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Manufacturers' considerations for in vitro diagnostic medical devices in a public health emergency

Aspects à prendre en compte par les fabricants de dispositifs médicaux de diagnostic in vitro en situation d'urgence de santé publique

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 212, *Medical laboratories and in vitro diagnostic systems*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

During a pandemic, accurate identification and isolation of infected individuals is an effective initial response to secure public health and safety before vaccines are available. The coronavirus disease of 2019 (COVID-19) posed an unprecedented public health emergency, causing many countries to impose restrictions on travel and daily activities to slow the spread of infection. An example where the spread of COVID-19 infection was demonstrated to have been slowed before vaccines became available has been published.[1] Here, a series of interventions, such as the urgent introduction of appropriate emergency use in vitro diagnostic (emergency use-IVD) medical devices, aggressive testing, rigorous contact tracing, etc., were applied in the early stage of the pandemic. Such a series of interventions effectively slowed the spread of infections and succeeded in maintaining public health and safety without the collapse of intensive care capabilities.

Often, regulatory authorization of in vitro diagnostic (IVD) medical devices takes months to a year or more to review and approve under a traditional regulatory pathway. Following a global infectious disease outbreak such as severe acute respiratory syndrome (SARS) or Middle East respiratory syndrome (MERS), the need for an accelerated regulatory pathway to facilitate the introduction of emergency use-IVD medical devices was recognised. While such pathways (i.e. emergency use authorization processes) have been implemented, the processes for authorization are neither well established nor harmonized.[2-14]

While some international guidance is available for the minimum requirements for an IVD medical device in a public health emergency, the regulatory requirements can differ from one jurisdiction to another. For example, information on the quality system (e.g. ISO 13485), developmental history, or raw materials/manufacturing methods are required when a manufacturer applies for the accelerated regulatory pathway in some countries but not in others. Also, some countries require a stability shelf life claim, but the level of evidence required to demonstrate stability during the initial application varies by region.[2,11,16,17] In an urgent situation such as a pandemic, the application of non-standardized requirements can impede implementation of the use of emergency use-IVD medical devices that are critical in protecting global public health.

This document provides minimum requirements, which span pre-market to post-market activities, to accelerate the availability of IVD medical devices in a public health emergency.

Manufacturers' considerations for in vitro diagnostic medical devices in a public health emergency

1 Scope

This document provides guidance to manufacturers on the minimum requirements for the lifecycle management of in vitro diagnostic (IVD) medical devices that are developed in preparation for and in response to a public health emergency involving infectious agents requiring immediate availability of authorized IVD devices.

NOTE This document does not replace existing national (or regional) regulatory pathway requirements for IVD medical devices under non-emergency situations. The regulatory authorization process of emergency use-IVD medical devices is country-specific and it includes:

— following a risk management process;

— monitoring the device's post-market performance and quality assurance;

— implementing a communication system.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
adverse event
untoward medical occurrence, inappropriate patient management decision, unintended disease or injury, or untoward clinical sign in subjects, users, or other persons, with any connection to study related activities, whether or not related to the *IVD medical device* (3.9) under investigation

Note 1 to entry: Adverse events can be caused by, for instance, insufficient or inadequate instructions for use, deployment, installation, operation, or any malfunction of the IVD medical device under investigation.

Note 2 to entry: This definition includes the malfunction or deterioration of a device which has not yet caused death or serious injury, but which can lead to death or serious injury.

Note 3 to entry: This definition is not intended to be used in determining whether an event is reportable to a regulatory authority.

Note 4 to entry: For users or other persons, this definition is restricted to events related to investigational IVD medical devices.

Note 5 to entry: False negative or false positive results are not considered adverse events unless, in an interventional study, inappropriate patient management decisions are made based on those false results.

[SOURCE: ISO 20916:2019, 3.2]

3.2
analytical performance
ability of an *IVD medical device* (3.9) to detect or measure a particular analyte or measurand

Note 1 to entry: In metrological terms, this is referred to as performance of a measuring instrument or measuring system.

[SOURCE: ISO 18113-1:2022, 3.2.3, modified — in the definition, "or measurand" was added; Note 1 to entry was added.]

