Standards for Medical Devices

(utilization of international standards, etc.)

Hiroshi Ishikawa

Division of Standards for Medical Devices

Office of standards and Guidelines Development

Today's Agenda

1. *Introduction*
   a. PMDA, Office of Standards and Guidelines Development
2. *Standards and regulation*
   a. Standards
   b. Standards in regulation
3. *Standards in Japanese regulation*
   a. Framework for Certification Standards, Approval Standards and Review Guideline
   b. Certification Standards
   c. Approval Standards and Review Guideline
   d. Process of development for Certification Standards ,etc.
4. *Our Website for Standards regarding Medical Devices*

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Who We are ?

Date of establishment: April 2004

Who we are :

PMDA (Pharmaceuticals and Medical Devices Agency) is a Japanese regulatory agency, working together with the Ministry of Health, Labour and Welfare.

Our obligation is to protect public health by assuring the safety, efficacy and quality of pharmaceuticals and medical devices.

Please refer to the following website for details
https://www.pmda.go.jp/english/index.html)

PMDA Organization

- Office of Review Administration
- Office of Review Management
- Office of Standards and Guidelines Development※
- Office of Medical Devices I-III
- Office of Vaccines and Blood Products
- Office of Cellular and Tissue-based Products
- Office of Generic Drugs
- Office of OTC/Quasi-drugs
- Office of New Drug I-V
- Office of Non-clinical and Clinical Compliance

※ We focus on developing standards and guidelines

PMDA Organization

Office of Standards and Guidelines Development

Division of Pharmacopoeia and Standards for Drugs

- Secretariat of Japanese Pharmacopoeia Expert committees
- Registration of Master Files for Drug Substances

Division of Standards for Medical Devices

- Secretariat of Committees for Certification and Approval Standards
- Cooperation to establishment of JIS, ISO and IEC standards
- Open these standards to the public in a timely manner.

PMDA Organization

Main tasks of the Division of Standards for Medical Devices

- To prepare for the Certification Std., the Approval Std. and the Review Guideline.
- To support the establishment of JIS, ISO and IEC which are referred to as technical requirements in the Certification Std. and the Approval Std. etc..
- To consolidate the information for the Certification Std., Approval Std. etc.. and open them to the public in a timely manner.

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   a. Standards using in Japan
   b. Standards in regulation
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Standards Using in Japan

◆*Type of standards :*

- National Standards (e.g. JIS)
- International standards (e.g. ISO/IEC)
- Product standards (industry-proved standards) etc..

