IVD Overview

Fit for Purpose Regulation

Asmaa Awad- ***Regulatory Policy Network Lead EEMEA***
Roche Diagnostics

Agenda

- Introduction
- IMDRF definition of ‘IVD’
- Overview of IVD Classification Principle and Criteria
- Conformity Assessment
- Essential Principles
- Pre-Market evidence
- Post Market Reporting
- Q& A

The value of in-vitro diagnostics

Diagnostics can play a leading role in the fight against disease and in meeting increasingly complex healthcare challenges.

Diagnostics account for

~ 70%

of clinical decision making
At about

~ 2%

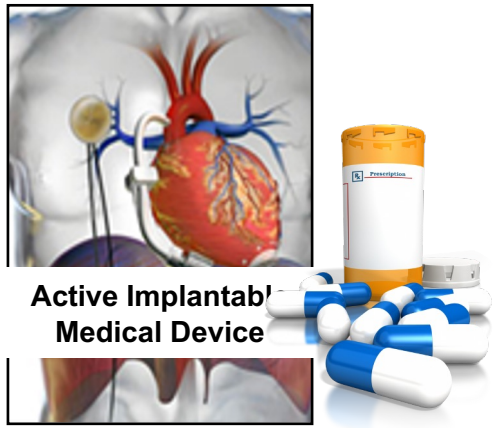
of the healthcare costs.

1.Earlier diagnosis improves COVID-19 prognosis: a nationwide retrospective cohort analysis, June 9, 2021.
2.Effect of delay in diagnosis on transmission of COVID-19, February 25, 2020.

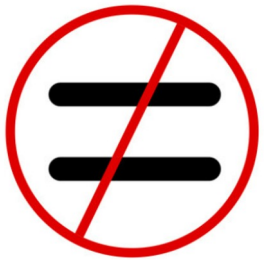
Design Fit for Purpose Regulation

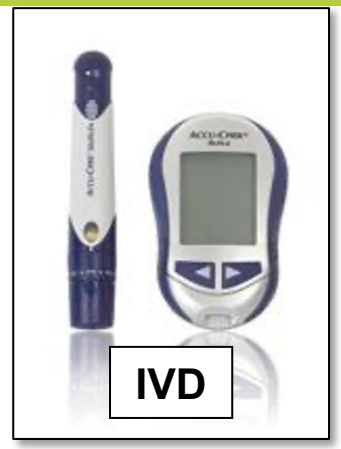
IVDs fundamentally differ from traditional Medical Devices, Vaccines, and Drugs