3.3
analytical sensitivity
quotient of the change in a measurement indication and the corresponding change in a value of a quantity being measured

Note 1 to entry: The sensitivity of a measurement procedure can depend on the value of the quantity being measured.

Note 2 to entry: The change considered in the value of the quantity being measured shall be large compared with the resolution.

Note 3 to entry: The analytical sensitivity of a measuring system is the slope of the calibration curve.

Note 4 to entry: Analytical sensitivity should not be used to mean detection limit or quantitation limit and should not be confused with diagnostic sensitivity.

Note 5 to entry: In metrological terms, this is referred to as measurement sensitivity.

[SOURCE: ISO 18113-1:2022, 3.2.4, modified — the preferred term "sensitivity of a measurement procedure" was removed; Note 5 to entry added.]

3.4
clinical performance of an IVD medical device
clinical performance
ability of an *IVD medical device* (3.9) to yield results that are correlated with a particular clinical condition or physiological/pathological process/state in accordance with the intended use (clinical test purpose, target population and intended user)

Note 1 to entry: In accordance with intended use, clinical performance can include expected values, diagnostic sensitivity and diagnostic specificity based on the known clinical condition or physiological/pathological process/state of the individual, and negative and positive predictive values based on the prevalence of the disease.

[SOURCE: ISO 20916:2019, 3.10, modified — the preferred term "clinical performance" was added.]

3.5
clinical performance study
study undertaken to establish or confirm the *clinical performance of an IVD medical device* (3.4)

Note 1 to entry: Testing performed pre-market that is not designed to address clinical performance of an IVD medical device is not considered a clinical performance study (e.g. customer feedback studies, external analytical performance studies, research studies).

[SOURCE: ISO 20916:2019, 3.11]

3.6
complaint
electronic or oral communication that alleges deficiencies related to the identity, quality, durability, reliability, usability, safety or performance of a medical device that has been released from the organization's control or related to a service that affects the performance of such medical devices

Note 1 to entry: This definition of "complaint" differs from the definition given in ISO 9000:2015.

[SOURCE: ISO 13485:2016, 3.4]

3.7
infectious agent
pathogen
infectious micro-organism or agent, such as a virus, bacterium, protozoan, prion, viroid, or fungus that can cause disease

[SOURCE: ISO/TS 16975-4:2022, 3.16, modified — Note 1 to entry has been removed.]

3.8
intended use
objective intent of an IVD *manufacturer* (3.11) regarding the use of a product, process or service as reflected in the specifications, instructions and information supplied by the IVD manufacturer

Note 1 to entry: Intended use statements for IVD labelling can include two components: a description of the functionality of the *IVD medical device* (3.9) (e.g. an immunochemical measurement procedure for the detection of analyte "x" in serum or plasma), and a statement of the intended medical use of the examination results.

Note 2 to entry: The intended use can include the indications for use.

[SOURCE: ISO 18113-1:2022, 3.1.37]

3.9
in vitro diagnostic medical device
IVD medical device
medical device, whether used alone or in combination, intended by the *manufacturer* (3.11) for the in vitro examination of specimens derived from the human body solely or principally to provide information for diagnostic, monitoring or compatibility purposes

Note 1 to entry: 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 state.

Note 2 to entry: In some jurisdictions, certain IVD medical devices can be covered by other regulations.

[SOURCE: ISO 18113-1:2022, 3.1.33]

3.10
leftover specimen
leftover sample
unadulterated remnants of human derived specimens collected as part of routine clinical practice and after all standard analyses have been performed

Note 1 to entry: Such specimens/samples would be otherwise discarded as there is no remaining clinical need for them.

Note 2 to entry: This can include specimens collected for research or other purposes not connected to the *clinical performance study* (3.5) in question.

[SOURCE: ISO 20916:2019, 3.25]

3.11
manufacturer
natural or legal person with responsibility for design and/or manufacture of a medical device with the intention of making the medical device available for use under that person's name, whether or not such a medical device is designed and/or manufactured by that person or on that person's behalf by another person(s)

Note 1 to entry: Provisions of national or regional regulations can apply to the definition of manufacturer.

Note 2 to entry: 'Design and/or manufacture' can include specification development, production, fabrication, assembly, processing, packaging, repackaging, labelling, relabelling, sterilization, installation, or remanufacturing of a medical device; or putting a collection of devices, and possibly other product, together for a medical purpose.