◆*Characteristics of standards :*

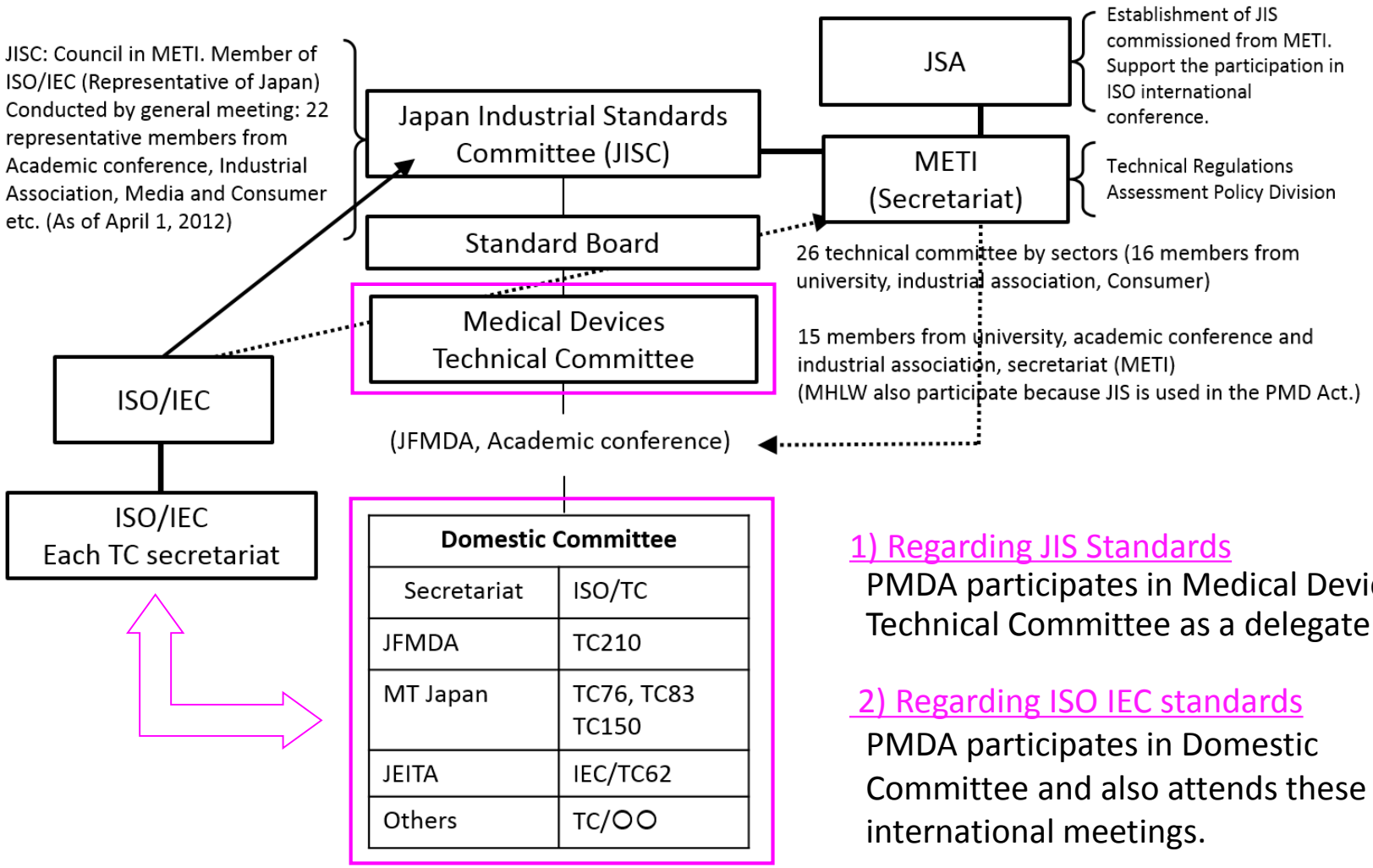
- Standards should be based on the consolidated results of science, technology and experience, … (ISO/IEC Guide2:2004, definition 3.2)
- Standards are characterized as the documents describing standardization requirements. (For example, evaluation methods and item specifications common in product.)
- A standard itself is generally a voluntary standard.

Japanese Industrial Standards (JIS)

◆ *Japanese Industrial Standards (JIS)*

- JIS is national standards in Japan and developed under Industrial Standardization Act.
- To be used widely in Japan, JIS is developed in Japanese language.
- Not to create unnecessary obstacles to trade (WTO TBT agreement), numbers of JIS harmonized with international standards are increasing
- JIS aims to improve the quality of industrial products, enhance production efficiency, rationalize production, make transactions simple and fair, streamline utilization and consumption, and contribute to the promotion of public welfare

Process and related organization for JIS ,ISO and IEC



1) Regarding JIS Standards

PMDA participates in Medical Devices Technical Committee as a delegate

2) Regarding ISO IEC standards

PMDA participates in Domestic Committee and also attends these international meetings.

IMDF activities

Japan is one of a member of IMDRF (last year was Chair)

- MDSAP Pilot Program

  Medical Device Single Audit Program

  Member countries: USA, Canada, Australia, Brazil, Japan

  Participant Auditor: BSI, TUV SUD,TUV USA,SAI,LNE G-MED, Intertek Testing Service Na

  Please refer
http://www.fda.gov/downloads/MedicalDevices/InternationalPrograms/MDSAPPilot/UCM429978.pdf

- Standards WG
  - try to set IMDRF recognized standard
  - try to send technical experts to relevant ISO TC or WG
  - select horizontal or substantially important standard to participate

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Standards use in regulation (GHTF)

◆*Essential Principles*（*GHTF/SG1/N41R9:2005 ⇒ GHTF/SG1/N68:2012*）

- Fundamental design and manufacturing requirements are described.
- Essential Principles (EPs) from GHTF document was introduced in Japanese regulation and all devices shall be in conformity with the EPs.