Medical Device



Active Implantabl
Medical Device





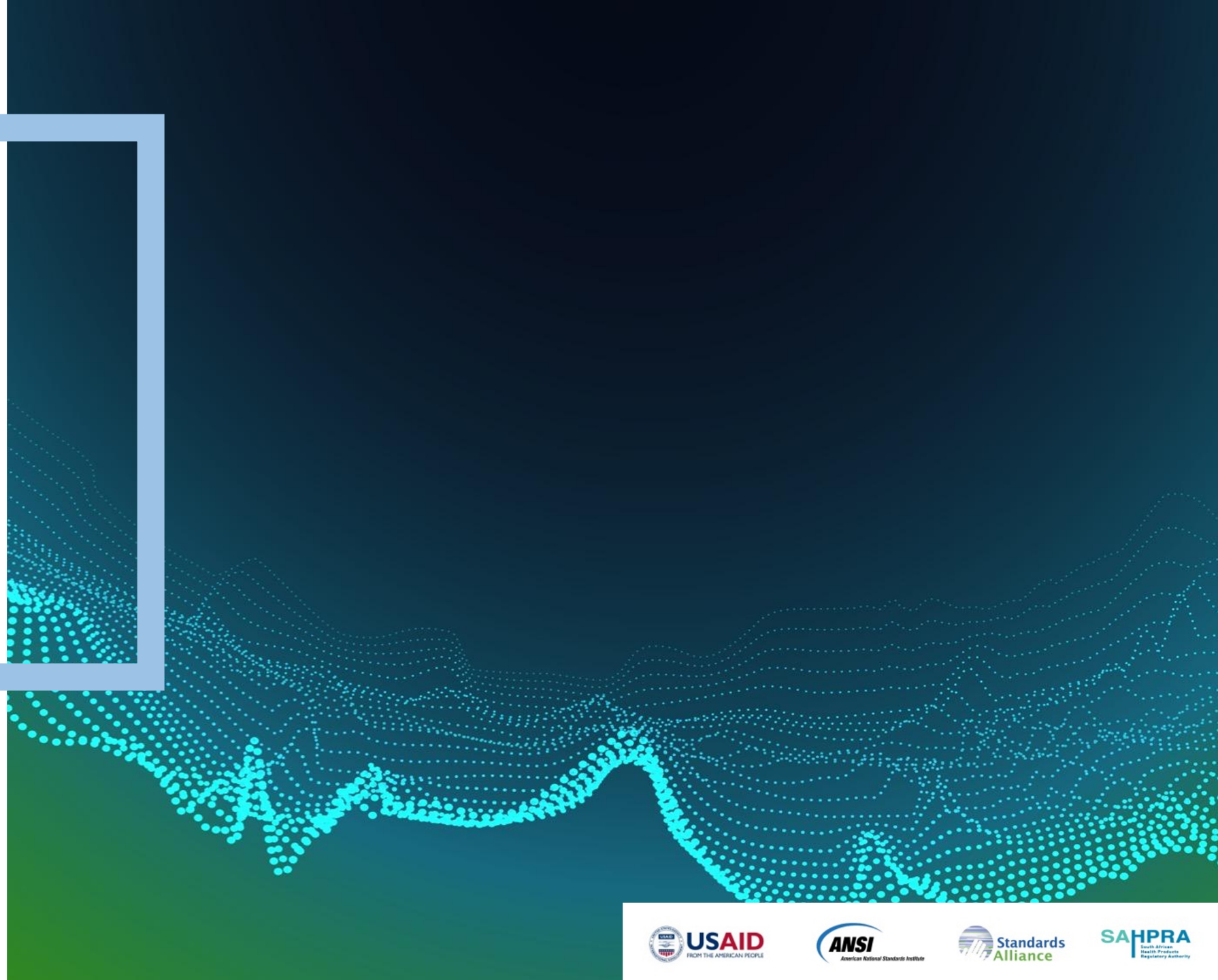
IVD

- IVDs are not ingested.
- IVDs do not treat patients, they are non-invasive tests used on biological samples (e.g. blood, urine, tissue, etc.)
- IVDs generally do not come into contact with patients. IVDs interact with samples taken from the patient to obtain information of relevance.
- The risks posed by IVDs to patients are based on the information they provide.

IVD Regulatory Framework

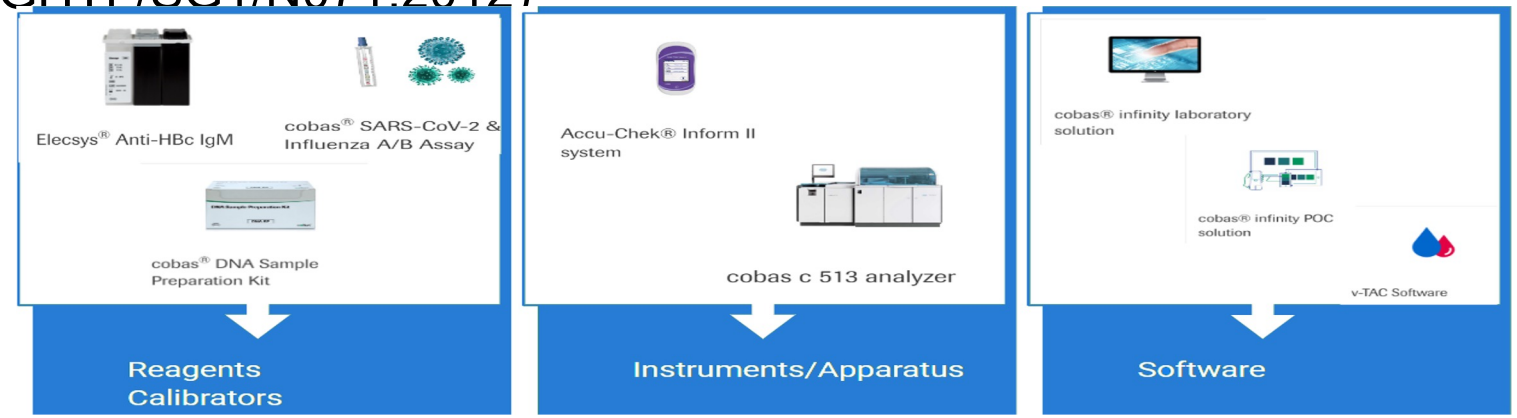
- Definition of IVD medical device
- Classification of IVD medical devices
- What is needed to ensure Safety and performance: Essential Principles of Safety & Performance
- How to meet the Essential Principles (Use of Standards)
- What is needed to ensure the safety of the product (Clinical Evidence and Labeling)
- What level of conformity assessment is appropriate (Risk based Approach)
  - Quality System
  - Design Control Process
  - Full Technical Evidence
  - Technical File/Documentation
- Post Market Vigilance and Reporting Procedures

