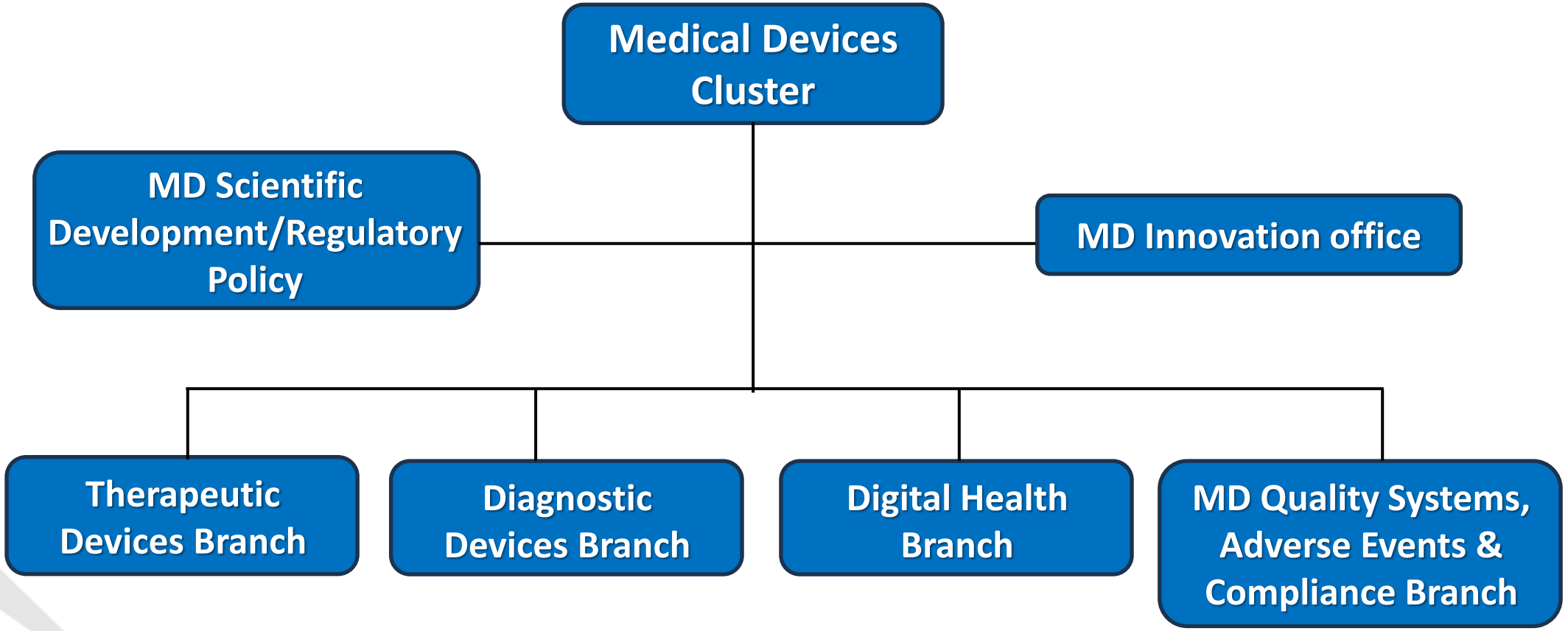
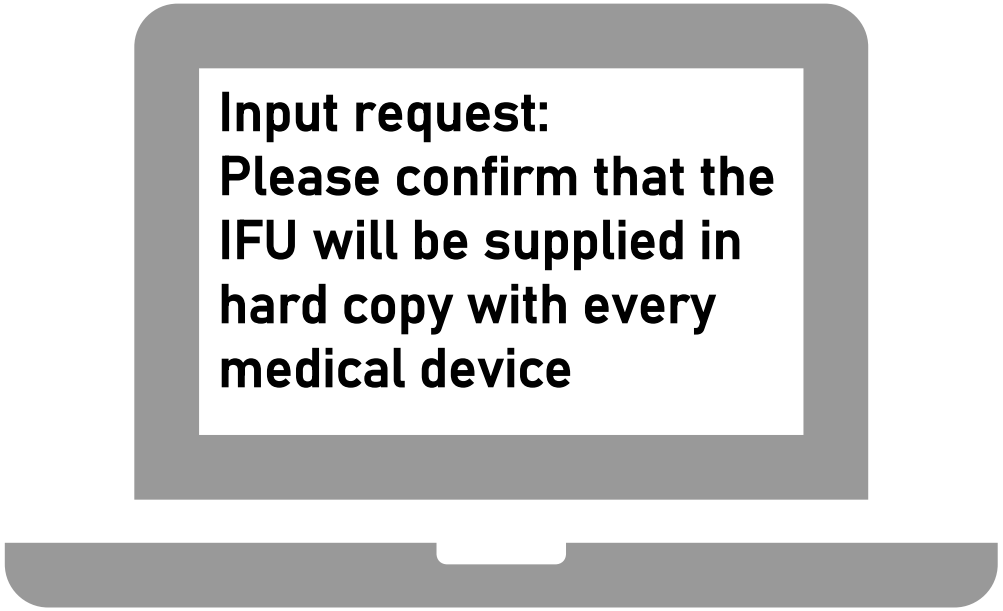
Good Submission Practice Workshop

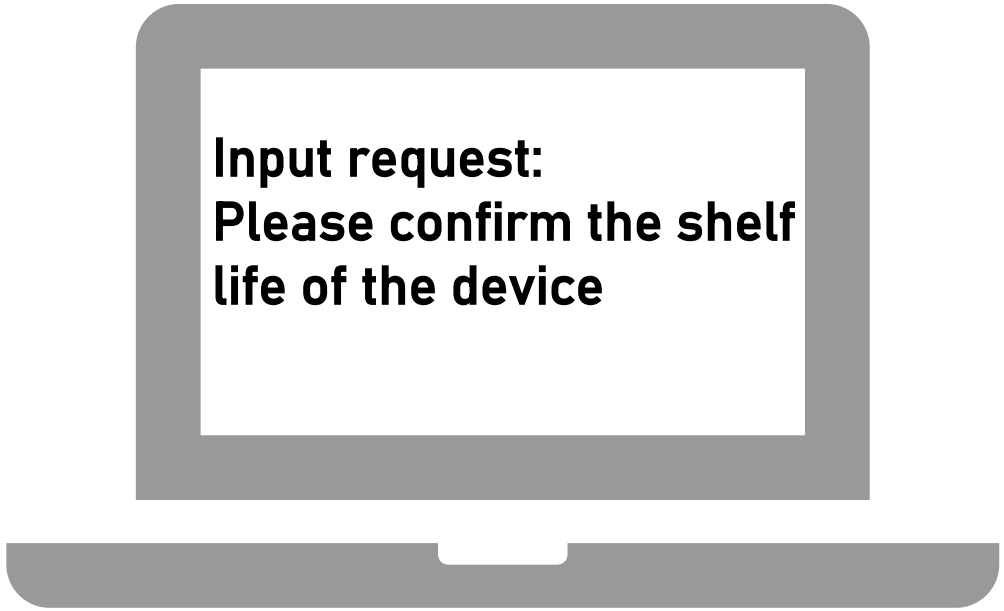
28 August 2024

Medical Devices Cluster
Health Sciences Authority

Medical Devices Cluster Organisational Chart







Objectives

- Highlight critical documentary requirements often overlooked during submissions
- Point out Dos and Don’ts in a submission
- Enhance your understanding of the different submission process
- Elaborate on the responsibilities of a registrant and a dealer

Overview

- Existing tools, useful guidelines and technical references
- Duties of Registrant and Dealers (importer, wholesaler and manufacturer)
- Good Submission Practice
  - Product Registration
  - Change Notification (CN)
  - Field Safety Corrective Action (FSCA)
  - Adverse Events (AE)
  - Dealer’s Licence

Existing Tools, Useful Guidelines and Technical References

- **Product classification tool**
- **Risk classification tool**
- **Guidelines**
  - GL-06 Medical Devices Product Classification Guide
  - Product Specific Regulatory Guidelines
    - Telehealth Products
    - Guidelines for Aesthetic Related Purpose
    - Next Generation Sequencing
    - GL-04 Regulatory Guidelines for Software Medical Devices – A Life Cycle Approach
    - Guidelines on Risk Classification of Standalone Medical Mobile Applications and Qualification of Clinical Decision Support Software (SaMD CDSS)
    - Regulatory Guidelines for 3D Printed Medical Devices
    - GL-08 Regulatory Guidelines for Laboratory Developed Tests (LDTs)

Existing Tools, Useful Guidelines and Technical References

- Product Registration Dossier Requirements
  - GN-17 and GN-18
  - E-submission guides for GMD/IVD for ASEAN CSDT and IMDRF ToC based Submissions in MEDICS
  - Technical References
    - TR-01 Contents of a Product Registration Submission for GMD using the ASEAN CSDT
    - TR-02 Contents of a Product Registration Submission for In Vitro Diagnostic Medical Devices using the ASEAN CSDT

GN-17 Guidance on Preparation of a Product Registration Submission for GMD using the ASEAN CSDT

ELEMENTS OF THE CSDT

Section 3 Executive Summary

Overview

a) Introductory descriptive information on the medical device, the intended use and indications for use of the device.