◆*Role of Standards in the Assessment of Medical Devices*
(GHTF/SG1/N44:2008)

- Recognized standard: Standard deemed to offer the presumption of conformity to specific Essential Principles of Safety and Performance.

The JIS, ISO and IEC standards used in Japanese regulation to show the presumption of conformity to specific Essential Principles.
⇒These standards meet recognizes standards defined in GHTF.

※ The International Medical Device Regulators Forum (IMDRF) is continuing the work of GHTF

Standards use in Japanese regulation

◆*Why we use standards in regulation and create Technical Standards*

- To enhance a transparency for review requirements
- PMDA can focus on reviewing high-risk and innovative medical devices
- To provide safe and effective medical devices to patients in a timely manner
- Enhance globalization for the Market

Regarding medical devices which are confirmed effective and safety in market.

1）For low risk devices, ***Certification Standards*** is published.
→ To conduct assessment *by* ***registered third party***

2）For high risk devices and harmonized review requirements,
Approval Standards and ***Review Guideline*** is published.
→ To share review requirements with Industries
→ To conduct a standardized ***review by PMDA***

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Framework of Standards in Japanese regulation

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<tr><th>Category</th><th>Regulatory requirements</th><th>Japanese MD Nomenclature</th></tr>
<tr><td>Class A</td><td>Extremely low risk
e.g.,
X-ray film</td><td>General MDs
(Class I)</td><td>Self declaration
Approval of the product is not required, but marketing notification is necessary.</td><td>1,195</td></tr>
<tr><td>Class B</td><td>Low risk
e.g., MRI, digestive catheters</td><td>Controlled MDs
(class II)</td><td>Third party Certification
Certification by a registered certification body is required.
・Certification Standard</td><td>1,972
(1,519 for 3rd Party)</td></tr>
<tr><td>Class C</td><td>Medium risk
e.g., dialyzer</td><td rowspan="2">Specially Controlled MDs
(class III & IV)</td><td rowspan="2">Minister’s Approval
(Review by PMDA)
The Minister's approval for the product is required.
・Approval Standard
・Review Guideline</td><td>774
(39 for 3rd Party)</td></tr>
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e.g., pacemaker</td><td>351</td></tr>
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As of Sep, 2016

Framework of Standards in Japanese regulation

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As of Sep, 2016

Certification Standards (Class II)

◆ *Certification Standards (Third party Certification)*

The "Certification Standards" are specified by the MHLW.
Registered third-party certification bodies※ utilize these standards to confirm the conformity of Class II or III medical devices to the technical requirements.

※ Third-party certification bodies are requested to satisfy ISO/IEC 17021 and ISO/IEC 17065

1) Regarding Class II medical devices

⇒ ***936*** Certification Standards have already been developed which cover ***1519*** of ***1972*** products**. (77%)**

2) Regarding Class III medical devices ***<New Activities since 2014>***

⇒ The scope of third party certification was expanded to class III

⇒ 10 Certification Standards have already been developed which cover 39 products.

※ As of Sep.2016

Certification Standards (Class II)

◆*Structure of Certification Standards*

1. JMDN

Certification Standards are Notified by the MHLW .
Related applicable Japanese Medical Device Nomenclature (JMDN) are also listed.

2. Technical standard

Japanese Industrial Standard (JIS) is cited in principle.
Together with the EP check list including applicable standards to be used for conformity assessment.

3. Scope of Purpose of use and effect

The purpose of use and effect for a medical device are determined based on its definition given in the relevant technical standards.

◆*Compliance with Essential Principles*

All medical devices are required to satisfy the essential principle that align with those defined in GHTF/SG1/N68:2012. A checklist of conformity to the Essential Principles is basically defined and published notification.