IVD Definition



IMDRF definition of 'IVD'

*'**In Vitro Diagnostic (IVD) Medical Device:** 'means a medical device, whether used alone or in combination, intended by the manufacturer for the **in-vitro examination of specimens derived from the human body** solely or principally to **provide information** for **diagnostic**, **monitoring** or **compatibility purposes**.(GHTF/SG1/N071:2012)'*

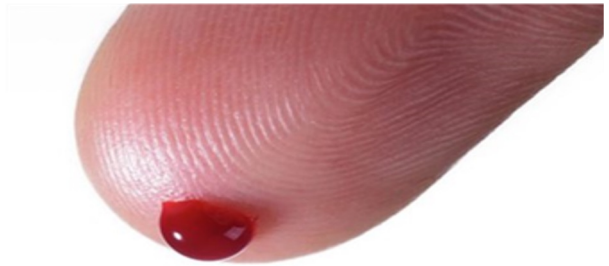


IVD medical devices include reagents, calibrators, control materials, specimen receptacles, software, and related instruments or apparatus or other articles and are used, for example, for the following test purposes: diagnosis, aid to diagnosis, screening, monitoring, predisposition, prognosis, prediction, determination of physiological status.

Reference: IMDRF Essential Principles of Safety and Performance of Medical Devices and IVD Medical Devices http://www.imdrf.org/docs/imdrf/final/technical/imdrf-tech-181031-grrp-essential-principles-n47.pdf

IVD Medical Devices

Test of human specimens
(blood/plasma/urine etc.)



Sample collection tubes

HIV test kits

IVD kit, reagents

Pregnancy test kits

Instruments for sample preparation

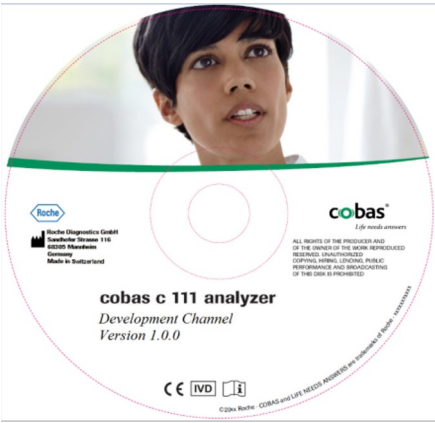
*Pictures are taken from Fine Art America, QIAGEN, Qingdao lifecare Trade Co. Ltd.

Accessory to an IVD medical device

Accessory for an IVD Medical Device: article intended explicitly by its manufacturer to be used together with an IVD medical devices:

- to enable the IVD medical device to achieve its intended purpose
  or
- to augment or extend the capabilities of the IVD medical device in the fulfilment of its intended purpose.