Commercial marketing history

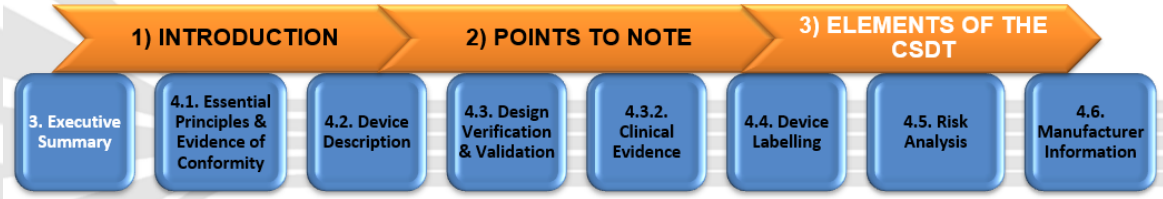
b) Information on the use of the device, if any, such as targeted patient population, user profile (e.g. specific trained users), specific disease status or clinical condition (e.g. continuous monitoring in critically ill patients), mode of action (e.g. absorption profile) etc.

List of regulatory approval

c) If the medical device has any unique or novel feature or characteristic (e.g. nanotechnology, incorporates animal or microbial cells or tissues), a description must be provided.

Important safety & performance related information

d) Any high-level background information or details that the product owner wishes to highlight in relation to the device, its history or relation to other approved devices (e.g. predicate devices) or previous submissions (provides context to submission).



GN-18 Guidance on Preparation of a Product Registration Submission for IVD MD using the ASEAN CSDT

ELEMENTS OF THE CSDT

Section 4.3.2 Clinical Evidence

Clinical Evidence

a) A clinical evaluation report reviewed and signed by an expert in the relevant field that contains an objective critical evaluation of all of the clinical data submitted in relation to the device. Clinical evidence should include the following:

i. Clinical (Diagnostic) Sensitivity

ii. Clinical (Diagnostic) Specificity

iii. Method Comparison

iv. Matrix Comparison

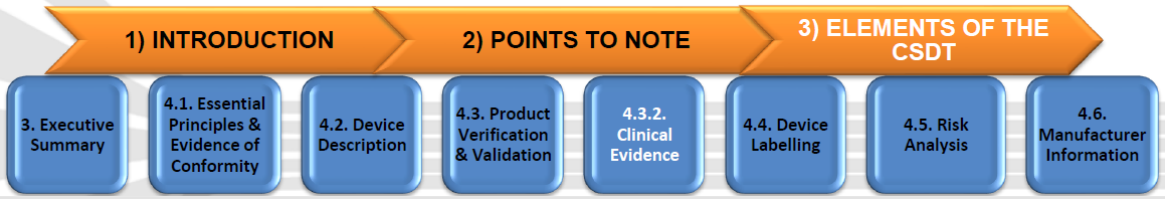
v. Clinical Cut-off

vi. Reference Interval (Expected values)

vii. Additional requirements for IVD medical device for self-testing and near patient testing (if applicable)

R2 ►

b) For IVD medical device undergoing full evaluation, clinical evaluation conducted by independent third parties (e.g. accredited clinical laboratories) may be required. ◄



E-Submission Guide for General Medical Devices for ASEAN CSDT and IMDRF ToC based Submissions in MEDICS

3. TABLE 1 – SUMMARY OF SUBMISSION REQUIREMENTS

Legend:

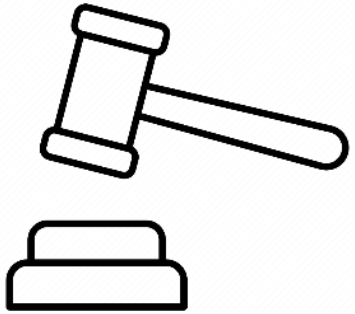
F	Full evaluation route
A	Abridged evaluation route
E	Expedited evaluation route
I	Immediate registration route

	MEDICS Application Form - Dossier & Supporting Document(s)	Reference technical documents		Class B			Class C & D			
		IMDRF nIVD ToC	CSDT TR-01	F	A	I	F	A	E	I
1	**Letter of authorisation**									
	▪ Letter of Authorisation of Registrant by the Product Owner for all the products to be registered, using the latest template as per GN-15 Annex 1 Letter of Authorisation template	CH1.13 Letter of Authorisation	NA	✓	✓	✓	✓	✓	✓	✓
2	**Annex 2 List of Configurations**									
	▪ A copy of Annex 2 for GN17 and GN18 List of Configurations, including the complete list of configurations of medical devices subject to the submission. This is to be submitted in a Microsoft Excel file.	CH1.05 Listing of Device(s)	4.2 Device Description	✓	✓	✓	✓	✓	✓	✓
3	**Proof of reference agency's approval(s)**									
	▪ Copies of approval letter(s) from each reference agency. For CE marked devices, the EU declaration of conformity by the product owner must be submitted, in addition to the EC certificate issued by the notified bodies.	CH1.07 Free Sale Certificate/ Certificate of Marketing authorisation	3. Executive Summary		✓	✓		✓	✓	✓
4	**Proof of marketing history in the reference agencies jurisdictions e.g. Invoice with date, proof of sale or a declaration on marketing history**									
	▪ Invoice with date, proof of sale or a declaration on Marketing history as per Annex 2 of GN-15, to be completed by the local Applicant	NA	NA			✓ Only required for Condition 1			✓ Only required for ECR1	✓
5	**Declaration of no safety issues globally**									
	▪ Safety declaration template as per Annex 3 of GN-15, to be completed by the local Applicant	NA	NA			✓			✓ Only required for ECR1	✓

DUTIES OF REGISTRANT AND DEALER

Duties of Registrant and Dealers (Importer, Wholesaler and Manufacturer)

- Prior to supply in Singapore:
  - Class B/C/D devices must be registered on Singapore Medical Device Register (SMDR)
  - Class A must be listed on the Class A database
- Ensure proper record keeping (e.g. distribution records for traceability purpose)
- Devices that are intended by the product owner for professional use only (PUO) shall only be supplied to qualified practitioner (i.e. registered medical practitioner or dentist)
- Report any defects, recall and/or adverse events to HSA
- Changes to the device as per GN-21 shall be submitted to HSA
- Advertisements shall not create an erroneous impression regarding the formulation, composition, design specification, quality, safety, efficacy or uses of the health product



Fine of up to $20,000 or/and imprisonment up to 12 months

GOOD SUBMISSION PRACTICE

Reminder

- Document names should be intuitive and contents are to be in English
  - For IR responses, please quote the document name you are referring to
- All declarations from PO/Registrant needs to be signed

Types of signatures:

- Signed with a pen and the whole document is scanned
- Digital signature that allows traceability/quality control to ensure authenticity
  - Flattened digital signature
  - e-signature

PRODUCT REGISTRATION
ASEAN Common Submission Dossier Template (CSDT)

Before Submission

- Is it a medical device?
- Is the risk class accurate? → GN-13 and GN-14
- Is the grouping accurate? → GN-12-1 and GN-12-2

Family

Models are within permissible variables

System

Evidence to support System grouping (e.g. IFU, catalogue, brochure)

Family of Systems

A comparison, preferably in a table, of the design, specifications, software features (if applicable) and intended use/indications for use between the systems. To include labelled pictorial representation (diagrams, photos, drawings) where necessary.

Before Submission

- Is it a medical device?
- Is the risk class accurate? → GN-13 and GN-14
- Is the grouping accurate? → GN-12-1 and GN-12-2
- Documents
  - complete number of pages
  - supporting documents as an Annex

Letter of Authorisation (LOA)

- Use the latest LOA template as per GN-15 Annex 1 Letter of Authorisation template available at:https://www.hsa.gov.sg/medical-devices/guidance-documents

× Do not indicate a person's name

× Do not amend the template

ANNEX 1

Letter of Authorisation Template

[To be printed on Company Letterhead of Product Owner]

Medical Devices Cluster
Health Products Regulation Group
Health Sciences Authority

[Date]

Dear Sir/Madam,

Subject: Letter of Authorisation for *[name of Registrant (Company Name)]*

We, *[name of Product Owner (Company Name)]*, as the Product Owner, hereby authorise *[name of Registrant (Company Name)]*, as the Registrant to prepare and submit applications for the evaluation and registration of medical devices to the Health Sciences Authority on our behalf.