◆*Substantially Equivalent to Existing Product*

Products subject to compliance with Certification Standards are limited to those which have substantially equivalent to existing controlled medical devices

Certification Standards (Class II)

Certification Standard is consisted of JIS and purpose of use and effect.

◆ *Structure of Certification Standards*

No.	Nomenclature of Applicable Medical Devices (JMDN)	Certification Standard	
		JIS	**Purpose of use and effect**
1	1. X-ray system, diagnostic, general-purpose, mobile, analogue 2. X-ray system, diagnostic, general-purpose, portable, analogue 3. X-ray system, diagnostic, general-purpose, portable, digital 4. X-ray system, diagnostic, general-purpose, stationary, an 5. X-ray system, diagnosti purpose, stationary, dig 6. X-ray system, diagnosti purpose, mobile, digital	T 0601-1-3 Z 4751-2-54	To provide the imaging information of human body for medical care used with the scintillation effect, photo-effect or ionization effect that X-ray went through a body has.

JIS required by technical requirement

JIS T 0601-1-3 is based on IEC 60601-1-3:2008 (IDT)

JIS Z 4751-2-54 is based on IEC 60601-2-54:2009 (MOD)

Certification Standards (Class II)

◆*Essential Principles Checklist*

A checklist of conformity to the Essential Principles is basically published as notification.

Essential Principles of Safety and Performance of Medical devices	Applicable	Method of Conformity	Identity of Specific Documents
1.General requirements			
(Design) Clause 1 Medical devices should be designed and manufactured ・・・・・・	Applicable	Show the conformity with recognized standard included requirements Show risk management is conducted according to recognized standard	Ordinance on Standards for Manufacturing Control and Quality Control of Medical Devices and *In Vitro* Diagnostic Reagents（MHLW Ministerial Ordinance No. 169 in 2004） JIS T 14971:「Medical devices -- Application of risk management to medical devices」
（Risk management） Clause 2 The solutions adopted by the manufacturer ・・・・・・	Applicable	Show risk management is conducted according to recognized standard	JIS T 14971:「Medical devices -- Application of risk management to medical devices」
:			
(Effective for medical devices) Clause 6 All known and foreseeable risks, and ・・・・・・	Applicable	verify the effective to conduct risk analysis. Show the conformity with recognized Standard to verify the effective	JIS T 14971:「Medical devices -- Application of risk management to medical devices」 JIS Z 4751-2-54:2012:「Particular requirements for the basic safety and essential performance of X-ray equipment for radiography and radioscopy 203.6.3.2.101 , 203.6.4.3, 203.6.4.7., etc.

Certification Standards (Class II)

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		with recognized standard to verify the effective	

Identity of Specific Documents

MHLW Ministerial Ordinance No. 169 is based on ISO 13485：2003

JIS T 14971 is based on ISO 14971:2007 (IDT)

Certification Standards (Class II)

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Identity of Specific Documents

JIS Z 4751-2-54:2012 is based on IEC 60601-2-54:2009 (MOD)

Certification Standards (Class III)

◆*Structure of Certification Standards*

1. JMDN

Certification Standards are Notified by the MHLW .
Related applicable Japanese Medical Device Nomenclature (JMDN) are also

2. Technical standard

Primary endpoints for evaluation of the equivalence to existing products are specified.

3. Purpose of use and effect

The purpose of use and effect for a medical device are determined based on its technical standard definition .

※ Main differences between class II and III Certification Standards

1) Regarding Class II certifications,
JIS standards are defined technical standard directly.

2)Regarding Class III certifications,
primary endpoints are defined technical standard.
⇒ Evaluations method of primary endpoints such as JIS, ISO and IEC are defined in notifications published by the MHLW

Common Point

Bothe required EP conformity

Certification Standards (Class III)

◆*Notification for Evaluation of Primary endpoints*

1. JMDN

The applicable JMDN is clearly defined.

2. Method of evaluation for primary endpoints

Method of evaluation for primary endpoints is defined by using international standards, etc..
International standards which satisfy the Essential Principles are defined.