Note 3 to entry: An authorized representative, distributor or importer who only adds its own address and contact details to the medical device or the packaging, without covering or changing the existing labelling, is not considered a manufacturer.

Note 4 to entry: Any person who assembles or adapts a medical device that has already been supplied by another person for an individual patient, in accordance with the instructions for use, is not the manufacturer, provided the assembly or adaptation does not change the intended use of the medical device.

Note 5 to entry: to the extent that an accessory is subject to the regulatory requirements of the *IVD medical device* (3.9), the person responsible for the design and/or manufacture of that accessory is considered to be a manufacturer.

[SOURCE: ISO 18113-1:2022, 3.1.42]

3.12
pandemic
epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people

[SOURCE: ISO 6028:2023, 3.3]

3.13
post-market surveillance
systematic process to collect and analyse experience gained from medical devices that have been placed on the market

[SOURCE: ISO/TR 20416:2020, 3.2]

3.14
post-production
part of the life cycle of the medical device after the design has been completed and the medical device has been manufactured

EXAMPLE Transportation, storage, installation, product use, maintenance, repair, product changes, decommissioning and disposal.

[SOURCE: ISO 14971:2019, 3.12]

3.15
public health emergency
extraordinary event which is determined to constitute a public health risk to regions or countries through the international spread of disease and to potentially require a coordinated international response

[SOURCE: WHO/IHR:2005[18]]

3.16
quality management
management with regard to quality

Note 1 to entry: Quality management can include establishing quality policies and quality objectives, and processes to achieve these quality objectives through quality planning, quality assurance, quality control, and quality improvement.

[SOURCE: ISO 9000:2015, 3.3.4]

3.17
risk management
systematic application of management policies, procedures and practices to the tasks of analysing, evaluating, controlling and monitoring risk

[SOURCE: ISO/IEC Guide 63:2019, 3.15]

3.18
stability
ability of an *IVD medical device* (3.9) to maintain its performance characteristics within the limits specified by the *manufacturer* (3.11)

Note 1 to entry: Stability applies to:

— IVD reagents, calibrators and controls, when stored, transported and used in the conditions specified by the manufacturer;

— reconstituted lyophilised materials, working solutions and materials removed from sealed containers, when prepared, used and stored according to the manufacturer's instructions for use;

— measuring instruments or measuring systems after calibration.

Note 2 to entry: Stability of an IVD reagent or measuring system is normally quantified with respect to time

— in terms of the duration of a time interval over which a metrological property changes by a stated amount, or

— in terms of the change of a property over a stated time interval.

[SOURCE: ISO 18113-1:2022, 3.1.85]

3.19
stakeholder
person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or activity

Note 1 to entry: A decision maker can be a stakeholder.

[SOURCE: ISO 22367:2020, 3.39]

3.20
surrogate sample
material or combination of materials used as a substitute for body fluid or tissue taken for examination from a single human subject to study the characteristic of interest

Note 1 to entry: Surrogate samples include but are not limited to:

— pooled patient samples of biological origin;

— materials supplemented (e.g. spiked) with an analyte of interest;

— material created to have properties similar to or representative of the body fluid or tissue of interest;

— material composed of a combination of an analyte that simulates the analyte of interest and a matrix created to have properties similar to or representative of the body fluid or tissue or of the patient or subject;

— more-complex combinations of fabricated analyte and matrix.

[SOURCE: CLSI EP39:2021, 1.4.1]

4 General considerations for the design and development process

4.1 Safety and performance requirements

Manufacturers should follow a risk-based approach to define and justify the applicable essential general safety and performance requirements.

NOTE In traditional regulatory pathways, to ensure the safety and performance of an IVD medical device, manufacturers often comply with national regulatory requirements and guidelines such as the International Medical Device Regulators Forum (IMDRF) harmonized Essential Principles (Reference [19]), when designing and manufacturing a device, taking into account the intended use, intended patient population, intended user, and intended use setting of the device.

If available, manufacturers should be aware of national procedures for the design, development and registration of emergency use-IVD medical devices.