This authorisation shall apply to the following medical devices:

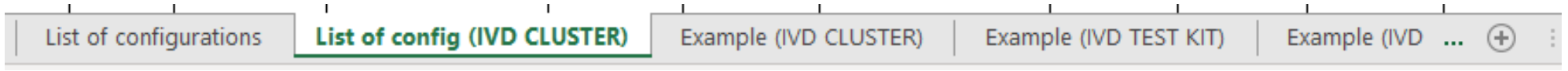
[List containing product names of medical devices]

Annex 2 List of Configurations

Name of Medical Device FAMILY/GROUP/IVD TEST KIT/SYSTEM:	
Proposed Grouping for Medical Device (FAMILY/GROUP/IVD TEST KIT/SYSTEM):	

Name as per Device Label	**Identifier**	**UDI-DI(s)**	**DM-DI(s)**	**Brief Description of Item** (e.g. the key distinguishing attributes, specifications of each item (including Volume, Length, Gauge, Diameter) and/or SaMD Version number/ software version number)

Annex 2 List of Configurations



An IVD CLUSTER comprises of a number of in vitro diagnostic reagents or articles that are:

- from the same product owner;
- is of the same risk classification (either Class A only or Class B only);
- of a common test methodology; and
- of the same IVD CLUSTER category

UDI Implementation

Phase 1 was implemented on 1 November 2022. It is mandatory for the following devices under Phase 1 to be labelled with UDI, prior to import and supply in Singapore:

- Coronary stents,
- Orthopaedic joint replacement implants and
- Intraocular lens

Phase 2 will be effective from 1 November 2024. Under this phase, all Class D General medical devices and in vitro diagnostic (IVD) medical devices must be labelled with UDI prior to import and supply in Singapore. Registrants are required to ensure that all UDI required information are submitted via MEDICS.

For further information on UDI, please refer to the GN-36: Guidance on Medical Device Unique Device Identification (UDI).

Class A models in a System grouping

Either

List these models under the Class A Medical Device Database through a valid dealer licence (i.e. importer or manufacturer), via the following link: http://eservice.hsa.gov.sg/osc/portal/jsp/AA/process.jsp?eService=55

OR

Provide the following documentation or information:

a. Class A declaration on Registrant company letterhead on:

i) the stated models are class A devices,

ii) device name and identifier,

iii) name of Product Owner,

iv) name and address for the manufacturing and sterilization site(s) for all class A models; and

b. Evidence that the Class A models qualify for grouping within the listing (e.g. promotional material such as brochures or catalogues).

Executive Summary

a) Overview section

- Details that the product owner wishes to highlight in relation to the device, its history or relation to other approved devices (e.g. predicate devices) or previous submissions (provides context to submission).
  - ✓ SMDR device listing number
  - ✓ Differences between the predicate and the current device
  - ✓ Project name that represents the device

b) Commercial marketing section

- Please provide a list of countries where the device is currently commercially distributed.
- Date (accurate to MMYYYY) and country where the device was first introduced for commercial distribution, globally.

Executive Summary

c) List of regulatory approval section

- A separate declaration from product owner that labeling, packaging and IFU of the device for sale in Singapore are identical or not identical to that approved by reference agency being used as the basis for evaluation route. If not identical, please provide a description of the differences.

  ✓ If the subject device is different in any way (e.g. design, commercial name, specifications, intended use and indications for use) from those approved by the reference agencies, the differences should be described.

  Example: If there are differences between the IFUs, please provide the exact differences in terms of the phrasing and justification on how the RA can still be leveraged

  ✓ Ensure the declaration is dated, signed and printed on product owner letterhead

Executive Summary

- Registration status (i.e. submitted, not submitted, pending approval, rejected or withdrawn) and approved intended use and indications of the medical device in HSA's recognised reference agencies, in a tabular format as per **TR-01**. If device is withdrawn/ rejected by any reference agencies, reason for rejection or withdrawal is to be provided.

Reference agencies	Intended use	Indications for use	Registration status and date	Reason for rejection or withdrawal (if applicable)
US FDA	Intended to treat muscle pain		Jan 2024	
EU	As per IFU		Mar 2024	
TGA	NA			
Health Canada	Intended to treat ankle pain		Feb 2024	
Japan MHLW	NA			

Reference agencies	Intended use	Indications for use	Registration status and date	Reason for rejection or withdrawal (if applicable)
US FDA	Intended to treat muscle pain	Indicated for ankle	Approved Jan 2024	NA
EU	Intended to treat muscle pain	Indicated for ankle	Approved Mar 2024	NA
TGA			Not submitted	NA
Health Canada	Intended to treat ankle pain	Nil	Approved Feb 2024	NA
Japan MHLW			Not submitted	NA

Executive Summary

d) Important safety & performance related information section

To include a summary of reportable adverse events (AEs) and field safety corrective actions (FSCAs) for the medical device since its first introduction on the global market, in a tabular format as per TR-01.

For reported adverse events:

Description of adverse event	Frequency of occurrence (number of reports / total units sold) in the period of dd/mm/yyyy to dd/mm/yyyy

For reported field safety corrective actions (FSCAs):

Date of FSCA	Reason for FSCA	Countries where FSCA was conducted

For FSCAs that are 'open', product owner's root cause analysis of the issue, corrective and preventive actions (CAPA) implemented to address the root cause of issue in the FSCA shall be provided.

Executive Summary

If there have been no adverse events or FSCAs to date, provide an attestation from product owner on company letterhead, that there have been no adverse events or FSCAs since commercial introduction of the device globally. This attestation is not restricted to usage only as intended by the product owner.

Example:

I, Company XYZ, product owner of device ABC, hereby declare that there are no adverse events or FSCAs associated with the use of the medical device as intended by the Product owner.

Example:

I, Company XYZ, product owner of device ABC, hereby declare that there have been no adverse events or FSCAs since commercial introduction of the device globally.

Essential Principles & Evidence of Conformity

- ✓ Ensure Essential Principles checklist / EU or Australian Essential Requirements checklist is signed and dated

- ✓ List the standards that have been complied with in the design and manufacture (including sterilisation) of the device, if this has not been provided in the EP checklist or Declaration of Conformity

Examples:

- ✓ ISO13485 QMS
- ✓ ISO60601-1 Electrical Safety
- ✓ ISO10993 Biocompatibility
- ✓ IEC81001-5-1 Cybersecurity

Device Description

- A comprehensive description of the device including technology, functionalities, features and connectivity capabilities(e.g. wireless enabled, Bluetooth enabled, internet-connected and network-connected devices) if applicable. To include labelled pictorial representation (diagrams, photos, drawings) if applicable.
  - ✓ Additive manufacturing
  - ✓ Artificial intelligence

- A list of all materials in direct or indirect contact with the patient or user is to be provided. Where there are specific concerns related to the material safety (e.g. impurities or residue levels), additional information on the quality and safety of such materials may be required (e.g. conformity to relevant material standards, Certificate of Analysis).

List of Materials

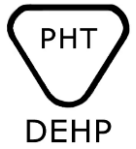
List of Materials
Stainless steel 304
Titanium alloy Ti-6AI-4V
PVC
Glass
Tyvek HDPE

List of Materials	Component	Direct / indirect contact
Stainless steel 304	Instrument	Direct contact patient
Titanium alloy Ti-6AI-4V	Implant	Direct contact patient
PVC (DEHP)	Tubing	Indirect contact patient
Glass	Packaging	Skin of user
Tyvek HDPE	Packaging	Skin of user

Material made with PVC

Provide plasticizer (e.g. DEHP, TOTM, DINP)

- If plasticizer is DEHP:
  - ✓ Labelling to include DEHP symbols or equivalent statement

    Example: 

  - ✓ Provide a summary of DEHP evaluation / justification that the DEHP level is within the safety limit

- If plasticizer is non-DEHP (e.g. TOTM) and label has DEHP-free symbol or equivalent
  - ✓ Provide evidence to substantiate the device is “DEHP-free” 

Design Verification and Validation

- ✓ Physical and mechanical bench testing
- ✓ Electrical Safety & Electromagnetic Compatibility
- ✓ Biocompatibility

✖ Testing is not conducted on the actual device

NOTE: If the device tested differs from the subject device that is to be registered, justification on the applicability of the test results to the subject device must be provided.

Design Verification and Validation (IVD)

Evidence supporting the analytical performance of the IVD assay kit/reagents, includes but not limited to:

i. Analytical Sensitivity
ii. Analytical Specificity and Interference
iii. Precision (reproducibility/repeatability)
iv. Linearity/assay's measuring (reportable) range/ hook effect
v. Traceability and expected values
vi. Cut-off value
vii. Specimen stability → Studies to support the stability of all sample type(s) identified in the labelling, including recommended additives

    Example: IFU claims for nasal swab, serum, plasma in EDTA or plasma in lithium heparin at 2-8°C for 7 days.

viii. Performance characteristics for instruments e.g. accuracy, precision/reproducibility, linearity, carry-over, interfering substances

Software

- The version tested must be clearly identified and should match the release version of the software, otherwise justification must be provided.

- All unresolved anomalies in the release version of the software should be summarised, along with a justification for acceptability (i.e. the problem, impact on safety and effectiveness, and any plans for correction of the problems).

- For IVD analyser and assay file software submitted with IVD kits: Company to justify if the software version for the analyser and assay file tested are different from version to be supplied.