3. Scope of purpose and satisfy the essential principle

The purpose of use and effect for a medical device are determined based on its definition given in the relevant technical standards.

◆*Compliance with Essential Principles*

All medical devices are required to satisfy the essential principle that align with those defined in GHTF/SG1/N68:2012. A checklist of conformity to the Essential Principles is basically defined and published notification.

◆*Products subject to compliance with Certification Standards*

Products subject to compliance with Certification Standards are limited to those which have substantially equivalent to existing controlled medical devices

Certification Standards (Class III)

Certification Standard is consisted of
Primary endpoints and purpose of use and effect.

◆ *Structure of Certification Standards*

No.	Nomenclature of Applicable Medical Devices (JMDN)	**Certification Standard**	
		Primary endpoints	**Purpose of use and effect**
8	1 Positive airway pressure unit, continuous 2 Positive airway pressure unit, continuous auto	The next evaluation items are estimated by the standard under Pharmaceutical and Food Safety Bureau of MHLW. 1.Maximum limited pressure 2.Stability of Pressure Accuracy 3.Function of self-adjustable pressure 4.Patient-Connection port 5.Performance for accessories	To deliver a therapeutic pressure to patients suffering from sleep apnea under the doctor's order.

Primary endpoints required by technical requirement

Certification Standards (Class III)

◆*Structure of Notification for Evaluation of Primary endpoints*

1. The Scope

The following devices are not included in this certification

- ― intended for life-support devices
- ― intended for use with neonate, etc.

2. Method of evaluation for Primary endpoints

1. Maximum limited pressure is evaluated by referencing ISO 80601-2-70:2015 clause 201
2. Stability of Pressure Accuracy is evaluated by referencing ISO 80601-2-70:2015 clause 201

:

International standards are directly referred as a evaluation

3. The standards which shows the essential principle

Standards of conformity to the Essential Principles are listed.

ISO 80601-2-70:2015
ISO 8185
ISO 5367

International standards are directly referred as a evaluation

Approval Standards (Reviewed by PMDA)

◆*Structure of Approval Standards*

1. JMDN

Approval Standards are Notified by the MHLW .
Related applicable Japanese Medical Device Nomenclature (JMDN) are also

2. Technical standard

Items related to performance, function, efficacy etc.. are specified. Its requirements are determined based on standards, such as JIS, ISO and IEC.

3. Scope of Purpose of use and effect

The purpose of use and effect for a medical device are determined based on its definition given in the relevant Technical standard.

◆*Compliance with Essential Principles*

All medical devices are required to satisfy the essential principle that align with those defined in GHTF/SG1/N68:2012. A checklist of conformity to the Essential Principles is basically defined and published notification.

◆*Products subject to compliance with Approval Standards*

Products subject to compliance with approval standards are limited to those which have substantially equivalent to existing approval medical devices

Approval Standards (Reviewed by PMDA)

◆*Structure of Review Guideline*

1. Scope and Intended use and indications

Applicable medical devices are defined by Japanese Medical Device Nomenclature (JMDN), and the intended use and indications of the medical devices are also specified in principle.

2. Technical guideline

The technical requirements for performance, function, efficacy, etc.. are provided as needed and they are selected based on the principal performance of the product for which approval is sought. The reference standards are also listed.