4.2 Quality management and risk management

Manufacturers should have pre-established quality management and risk management systems that can be leveraged during the manufacturing of emergency use-IVD medical devices.

NOTE Standards for quality management and risk management systems that apply to the manufacturing of medical devices include ISO 13485, good manufacturing practice (medical devices) regulations for each country, and ISO 14971.

4.3 Target condition and scientific validity

Manufacturers should describe the target condition being detected (e.g. current/active infection, infectiousness, previously infected, immune status). Scientific validity should be demonstrated and revised as needed throughout the lifecycle of the device as the disease evolves (e.g. variants of concern) and scientific knowledge of the disease increases over time.

NOTE Scientific validity can be supported by one or more of the following potential sources suggested in Reference [20]:

— information on IVD medical devices with an established marketing history and that measure the same analyte with the same intended use (e.g. as provided in the device's commercial labelling);

— literature search (this information can be found in peer reviewed articles, regulatory guidance documents, conference proceedings, etc.);

— review of expert opinion (this information can be found in sources such as textbooks, clinical guidance documents, position statements from academic and professional organizations);

— results from proof-of-concept studies (these studies are usually smaller scale scientific studies to identify the fundamental association of the analyte with the clinical condition/physiological state);

— results from published and unpublished clinical performance studies.

4.4 Assay technology

The manufacturer should justify and document that the choice of the applied assay technology [e.g. polymerase chain reaction (PCR), isothermal amplification, lateral flow immunoassay, enzyme immunoassay, serology test] is scientifically valid to detect the target condition in context of the clinical need.

Design documentation shall carefully consider selection of the analytes, in particular expression levels, specificity against circulating pathogens, conservation of target regions.

4.5 Intended use and risks and benefits of the device

The intended purpose of the emergency use-IVD medical device should be described and the potential risks and benefits of the emergency use-IVD medical device should be presented.

Manufacturers should define and provide evidence for the emergency use-IVD medical device's

— intended use (asymptomatic screening, symptomatic triage, symptomatic diagnosis, prognosis, predicting treatment response, monitoring treatment response, etc.),

— intended use setting (home/community, primary care, secondary care, etc.),

— intended user (professional, lay user, etc.), and

— intended test type (self-testing, near-patient testing, laboratory testing, etc.).

4.6 Analytical performance

Local regulatory requirements for emergency use authorization can apply for validating the analytical performance and related standards to support the intended purpose of the emergency use-IVD medical device. The design of the analytical performance studies should be informed by the manufacturers risk assessment, and be thorough in their approach, identifying and justifying any residual risks that can require further evidence generation in the early post-market phase.

Validation of analytical performance can utilize available guidelines such as relevant CLSI documents (e.g. EP05,[21] EP06,[22] EP07,[23] EP09,[24] EP12,[25] EP15,[26] EP17,[27] EP34,[28] EP39[29]) adapted to the emergency situation. Due to the potential limited availability of samples needed for analytical studies and urgency with which the studies need to be conducted, manufacturers may initially consider characterizing performance with a justification for limited or pragmatic study designs (e.g. following verification recommendations in CLSI guidelines). Manufacturers can be required to comply with a specific guidance or protocol for analytical performance validation, if proposed by national authorities.

Analytical performance should ensure that a sufficiently robust dataset is available to enable risk-based decision making while providing flexibility to make tests available.

Human-derived (fresh or archived) samples, surrogate samples, and reference materials (RMs) (where available) should be utilized for analytical performance validation.[14,16,30-32] If arbitrarily defined RMs are used (either developed by the manufacturer or from a third party) the manufacturer should consider the associated uncertainty of value assignments (derived from reference methods, batch variability, etc.). The value assignment process should be outlined or referenced when such materials are used to evaluate analytical performance.

In cases where higher order reference material (e.g. WHO) is not available, manufacturers may refer to ISO 17511.

Human-derived (fresh or archived) samples or clinical specimens are preferred over surrogate samples. In situations where the volume or number of clinical specimens is not sufficient or the risks associated with obtaining or handling such specimens is high (e.g. novel pathogen), surrogate samples may be utilized provided that the use of surrogate samples is justified and/or acceptable to the relevant regulatory authorities.[29,33-35] Methods should be considered to minimize sample selection bias.