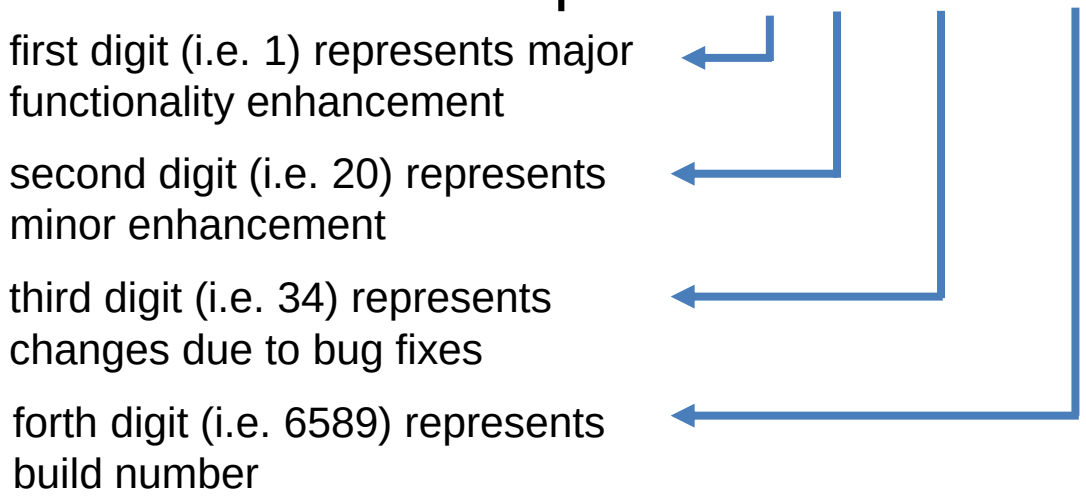
Software versioning

Software V&V report: Software version 1.20.34.6589

What should you list on the Annex 2 LOC under brief description?

1.20.34

Annex 2 LOC under brief description: 1.20.34.6589



Sterilisation

- Sterilisation validation report and Ethylene Oxide (EO) residuals report (if applicable), and evidence of on-going sterilisation validation. If the device tested differs from the subject device that is to be registered, justification on the applicability of the test results to the subject device must be provided.

✓ Summary of the sterilisation validation:
  - sterilisation method
  - sterility assurance level achieved
  - standards applied
  - sterilisation protocol
  - sterilisation validation results
  - evidence of ongoing revalidation of the sterilisation process

✓ For EO sterilisation, please provide EO and ECH residual reports
✓ Post-sterilization functional test on the medical device

Stability

- Specify the claimed shelf life or projected useful life of the device.
- Evidence that support the product stability and package integrity over the claimed shelf-life. If available, both real time and accelerated stability studies are to be submitted. If real time aging is not to be performed, adequate justification must be provided.

NOTE: If the device tested differs from the subject device that is to be registered, justification on the applicability of the test results to the subject device must be provided.

Stability (IVD)

- Evidence supporting the stability during actual routine use of the device (real or simulated), including all applicable components (e.g. reagents, reaction cartridges).
  - ✓ Shelf-life claims
  - ✓ Open-vial claims
  - ✓ Freeze-thaw claims
  - ✓ On-board storage claims (on analyzers)
  - ✓ Transportation studies

NOTE: If the device tested differs from the subject device that is to be registered, justification on the applicability of the test results to the subject device must be provided.

Cybersecurity

- Evidence to support the cybersecurity of connected medical devices such as wireless enabled, Bluetooth enabled, internet-connected and network-connected devices.
  Examples:
  - ✓ Cybersecurity vulnerabilities and risks analysis report
  - ✓ Cybersecurity control measures report
- Security test reports and/or evidence to verify the device cybersecurity and effectiveness of the implemented cybersecurity control measures (not applicable to IBR & ICR applications).
- On-going plans, processes or mechanisms for surveillance, timely detection and management of the cybersecurity related threats during the useful life of the device, especially when a breach has been detected.

Clinical Evidence

A clinical evaluation report reviewed and signed by an expert in the relevant field that contains an objective critical evaluation of all of the clinical data submitted in relation to the device. Clinical evidence may include clinical literature review, clinical experience (e.g. registries and post market surveillance reports), and clinical investigation.

NOTE: Refer to GN-20 Guidance on Clinical Evaluation for more details.

Clinical Evidence (IVD)

a) A clinical evaluation report reviewed and signed by an expert in the relevant field that contains an objective critical evaluation of all of the clinical data submitted in relation to the device. Clinical evidence should include the following:

i. Clinical (Diagnostic) Sensitivity
ii. Clinical (Diagnostic) Specificity
iii. Method Comparison → The established product for comparison must have obtained marketing clearance from HSA and/or reference agencies (EU, FDA, ARTG, HC and MHLW)
iv. Matrix Comparison
v. Clinical cut-off
vi. Reference Interval (Expected values)
vii. Additional requirements for IVD medical device for self-testing and near patient testing (if applicable)

b) For IVD medical device undergoing full evaluation, clinical evaluation conducted by independent third parties (e.g. accredited clinical laboratories) may be required.

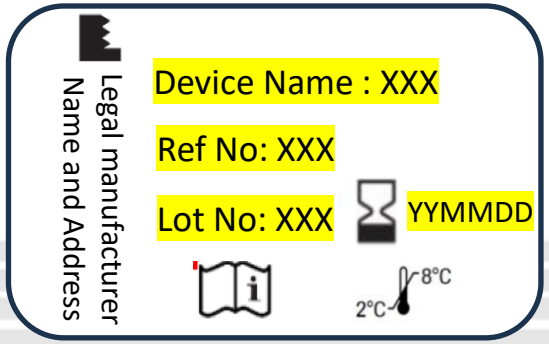
Device Labelling

IFU

- Indicate format of the IFU to be supplied with every medical device e.g. paper or electronic.
- If electronic, please ensure labels indicate the website details and that the version of IFU on the website is the same version as the version submitted to us.

Labels

- Primary and secondary labels in their original colour for the device and its accessories as applicable.
- If representative labels are provided, variable fields on the artwork must be highlighted, and ranges of values for the variable fields should be indicated



Risk Analysis

- Risk analysis report should include the risks identified, risk level, occurrence and mitigation action.

Example:

Risk management report + Failure mode and effects analysis (FMEA) Table

Hazard ID.	Hazard	Hazardous Situations	Harm	Initial Risk	Risk Control Measures	Residual Risk	Residual Risk Analysis	Justification for Acceptance

Manufacturer Information

- Name and address for all manufacturing and sterilisation sites (including contract manufacturers and contract sterilisers).

- ISO13485 or MDSAP certificates for all the physical manufacturing and sterilisation sites of finished devices.

If MDSAP please indicate in MEDICS.

What to do…

If I am the private labelled medical device owner and I have an OEM product?

You may use the original equipment manufacturer's documentation for product registration, but additional documentation shall be submitted to demonstrate equivalence to the private labelled device:

a) A declaration by the original equipment manufacturer (OEM) that the private labelled product is identical or not identical to the medical device made by the OEM that has obtained approval from the reference agency. Features to be addressed include intended purpose, technical specifications, manufacturing process and presentation (labelling, packaging and IFU). If not identical, provide a description of the differences (e.g. difference in brand names, etc.).

b) Singapore Declaration of conformity as per GN-11 Guidance on the Declaration of Conformity (Annex 1), by the private labelled owner.

c) Copies of the reference agency approvals for the OEM device. For CE marked devices, EC declaration of conformity for the OEM device should also be provided.

What to do…

If I have a new device but the sterilization validation and shelf-life validation (e.g. packaging and functionality testing) are conducted on the predicate?

Please provide us:

- Original reports conducted on the predicate device
- Adoption report
- Explanation to tie it all other

What to do…

If I have medical devices incorporating Artificial Intelligence (AI) technology?

Refer to GL-04 Regulatory Guidelines for Software Medical Devices –
A Life Cycle Approach

The following additional information should be submitted for pre-market registration of AI-MDs.

Requirements	Description
Dataset	
Input data and features/ attributes used to generate the corresponding output	This should include the various input data and features/ attributes selected for the AI-MD to generate the corresponding output result. This can be in the form of diagnostic images, patient's historical records, physiological signals, medication records, handwritten text by healthcare professional, literature review, etc. The specifications or acceptance criteria for selecting the input data and features/ attributes has to be defined. In the event where pre-processing (e.g. signal pre-processing, image scaling,) of data is required, the process should be clearly defined and included in the submission. Rationale has to be provided for the pre-processing steps applied to the input data.
Source, size and attribution of training, validation and test datasets	The source and size of training, validation and test dataset should be provided. Information on labelling of datasets, curation, annotation or other steps should be clearly presented. Description on dataset cleaning and missing data imputation should be provided. Developer should also ensure that there is no duplication in training and validation datasets. Rationale for the appropriateness and adequacy of the dataset selected and possible factors that can potentially influence the output result must be provided. In addition, all potential biasness in selecting the training and validation dataset should be adequately addressed and managed.
AI Model	
AI model selection	A description on the machine learning model (e.g. convolutional neural network) used in the AI-MD, including any base model (e.g. Inception V3 model), should be provided. Appropriateness of the model for the AI-MD's intended purpose should be presented. Any limitations of the model and where applicable mitigating measures to manage any shortcomings should also be explained. Model evaluation should be performed using a test dataset that is separate from the training dataset. Metrics (e.g. classification accuracy, confusion matrix, logarithmic loss, area under curve (AUC)) selected to evaluate the performance of the machine learning model selected should be provided, including the results of model evaluation.
Performance and Clinical Evaluation	
Test protocol and report for verification and validation of the AI-MD, including the acceptance	Based on the performance specification of the AI-MD, the test protocol and test report should be provided. Please refer to section 3 of this document and where applicable this information should be provided.

What to do…

When I have so many documents from the product owner, and I don't know what to submit?