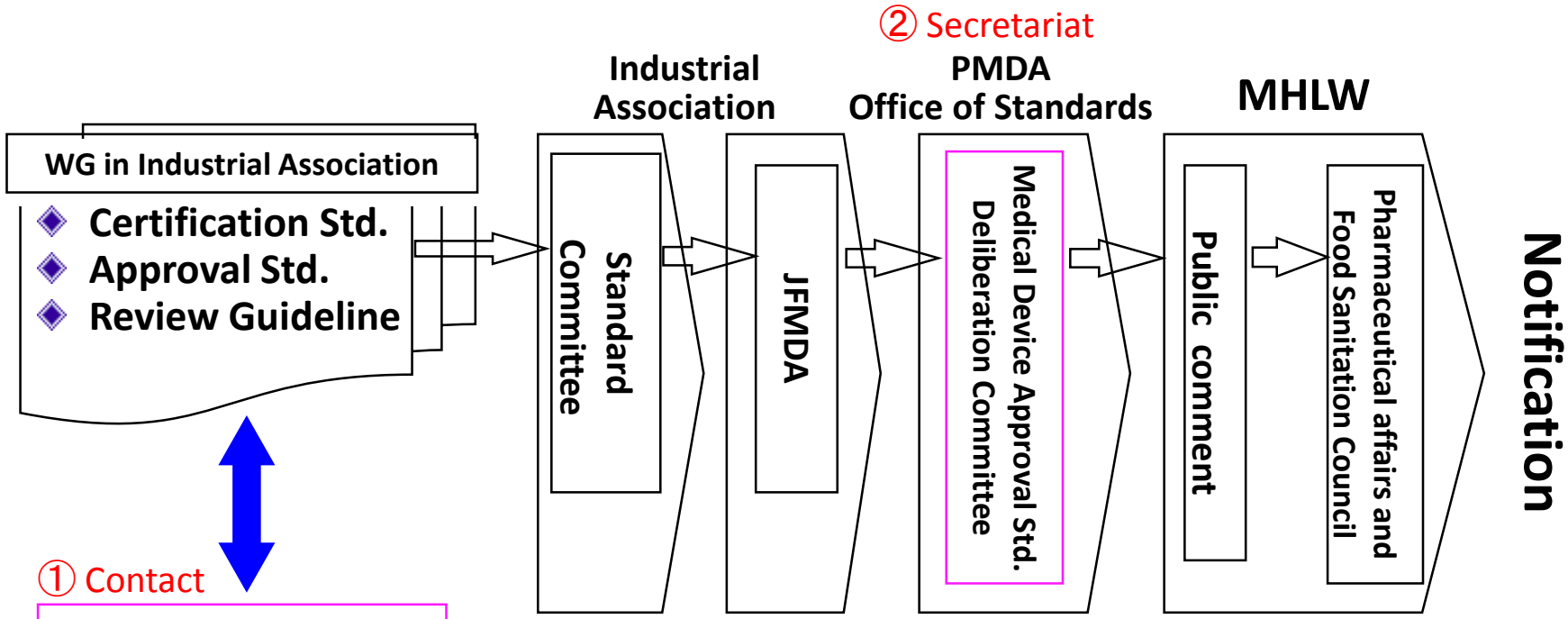
3. Compliance with essential principle

All medical devices are required to satisfy the essential principle that align with those defined in GHTF/SG1/N68:2012. A checklist of conformity to the Essential Principles is basically defined and published notification.

◆*Scope of medical devices to which Review Guidelines apply*

The "review guidelines" apply to medical devices which are substantially equivalent to existing products in the Japanese market and improved medical devices. Clinical trial data may be necessary for some improved medical devices. New medical devices are outside of this scope.

Process for Certification Standards, etc..



① PMDA Office of standards contact and discuss with industrial , MHLW and internal PMDA regarding the contents for standards.

② PMDA Office of standards hold a Deliberation Committee as secretariat. Academia, consumer(medical doctor), industrial attends as a delegate.