Software



Cleaning Solution

https://www.imdrf.org/sites/default/files/docs/ghtf/final/sg1/technical-docs/ghtf-sg1-n071-2012-definition-of-terms-120516.pdf

Classification

GHTF/SG1/N77:2012 Principles of Medical Devices Classification

WG/N64FINAL:2021 Principles of In Vitro Diagnostic (IVD) Medical Devices Classification

WG/N41FINAL:2017 -Software as a Medical Device (SaMD)

Overview of Medical device Classification Principles

Purpose and Criteria

Purpose

"*Regulatory controls are **intended to safeguard the health and safety** of patients, users and other persons by ensuring that manufacturers of IVD medical devices f**ollow specified procedures** during design, manufacture and marketing. The **risk presented** by a particular device **depends substantially on its intended use and intended user**.*

Source - Principles of Medical Devices Classification IMDRF IVD working group Final Document :2021

Risk-based classification for IVDs

is one of the regulatory controls to safeguard the health and safety of patients, users, and other persons.

IVD Classification Criteria

Intended purpose/ Indication for use as specified by the manufacturer (Diagnosis, Aid to Diagnosis, Screening, Prognosis or monitoring)

User & expertise

The technical- scientific- or medical knowledge of the intended User (lay person or healthcare professional)

Importance

of the information to the diagnosis e.g. when combined with other test results, signs & symptoms, history of disease etc.

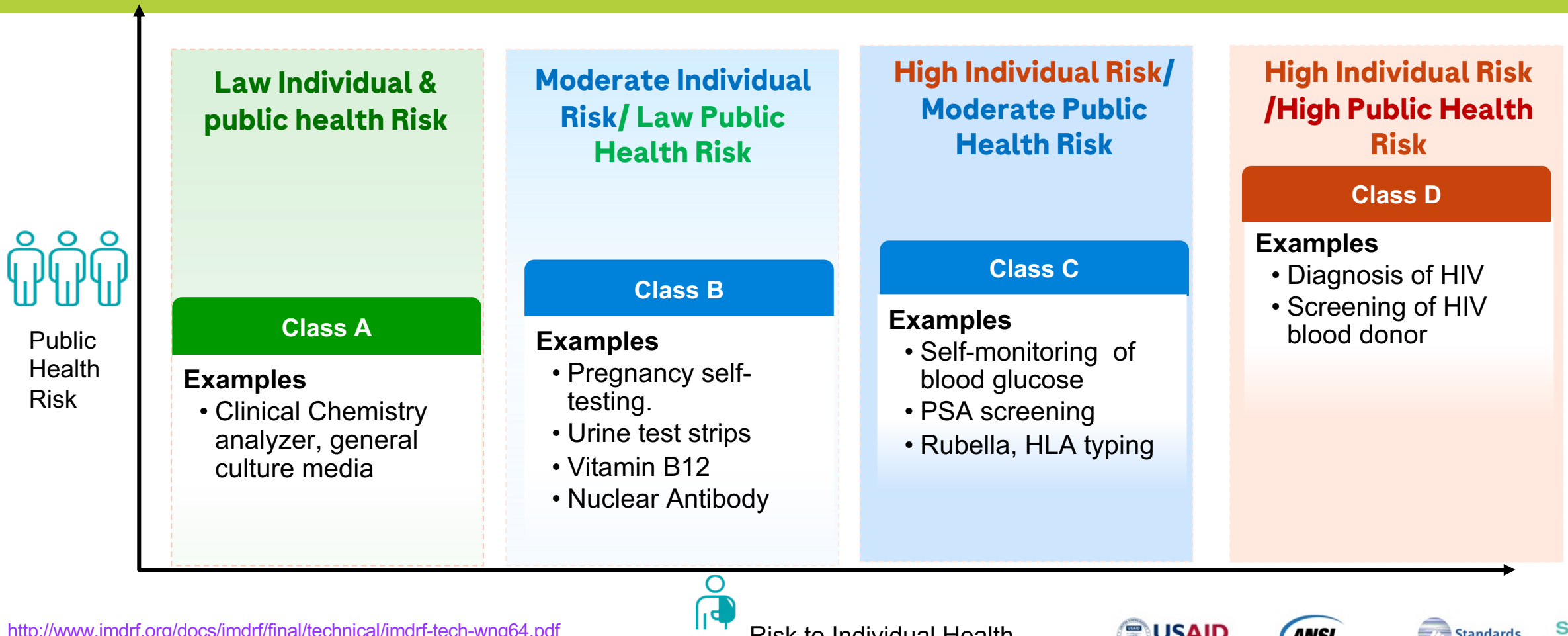
Impact

of the result **(true or False)** to the individual and /or to public health

USAID FROM THE AMERICAN PEOPLE · ANSI American National Standards Institute · Standards Alliance · SAHPRA South African Health Products Regulatory Authority