GN-17 Guidance on Preparation of a Product Registration Submission for GMD using the ASEAN CSDT

ELEMENTS OF THE CSDT

Section 3 Executive Summary

Overview

a) Introductory descriptive information on the medical device, the intended use and indications for use of the device.

Commercial marketing history

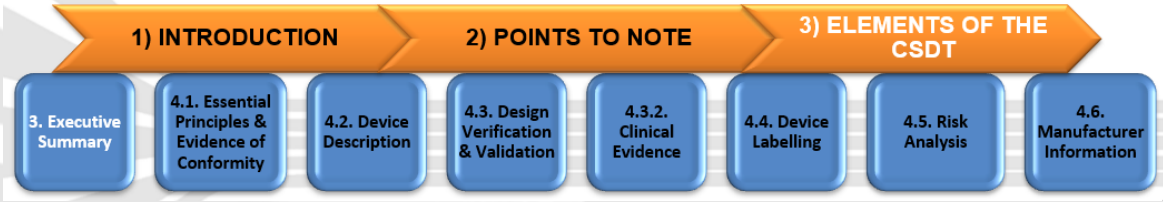
b) Information on the use of the device, if any, such as targeted patient population, user profile (e.g. specific trained users), specific disease status or clinical condition (e.g. continuous monitoring in critically ill patients), mode of action (e.g. absorption profile) etc.

List of regulatory approval

c) If the medical device has any unique or novel feature or characteristic (e.g. nanotechnology, incorporates animal or microbial cells or tissues), a description must be provided.

Important safety & performance related information

d) Any high-level background information or details that the product owner wishes to highlight in relation to the device, its history or relation to other approved devices (e.g. predicate devices) or previous submissions (provides context to submission).



GN-18 Guidance on Preparation of a Product Registration Submission for IVD MD using the ASEAN CSDT

ELEMENTS OF THE CSDT

Section 4.3.2 Clinical Evidence

Clinical Evidence

a) A clinical evaluation report reviewed and signed by an expert in the relevant field that contains an objective critical evaluation of all of the clinical data submitted in relation to the device. Clinical evidence should include the following:

i. Clinical (Diagnostic) Sensitivity

ii. Clinical (Diagnostic) Specificity

iii. Method Comparison

iv. Matrix Comparison

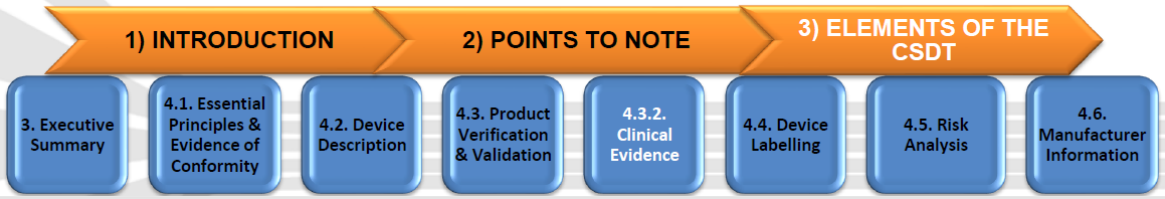
v. Clinical Cut-off

vi. Reference Interval (Expected values)

vii. Additional requirements for IVD medical device for self-testing and near patient testing (if applicable)

R2 ►

b) For IVD medical device undergoing full evaluation, clinical evaluation conducted by independent third parties (e.g. accredited clinical laboratories) may be required. ◄



E-Submission Guide for General Medical Devices for ASEAN CSDT and IMDRF ToC based Submissions in MEDICS

3. TABLE 1 – SUMMARY OF SUBMISSION REQUIREMENTS

Legend:

F	Full evaluation route
A	Abridged evaluation route
E	Expedited evaluation route
I	Immediate registration route

	MEDICS Application Form - Dossier & Supporting Document(s)	Reference technical documents		Class B			Class C & D			
		IMDRF nIVD ToC	CSDT TR-01	F	A	I	F	A	E	I
1	**Letter of authorisation**									
	▪ Letter of Authorisation of Registrant by the Product Owner for all the products to be registered, using the latest template as per GN-15 Annex 1 Letter of Authorisation template	CH1.13 Letter of Authorisation	NA	✓	✓	✓	✓	✓	✓	✓
2	**Annex 2 List of Configurations**									
	▪ A copy of Annex 2 for GN17 and GN18 List of Configurations, including the complete list of configurations of medical devices subject to the submission. This is to be submitted in a Microsoft Excel file.	CH1.05 Listing of Device(s)	4.2 Device Description	✓	✓	✓	✓	✓	✓	✓
3	**Proof of reference agency's approval(s)**									
	▪ Copies of approval letter(s) from each reference agency. For CE marked devices, the EU declaration of conformity by the product owner must be submitted, in addition to the EC certificate issued by the notified bodies.	CH1.07 Free Sale Certificate/ Certificate of Marketing authorisation	3. Executive Summary		✓	✓		✓	✓	✓
4	**Proof of marketing history in the reference agencies jurisdictions e.g. Invoice with date, proof of sale or a declaration on marketing history**									
	▪ Invoice with date, proof of sale or a declaration on Marketing history as per Annex 2 of GN-15, to be completed by the local Applicant	NA	NA			✓ Only required for Condition 1			✓ Only required for ECR1	✓
5	**Declaration of no safety issues globally**									
	▪ Safety declaration template as per Annex 3 of GN-15, to be completed by the local Applicant	NA	NA			✓			✓ Only required for ECR1	✓

CHANGE NOTIFICATION

Does the change qualify to be submitted as a CN?

GN-21

Changes that do not qualify for CN and require a new premarket registration:

- Change to the intended purpose of a registered medical device;
- Change to the risk classification of a registered medical device;
- Addition of model(s) that do not fulfil the grouping criteria, including permissible variants, as listed in the GN-12 guidance documents on Grouping of Medical Devices for Product Registration;
- Change to the medicinal substance in a device that incorporates a medicinal product in an ancillary role;
- Addition of medical devices with device proprietary names different from the registered devices, into a device listing.

Bundled Notifications

GN-21

Notification Changes may be bundled together and notified to HSA in one change notification application. Alternatively, such changes could also be submitted together with the next Review/Technical change of the registered device (whichever comes first). While bundling Notification changes, any such change shall be submitted within a maximum of 6 months from the point of first implementation, globally. Prior to implementation of notification changes in Singapore, companies shall maintain relevant inventory records on file to ensure traceability of the changes as part of their QMS requirements.

Bundled Notification Changes do not apply to:

- Artificial Intelligence (AI) based devices (e.g. machine learning, neural networks and natural language processing)
- Changes to the drug substance/medicinal product of combination products
- AE/FSCA related changes

UDI Updates

Use e-service “Submission of Update of Unique Device Identifier (UDI)” (under change@medics) if you want to update only the following UDI data elements:

- UDI-Device Identifier (UDI-DI)
- Direct Mark-Device Identifier Number (DM-DI)
- Issuing Agency (IA)

Registrants can update UDI data elements for multiple device listings in a single submission and these updates will be reflected in the SMDR upon successful submission via MEDICS.

Please refer to Section 3.2.1. of GN-36 Guidance on MD UDI System.

UDI Updates

Use CN - Other Notification Changes (verified by HSA prior to submission), if you want to update the following UDI data elements:

- UDI-Device Identifier (UDI-DI)
- Direct Mark-Device Identifier Number (DM-DI)
- Issuing Agency (IA)
- Sterile medical device
- Description of sterile medical device: (e.g. sterilization methods)
- Device containing latex
- Device containing DEHP
- Device with measuring function
- Clinical Size (including Volume, Length, Gauge, Diameter), SaMD version number/ software version number

Update in UDI information only for registered medical devices may be implemented immediately upon receipt of the acknowledgement email from HSA after submission via MEDICS.

Please refer to Section 3.2.2. of GN-36 Guidance on MD UDI System.

GN-21 Annex 2 Table of Change

Please select the correct box.

The change(s) in this Change Notification application is/are related to field safety corrective action and/or reportable adverse events.

☐ Yes ☐ No ◄ R3.2

Type of Changes	Present	Proposed	Reason for change#	Status of proposed change in reference agencies*	Justification for not submitting documents as specified in Annex 1 to GN-21: Change Notification Checklist ◄ R4
Type of change: *e.g. Change in material: Delivery tube material changed from polyvinyl chloride (PVC) to silicone* **Category:** Notification **SMDR Device listing no(s):** (same tubing is in all the SMDR Device listing below) (i) DE 001111, (ii) DE 002222, (iii) DE 003333, *(iv)* DE 004444.	*Delivery tube material: polyvinyl chloride (PVC)*	*Delivery tube material silicone*	*Improve patient safety by changing to DEHP-free tubing material*	*Australia TGA – pending* *EU Notified Body – approved/authorised for marketing* *Health Canada – not supplied* *US FDA – not supplied* *Japan MHLW – not supplied*	

** Applicable for changes to add new models, and revision to indications of use only*

 # Indicate the HSA FSCA Reference no. (e.g. 2020-FSCA-000001) for changes related to reportable FSCA/ local AE, if applicable.