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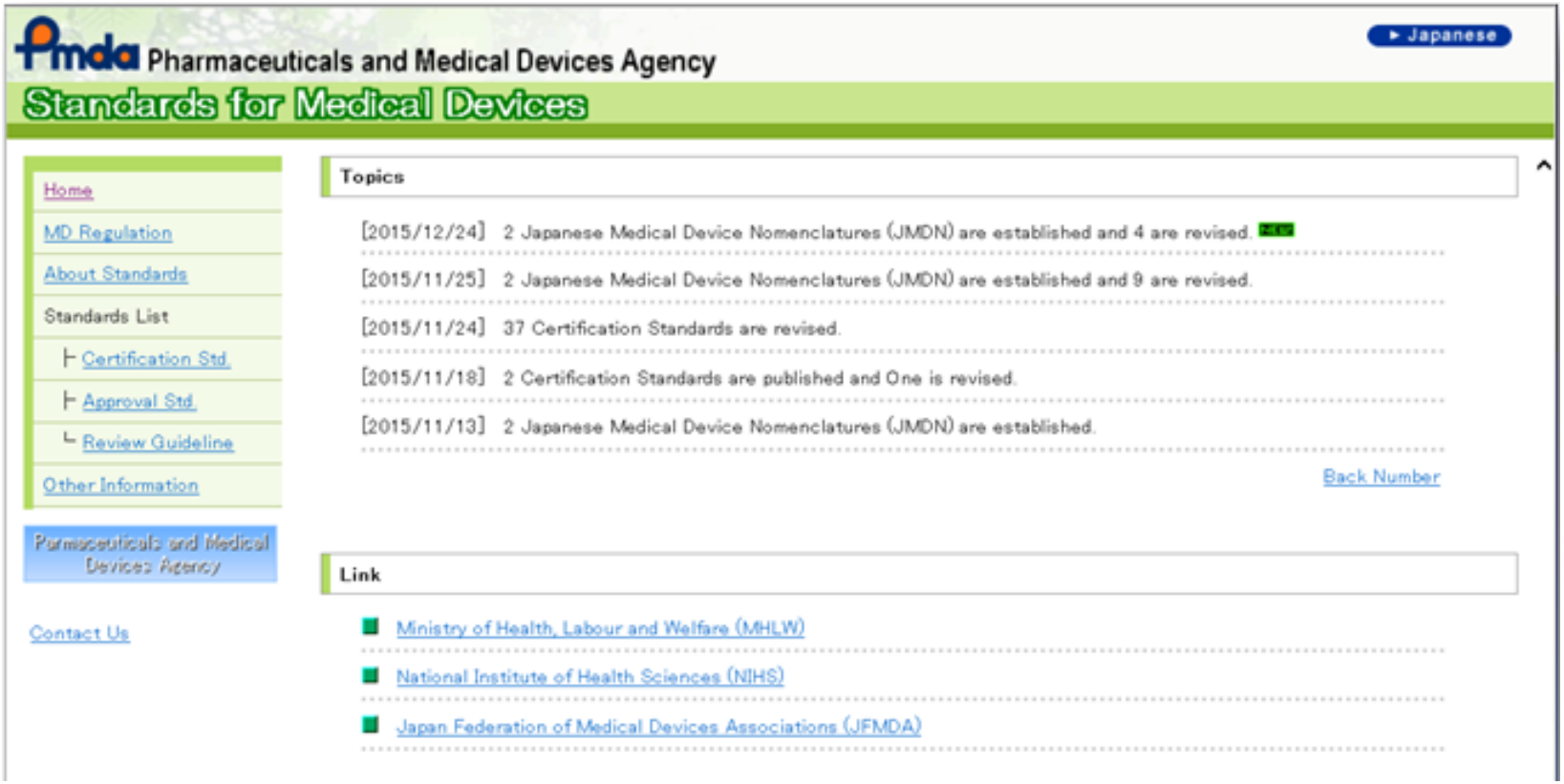
Our website for standards for Medical Devices

We open these standards to the public by English.

Please visit our Website : **http://www.std.pmda.go.jp/stdDB/index_e.html**



As a summary

Summary

- Use international Standards for regulatory purposes
- Updating the standards together with Industry Group, Third party Certifier and Government.
- Relatively low risk devices utilizing Certification Standards and ask third party to review.
- Some of Higher risk devices provide Approved Standards or Review Guidance for review possess by the Government
- All medical devices has to conform the Essential Principle (EP) and those EP using International standards as well as JIS
- JIS is the translated version of ISO/IEC.

Summary

Utilization of international Standards in regulation may make win-win-win situation for both Industries-regulators-patients.

- *Reduce duplication*
- *Enhance Transparency*
- *Save preparing time/cost*
- *Reduce review time*
- *Ensure Safety and Efficacy*

Thank you for your kind attention !