Preference should be given to studies conducted using original clinical specimens. Alternatively, sample matrices evaluated in parallel through an external quality assessment (EQA) program may be considered.

The analytical performance should be supported by validation reports provided by internal or external laboratories with relevant competency (preferably ISO 15189 or national standard.)

4.7 Stability

Stability evaluation of an emergency use-IVD medical device is required to establish its claimed shelf life. Because analytical studies are often completed before long-term stability is demonstrated, the manufacturer may claim an initial shelf life when entering the market, where the initial claim may be based on shelf life claims of similar products. However, if initial claims are not supported by real time stability studies, manufacturers should conduct real time studies in parallel to support the initial claims and, if desired, to extend the initial claims.[14,16,31] Refer to ISO 23640 and CLSI EP25 for methods on estimating stability based on an accelerated stability model, which can be especially useful for a novel product class.

4.8 Clinical performance

A clinical performance study to support the intended use of an emergency use-IVD medical device should be provided to demonstrate the clinical performance of the test, even if it is possible that such data is not statistically powered to the same level as a standard authorization process under non-emergency use conditions. If sufficient clinical performance data for a standard authorization process are not available (e.g. disease prevalence is low, potentially resulting in a low positive predictive value), the manufacturer should provide justification. Justification may include evolving disease incidence and prevalence.[25] Regardless, manufacturers should continue to collect additional data to supplement the initial clinical performance

evidence as part of their post-market activities (6.2). Any claimed clinical performance should be limited to evidence supported by available clinical performance data. National regulatory requirements can apply for the design, conduct, and reporting of the clinical performance study by manufacturers.

It is necessary to prepare for cases where it is difficult to secure clinical samples for performance studies. If the device is not adequately validated by a clinical performance study, the manufacturer should state that "A clinical performance study was not performed. Sensitivity data is confined to analytical sensitivity and therefore negative results do not exclude the presence of infection".

NOTE 1 Clinical performance studies must be conducted in accordance with ethical principles, e.g. the Declaration of Helsinki. Depending on the nature of the clinical performance study, regulatory authorities can provide alternate pathways for review of clinical performance studies during a public health emergency.

NOTE 2 ISO 20916, CLSI EP12 or other nationally-recognized requirements can be considered for the design, conduct, conclusion, and reporting of clinical performance studies.

It is recommended to have a system to secure, manage, supply and store clinical samples, such as using recent leftover specimens or samples after laboratory experiments under a respective country's ethics requirements and regulations.

5 General considerations for the risk management process

5.1 General

For emergency use-IVD medical devices, the manufacturer should identify evolving customer needs and requirements for performance, usability, etc., related to the product and reflect those requirements during emergency use IVD development (see also ISO 13485). The manufacturer should also identify, review, monitor and address any new or evolving risks that can make it challenging to develop, test and ensure acceptable product performance during a public health emergency.

Manufacturers are responsible for communicating device performance, user complaints and surveillance data to regulatory and health authorities according to the relevant national requirements.

5.2 Risk reduction

To ensure that emergency use-IVD medical devices are safe and effective for their intended use, manufacturers should follow the general principles of risk management and usability of a medical device as it relates to safety, such as ISO 14971 and IEC 62366-1, to analyse, evaluate and control risks throughout the device lifecycle. Risk management for emergency use-IVD medical devices during a public health emergency can minimally require verifying and validating the device design, assessing the clinical performance and safety of the device, and ensuring compliance with regulatory requirements. Where applicable, manufacturers should clearly state the requirements for user training, device troubleshooting, and repair/service.

When determining the assay technology (PCR, isothermal amplification, lateral flow immunoassay, enzyme immunoassay, serology test, etc.) for the emergency use-IVD medical device, the manufacturer should consider the speed of development and status of available resources, including equipment and intended users in different use environments (medical laboratories, general practice, community health posts, etc.).

Authorization for an emergency use-IVD medical device may be granted for a limited period in a public health emergency with its usage governed by national regulations. At any time, the manufacturer may pursue the formal standard regulatory authorization for marketing, under a country's regulations.

Even for emergency use-IVD medical devices subjected to minimum requirements, the manufacturer should make every effort to fulfill the Essential Principles[19] and comply with the nationally recognized quality management standards (e.g. ISO 13485) to maintain an appropriate level of quality, regardless of production volume and urgency.