GN-21 Annex 2 Table of Change

Type of Changes	Present	Proposed	Reason for change#	Status of proposed change in reference agencies*	Justification for not submitting documents as specified in Annex 1 to GN-21: Change Notification Checklist ◄ R4
R4.7 ► **Type of change:** *e.g. Other labelling changes* **Category: Notification** ☒ Bundled Notification Changes in the last 6 months	*Description of present labelling*	*Description of proposed labelling*	*Reason for labelling change*	*NA*	

What happens when a CN is submitted incorrectly

- Waste of time and effort
- CN application could be withdrawn
- If there is a change in category (e.g. Notification to Technical), the turn around time (TAT) and fees will be adjusted accordingly.

FIELD SAFETY CORRECTIVE ACTION (FSCA)

FSCA

MDRR1 and MDRR3 FSNs

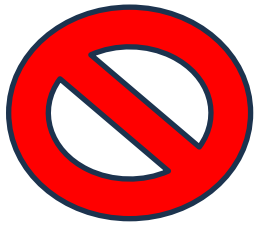
1. All the affected device name, identifiers and serial/lot numbers must be clearly stated in the FSN
2. Ensure FSN is complete (e.g. signature fields /contact details must be filled in)
3. All Annexes/Appendixes that are referenced in the FSN must be provided within the same document
4. Acknowledgement form must be included if the FSN indicates that there is an acknowledgement form.
5. PDF format
6. Shall NOT be tagged as “Draft”, “Confidential”, “Restricted” or any other equivalent keywords
7. Shall NOT be password restricted
8. *FSN will need to be copied to the Chairman Medical Board and/ or relevant Head of Departments
9. *If the FSN only contains affected device details for Singapore only, the FSN must have a statement to specify to recipient or reader of FSN that there are other identifiers and/or lots affected globally and that they should verify with product owner if in doubt.

**Only MDRR1 FSN*

If there is an updated copy to the FSN (e.g. additional models, added affected lots), a new FSCA case has to be submitted.

FSCA

Example:



If more information is needed or you require devices for replacement, please contact

Local contact 1	Local contact 2
Name	
Title	
Email	
telephone	

We believe in improving people's health through everything we do. Patient and user safety is our highest priority. Kindly accept our apologies for any inconveniences caused and thank you in advance for your cooperation to resolve this matter quickly.

Yours sincerely,

OSCAR

1. To indicate in OSCAR if the models in the FSN are for global or only specific to Singapore.

2. Submit distribution records using the standard excel template downloaded from the OSCAR form.

Information on the affected devices supplied

Name of consignee	Quantity supplied	Model No.	Batch No./ Lot No. and Expiry	Serial No.	Other identifiers (eg software version)

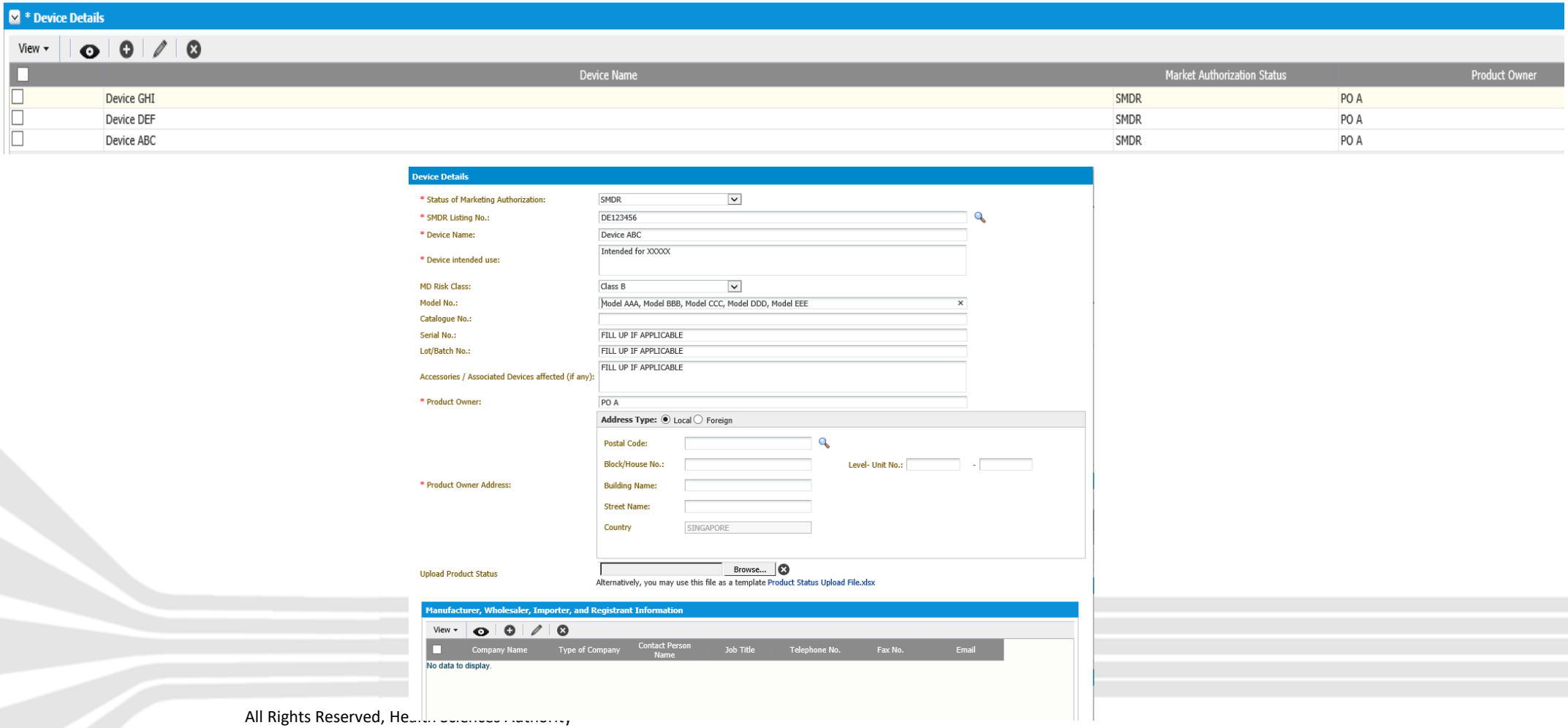
Distribution of affected devices in Singapore

Model No.	Quantity Manufactured	Manufacturing period: (mm/yyyy) to (mm/yyyy)	Quantity Imported	Importing Period: (mm/yyyy) to (mm/yyyy)	Quantity Supplied

Supply Period (mm/yyyy) to (mm/yyyy)	Expected Shipments to Singapore	Quantity in Warehouse	Quantity Exported	Quantity Recalled	Quantity Corrected

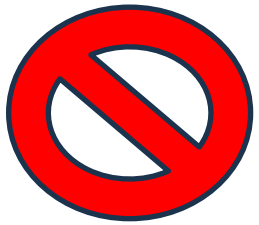
OSCAR

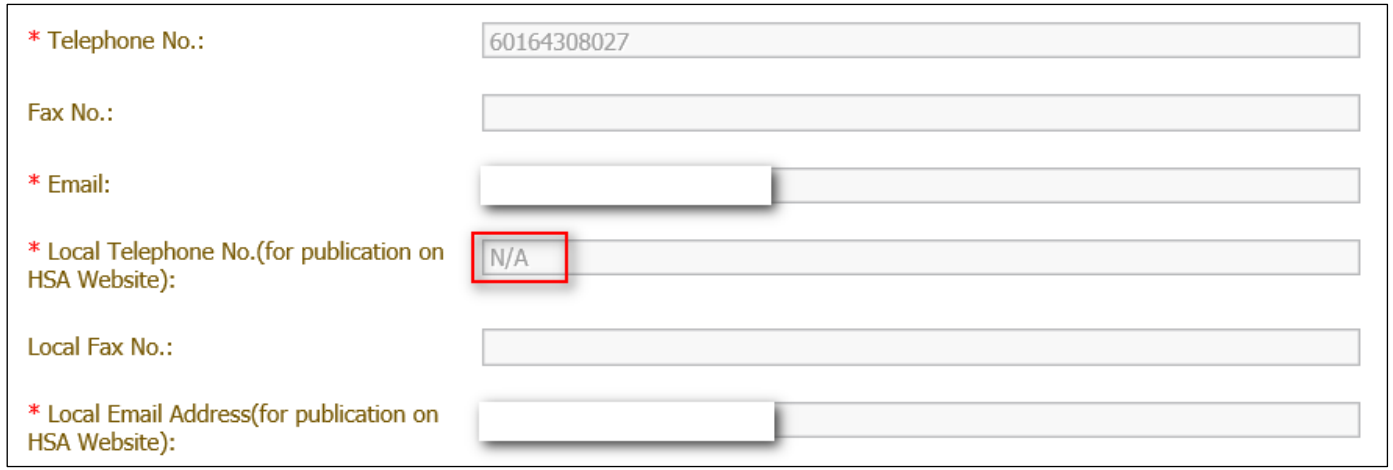
3. All the affected device listings, device models and identifiers must be listed in OSCAR.



