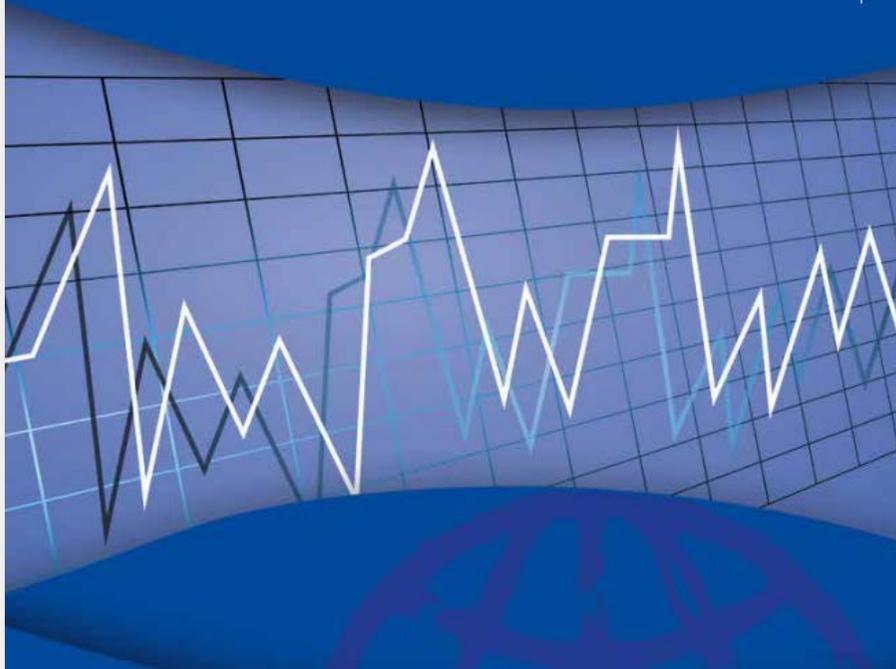
Date of issue of this notice, 28 January 2015

Page 1 of 9

# WHO normative guidance on PMS



## POST-MARKET SURVEILLANCE OF IN VITRO DIAGNOSTICS



- **Roles/responsibilities of stakeholders**
- **Forms**
  - IVD complaint report
  - Manufacturer complaint investigation report
  - Field Safety Corrective Action report
  - Lot testing data collection & report
- **Notices**
  - Field Safety Notice



# Where to find information

**Contact us by email**

**[diagnostics@who.int](mailto:diagnostics@who.int)**

**Sign up for our mailing list**

**By emailing [diagnostics@who.int](mailto:diagnostics@who.int)**

**Check our website**

**Post-market surveillance**

**[http://www.who.int/diagnostics\\_laboratory/post-market/en/](http://www.who.int/diagnostics_laboratory/post-market/en/)**

**Complaints and product alerts**

**[http://www.who.int/diagnostics\\_laboratory/procurement/complaints/en/](http://www.who.int/diagnostics_laboratory/procurement/complaints/en/)**



# Thank You