6 Monitoring the device's post-market performance and quality assurance

6.1 General

In order to maintain the quality of emergency use-IVD medical devices introduced into the market during a public health emergency, the manufacturer should establish, document, and maintain a system to actively collect and review information relevant to the emergency use-IVD medical device in the production and post-production phases (see 6.2).

See ISO 14971 and ISO/TR 24971 for guidance on production and post-production activities.

Continuous quality maintenance efforts and risk management activities can contribute to control or minimize the further spread of disease.

6.2 Monitoring post-market performance

Continuous post-market data collection shall be performed during a public health emergency because the disease or situation can evolve such that the product performance can change over time (e.g. new variant emerges that is not detected by the emergency IVD medical device, or another device becomes commercially available that has superior performance). Manufacturers should create and implement a comprehensive post-market performance follow-up plan. The plan should include proactive post-market surveillance activities such as collection of additional data which reflect the real-world clinical performance to supplement the initial clinical performance evidence (e.g. reassess the state-of-the-art) and regular reports of updated clinical performance evidence to the relevant stakeholders (healthcare and public health authorities, regulatory authorities, healthcare providers, and users, etc.).

NOTE 1 The objective of adverse event reporting and subsequent evaluation is to better ensure the health and safety of patients, users and others by disseminating information which can reduce the likelihood of repeating adverse events or alleviating the consequences of such repetitions. See Reference [42] for guidance for adverse event reporting for medical devices.

NOTE 2 Adverse event reporting of medical devices is primarily governed by each country's regulatory authorities or regulations and procedures.

For the risk communication of adverse events, information of serious public health threats may be shared. See Reference [43].

6.3 Quality assurance

Within a region, the minimum requirements for the development, testing and registration of emergency use-IVD medical devices can change as the pandemic evolves. Manufacturers should continuously improve or adjust products and be aware of national regulations and of changing requirements. Attention should be paid to national requirements regarding significant changes.

The manufacturer should continuously monitor the emergence of genetic variants of infectious agents in silico (for instance public next-generation sequencing databases), and assess any impact of newer variants to the performance of the emergency use-IVD medical device.

The manufacturer should consider any new information and, as needed, re-assess and revise the performance of the emergency use-IVD medical device.

The manufacturer should notify users of the emergency use-IVD medical device of all relevant information about the product that can affect the performance of the examination in a clinical laboratory, including the detection of genetic variants of the infectious agents.

When using diagnostic methods targeting analytes that can be subject to evolutionary pressures (such as pathogen genes or proteins), post-market surveillance shall also consider the impact of the emergence of genetic variants (termed variants of concern, VOCs).[44] This is because genetic changes can alter the region of the (gene or protein) sequence being targeted by the assay and potentially reduce the analytical sensitivity

or lead to false negative results. This can impact methods that detect pathogen associated molecules (such as NAAT or antigen tests) as well as methods that are used to detect exposure (such as serology).

The manufacturer should regularly monitor the clinical performance of the emergency use-IVD medical device used in practice and demonstrate that the intended purpose of the device is achieved in clinical practice.

The manufacturer can demonstrate the emergency use-IVD medical device function is maintained as intended through post-market surveillance.[45] Alternatively, the manufacturer can utilize data from proficiency testing programmes, if available, to check changes in real-world performance.

7 Implementing a communication process

7.1 Establishing a communication process

The manufacturer should follow established procedures for the mandatory routine reporting of product performance, incidents, serious adverse events and complaints to regulatory authorities, healthcare providers, and users.

NOTE 1 Stakeholders can request that manufacturers provide additional information such as forecasted production volume, plans for addressing the emergence of variant infectious agents, etc.

NOTE 2 Further guidance on appropriate biorisk management procedures for communication can be found in ISO 35001:2019, 7.4).

7.2 Manufacturer responsibility

National regulations can apply to manufacturers to inform regulatory authorities regarding any changes in the intended purpose, manufacturing process, testing methods, specifications, facilities and any other aspects that can result in changes to one or all of the following:

a) safety;

b) efficacy;

c) performance of the emergency use-IVD medical device.[46]