OSCAR

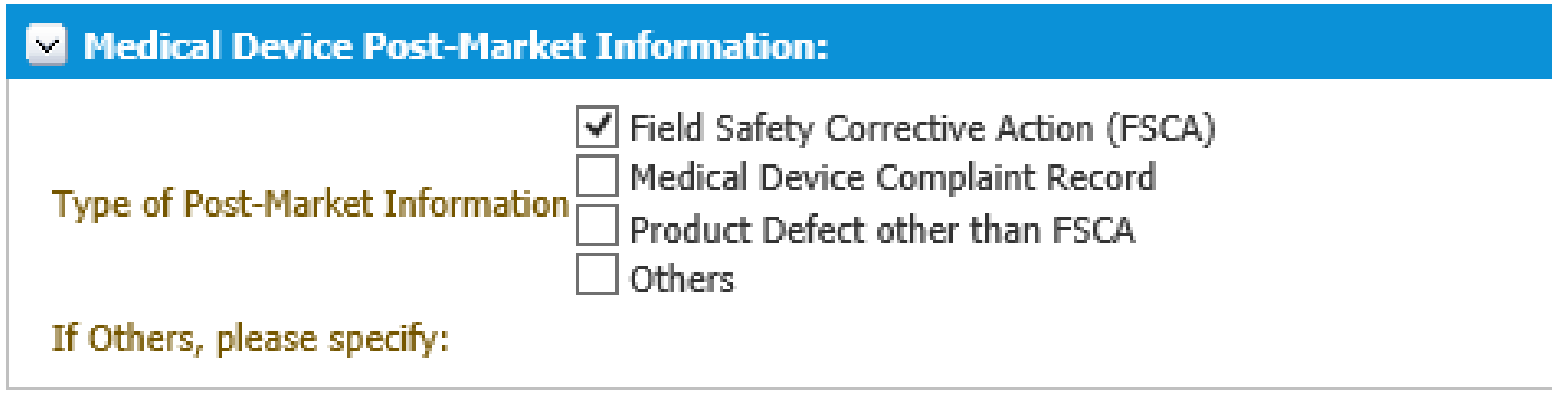
4. Input a valid local number in notification report





OSCAR

5. (MDRR3 only) Under “Type of Post-Market Information”, please select “Field Safety Corrective Action (FSCA)”.



ADVERSE EVENTS

MDAR1 Form

Reporting timeline: Report AE upon becoming aware within the stipulated timeline (STPH: 48 hours; Death, SDSH: 10 calendar days; Others: 30 calendar days)

https://www.hsa.gov.sg/medical-devices/adverse-events

The following medical device-associated AEs must be reported to us:

Adverse events	Report within
Serious threat to public health	48 hours
Death	10 calendar days
Serious deterioration in state of health	10 calendar days
Possible death or serious injury if the adverse event were to recur	30 calendar days

MDAR1 Form

Event description: Provide details on the event and the medical device problem identified. Description should also include any patient follow-up as a result of the event/problem (e.g. Due to AE – Broken catheter components/ fragments retrieved in separate procedure. Patient experienced bleeding, requiring suturing/cauterization).

Examples:

Catheter broke. Patient recovered.

During a thromboectomy procedure, there was resistance and catheter was unable to pass through vessel. Afterwhich, catheter broke at the tip approximately 20cm away from the distal marker and fragmented into pieces.
Surgery was prolonged to retrieve catheter fragments as additional suturing and cauterization was performed. Patient underwent Xray to ensure no fragments left in body and subsequently recovered post surgery.

MDAR1 Form

Product Owner's Device Analysis Results:

- **If device was returned to Product Owner for analysis/testing, the testing conducted and results shall be provided**

Device was returned for analysis. Tip fracture was confirmed. No other findings were available.

Device was returned for analysis. Visual inspection confirmed tip fracture. Fracture patterns at tip commonly associated with use of excessive tensile forces were found. It was most likely that excessive force generated during use contributed to the tip fracture.

- **If device is not returned for testing, companies can provide other forms of investigation conducted (e.g. Event history log review, review of similar complaints, analysis of production records, etc)**

Device was not returned. No investigation could be performed.

Device was not returned. A review of complaint records and adverse events for similar event was carried out. There have been no other complaints for this lot and no increasing AE trends identified for this event.

MDAR1 Form

IMDRF AE Terminology Codes and Terms: Companies should select the most detailed level IMDRF code possible from https://www.imdrf.org/working-groups/adverse-event-terminology. Codes may change during the course of investigation as such different IMDRF codes may be submitted at initial, follow-up and final report.

VI – International Medical Device Regulators Forum (IMDRF) Adverse Event Terminology (Codes and Terms can be obtained from: *https://www.imdrf.org/working-groups/adverse-event-terminology*)	
Annex A - Device Problem	*e.g. A010101 - Biocompatibility*
Annex B - Cause Investigation - Type of Investigation	
Annex C - Cause Investigation - Investigation Findings	
Annex D - Cause Investigation – Investigation Conclusion	
Annex E - Health Effects - Clinical Signs and Symptoms or Conditions	
Annex F - Health Effects - Health Impact	
Annex G - Medical Device Component	

IMDRF website (https://www.imdrf.org/working-groups/adverse-event-terminology):

1) Click into the required Annex (e.g. Annex A – Medical Device Problem)

IMDRF Adverse Event Terminology Web Browser

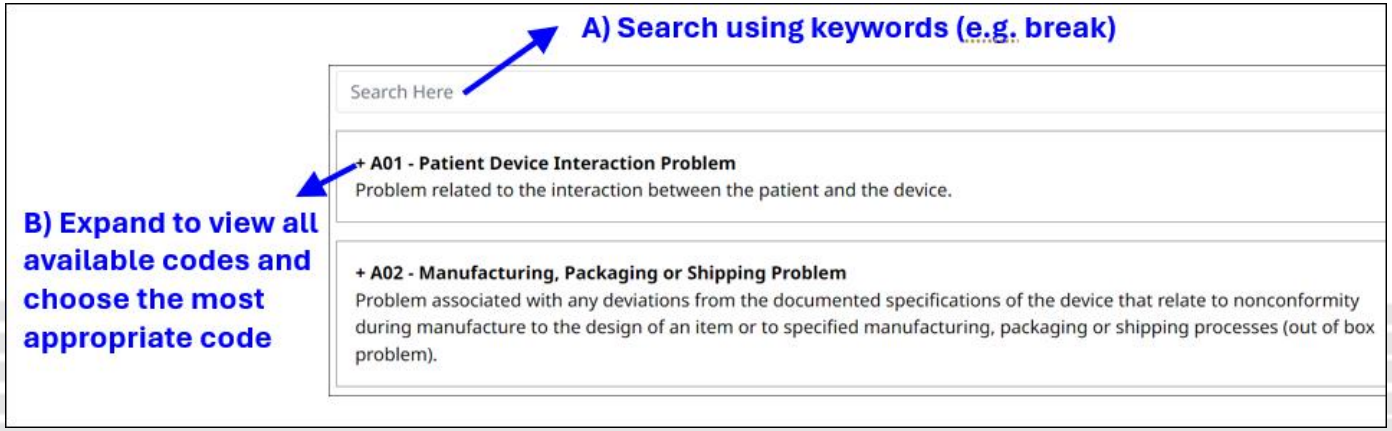
The web browser for IMDRF AE terms ensures user-friendly searching and hence better and more adequate use of terms by reporters/regulators.

- Annex A: Medical Device Problem
- Annex B: Cause Investigation - Type of Investigation
- Annex C: Cause Investigation - Investigation Findings
- Annex D: Cause Investigation – Investigation Conclusion
- Annex E: Health Effects - Clinical Signs and Symptoms or Conditions
- Annex F: Health Effects - Health Impact
- Annex G: Medical Device Component

2) How to search

A) Search using keywords

B) Expand to view all available codes and choose the most appropriate code



3) Select the most appropriate code of the lowest level as they are more descriptive.

Example: Level 1: A04, Level 2: A0401, Level 3: A040101

For example, if there was device fracture, choose A040101 – Fracture [L3] instead of A401 – Break [L2].

- A04 - Material Integrity Problem

Problem associated with any deviations from the documented specifications of the device that relate to the limited durability of all material used to construct device.

- A0401 - Break

Problem associated with undesired damage or breakage of those materials used in the device construction.

A040101 - Fracture

Problem associated with a partial or full-thickness crack in the device materials.