Overview of IVD Classification Principles

Risk-Based IVD Classification System



http://www.imdrf.org/docs/imdrf/final/technical/imdrf-tech-wng64.pdf

Conformity Assessment

GHTF/SG1/N78:2012
Principles of Conformity Assessment for Medical Devices

MDRF/GRRP WG/N47FINAL:2018
Essential Principles of Safety and Performance of Medical Devices and IVD Medical Devices

Conformity Assessment

Systematic examination of evidence generated, and **procedures** undertaken **by the manufacturer**, under requirements established by the Regulatory Authority, to determine that a medical device is safe and performs as intended by the manufacturer and, therefore, conforms to the Essential Principles of Safety and Performance of Medical Devices and IVD Medical Devices

GHTF/SG1/N78:2012
Principles of Conformity Assessment for Medical Devices

Essential Principles of Safety & Performance

- A manufacturer of a medical device is expected to design and manufacture a product that is safe and performs as intended.
- ’Essential Principles of Safety and Performance’ documented in the so called **EP Checklist** describes fundamental design and manufacturing requirements to ensure safety and effectiveness of the medical device/IVD.
- The regulatory model uses the concept of recognized standards to demonstrate compliance to (parts of) the Essential Principles of Safety and Performance.

IMDRF Essential Principles of Safety and Performance for Medical Devices and IVDs, accessed August 14, 2023

Principles of Conformity Assessment for IVDs

- "The inter-relationship between device class and conformity assessment is critical in establishing a consistent approach across all countries/regions adopting GHTF principles, so that the premarket approval process and evidence requirements for a particular IVD medical device are acceptable globally."[1]

- **GHTF Conformity Assessment Elements:**

  i. Quality management system (QMS),

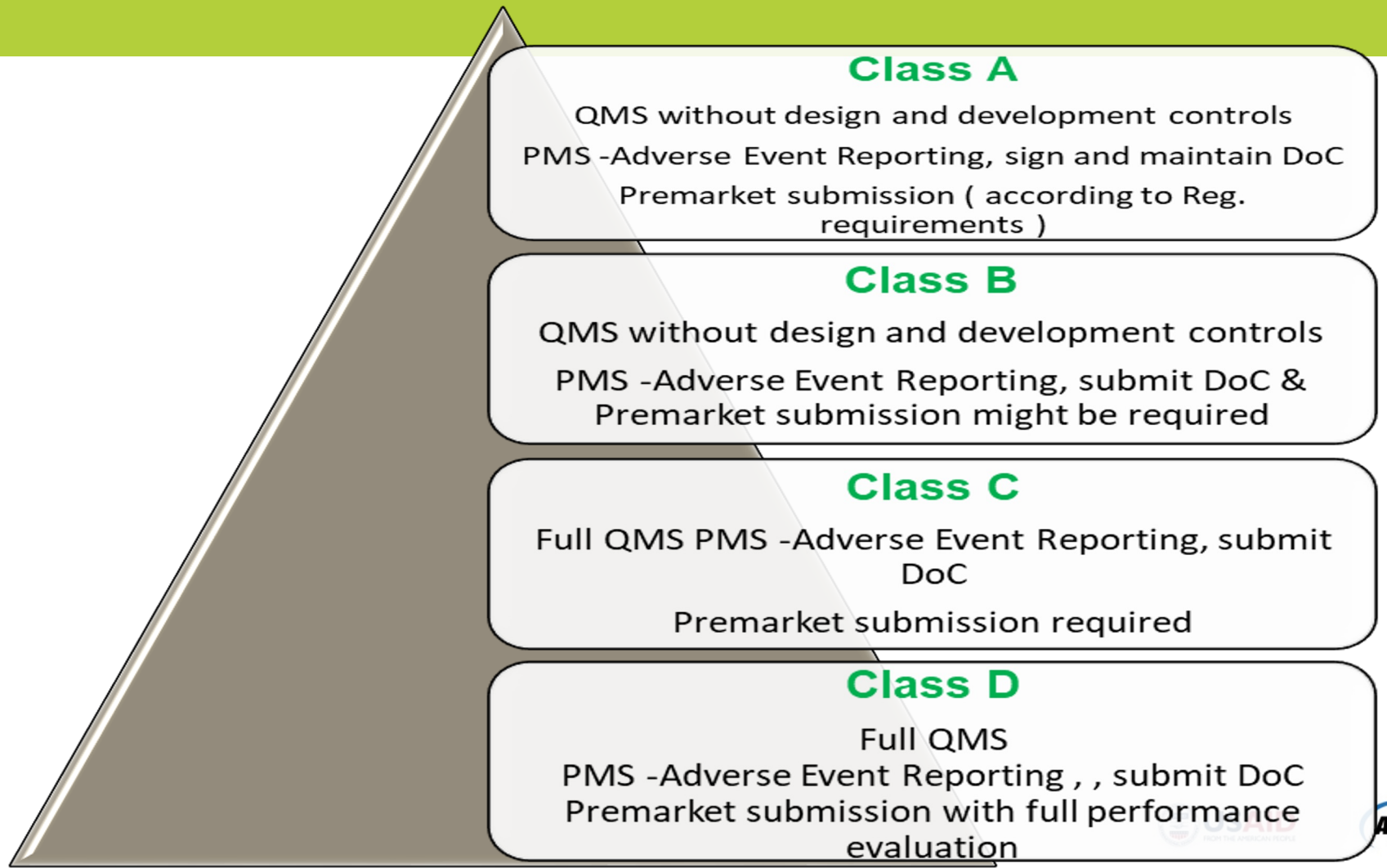
  ii. System for post-market surveillance,