DEALERS LICENCE

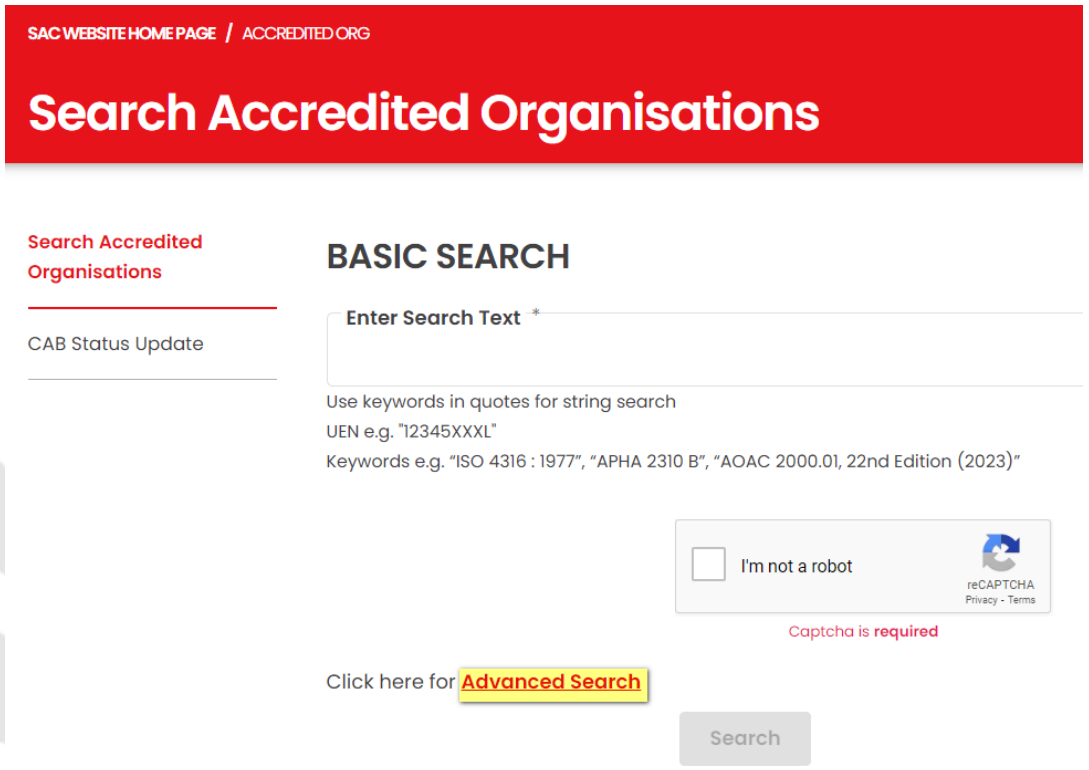
Reminder

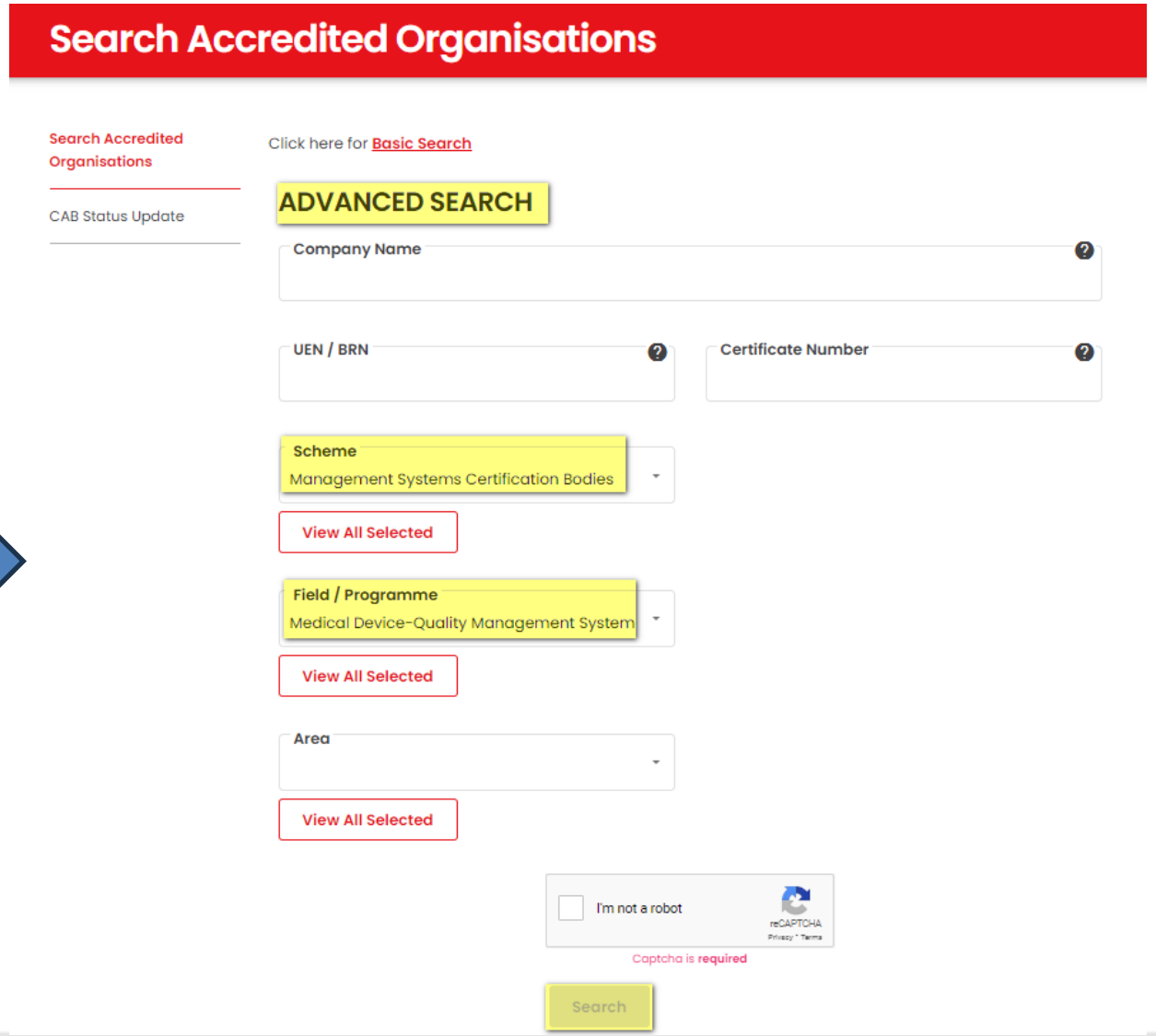
- Submit an amendment to your dealer's licence to update your QMS (e.g. GDPMDS, ISO13485) expiry date.

  Dealer's licence expiry date ≠ QMS expiry date

- From 2025, only ISO13485 certificates issued by SAC accredited CBs or MDSAP certificate will be accepted for HSA medical device dealer license applications (i.e. new and amendment).
  - Dealers are advised to check with your current CB on their plan to obtain the SAC accreditation before your next re-certification cycle.

List of SAC accredited CBs for MDQMS (i.e. ISO13485) can be found on SAC's website. This list will be updated upon addition of new accredited CBs.
https://sacinet2.enterprisesg.gov.sg/sacsearch/search





FAQ

FAQ

Which evaluation route does my medical device qualify?

To qualify for abridged, expedited or immediate evaluation routes, the labelling, packaging and IFU of the device for sale in Singapore have to be identical to that approved in the reference agency (RA) being used as the basis for the selected evaluation route. If there are differences, companies are to provide the exact differences for our verification if the device may continue to leverage on the selected RA approval.

Refer to GN-15: Guidance on Medical Device Product Registration for more information on the eligibility criteria and types of RA approval recognized by HSA. For your ease of reference, summary tables on eligibility criteria and submission requirements of the different evaluation routes are available in Annexes 4 to 7.

Can we submit Class D product registration without UDI information after the implementation date in November 2024?

Yes, company can proceed to submit product registration for the class D medical device without the UDI information via MEDICS. However, company is required to update the UDI information prior to any import and supply of the class D device and ensure devices are UDI compliant from November 2024 onwards.

FAQ

Do I have to register the Class A medical devices together with my Class B/C/D device listing?

For Class A models in a System grouping, companies may either list these models under the Class A Medical Device Database through a valid dealer licence (i.e. importer or manufacturer) or list on the Singapore Medical Device Register (SMDR) as a SYSTEM with the registrable medical devices. If you would like to list on SMDR, Please provide the following documentation or information during submission:

a. Class A declaration on Registrant company letterhead on:
i) the stated models are class A devices,
ii) device name and identifier,
iii) name of Product Owner,
iv) name and address for the manufacturing and sterilization site(s) for all class A models; and

b. Evidence that the Class A models qualify for grouping within the listing (e.g. promotional material such as brochures or catalogues).

Please note that if there are any changes to the Class A listing information on the SMDR listing, a change notification is required. Refer to GN-21.

FAQ

How do we know if the FSCA has been closed in OSCAR?

Closed FSCA cases will have their Status field reflected as “Closed” in OSCAR. An email will also be sent, acknowledging the company has performed its reporting obligations.

I would like to import for re-export Class A medical devices. I have a valid importer and wholesaler licence. Do I need to notify HSA the list of Class A medical devices?

If company imports for re-export Class A medical devices and there is no supply of Class A medical devices in Singapore, you do not need to notify us. Please be reminded that dealers are required to maintain documentary evidence of import and supply (e.g. traceability records) as part of their mandatory device distribution records.

I hold valid importer and wholesaler licence. Do we need to apply for GN-28 if we want to import unregistered medical devices solely for re-export?

Companies with existing importer and wholesaler licences shall not require GN 28 authorisation for import for re export. Please be reminded that dealers arerequired to maintain documentary evidence of import and supply (e.g. traceability records) as part of their mandatory device distribution records.

FAQ

Does the overseas product owner require their ISO13485 certificate to be issued by SAC accredited certification body?

From 1 January 2025, only dealers who use ISO 13485 certificates as pre-requisite for their importer, wholesaler and/or manufacturer's licence will need to ensure that the certification body is accredited by SAC.

When will the new platform to replace MEDICS be launched? What are the new features?

Information on the new system will be shared with stakeholders at a later date, please keep a look out for the announcements on our HSA website.

Thank You!