  iii. Technical documentation,

  iv. Declaration of conformity, and

  v. Registration of manufacturers and their medical devices by the Regulatory Authority.

Relationship between conformity assessment and IVD medical device classification



Harmonizing with International Pre-Market Evidence: Acceptance of global clinical data

- In country testing is not an **IMDRF** recommendation. Rather IMDRF seeks to achieve convergence to requirements so that wherever possible, "[T]he premarket approval process and evidence requirements for a particular IVD medical device are acceptable globally".

- **WHO recommend a risk based approach:**
  - "In-country clinical investigations (that is, systematic clinical investigation in the country in which market authorization is being sought) should not generally be a requirement." Page 239.
  - "In deciding whether to authorize a medical device, the NRA may consider the acceptance of data from clinical investigations conducted outside its jurisdiction, provided that the applicant has demonstrated that the data are adequate and were obtained in accordance with applicable global and national standards and in accordance with the characteristics of the population within the authority's jurisdiction." Page 201-02.
  - "Countries may implement a system of risk-based lot verification of high-risk IVDs (Class D), either before distribution to users, post distribution or before they are put into service." Page 207.

ttps://cdn.who.int/media/docs/default-source/biologicals/ecbs/annex3-gmrf-who_trs_1045.pdf?sfvrsn=88867b3a_3&download=true

IMDRF Reporting Recommendations

- **Any event which meets all of the three basic reporting criteria should be considered an adverse event and reported to the regulator.**

  (1) The manufacturer **becomes aware** of information regarding an event which has occurred with its device

  (2) The Manufacturer's **device is associated** with the event

  (3) The event led to one of the following outcomes:

  - **Death** of a patient, user or other person.
  - **Serious Injury** of a patient, user or other person.
  - No Death or Serious Injury occurred but the event **might** lead to death or Serious Injury of a patient, user or other person if the event recurs (otherwise known as malfunction or near miss).

- It is the manufacturer Responsibilities to document all complaints, investigate/report as necessary.

In order to strengthen the regulatory capacity for oversight of medical products globally, WHO encourages international cooperation among regulatory authorities in all its forms, including convergence, harmonization, information- and work-sharing, reliance and recognition.

-World Health Organization, Regulation and Prequalification, accessed August 12, 2023

Question & Answers

THANK YOU

Asmaa Awad - Global Regulatory Policy& IntelligenceLead , EEMEA
Asmaa.awad@roche.com