Pharmaceuticals and Medical Devices Agency

Flow of medical device approval review in Japan

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Agenda

1. Definition of Medical Device
2. Application Categories
3. Flowchart of general review process
4. Consultation menu
5. Actual success case in recent reviews

Definition of Medical Device

[Definition in the PMD Act]

- Appliances or instruments, etc. which are intended for use in the diagnosis, treatment or prevention of disease in humans or animals, or intended to affect the structure or functioning of the bodies of humans or animals (excluding regenerative medicine products), and which are specified by Cabinet Order.

[Article 2 of the PMD Act]

Intended use:	Diagnosis, treatment, or prevention of disease or Affect the structure or functioning of bodies
Prerequisite:	Specified by Cabinet Order

Part of Application Categories

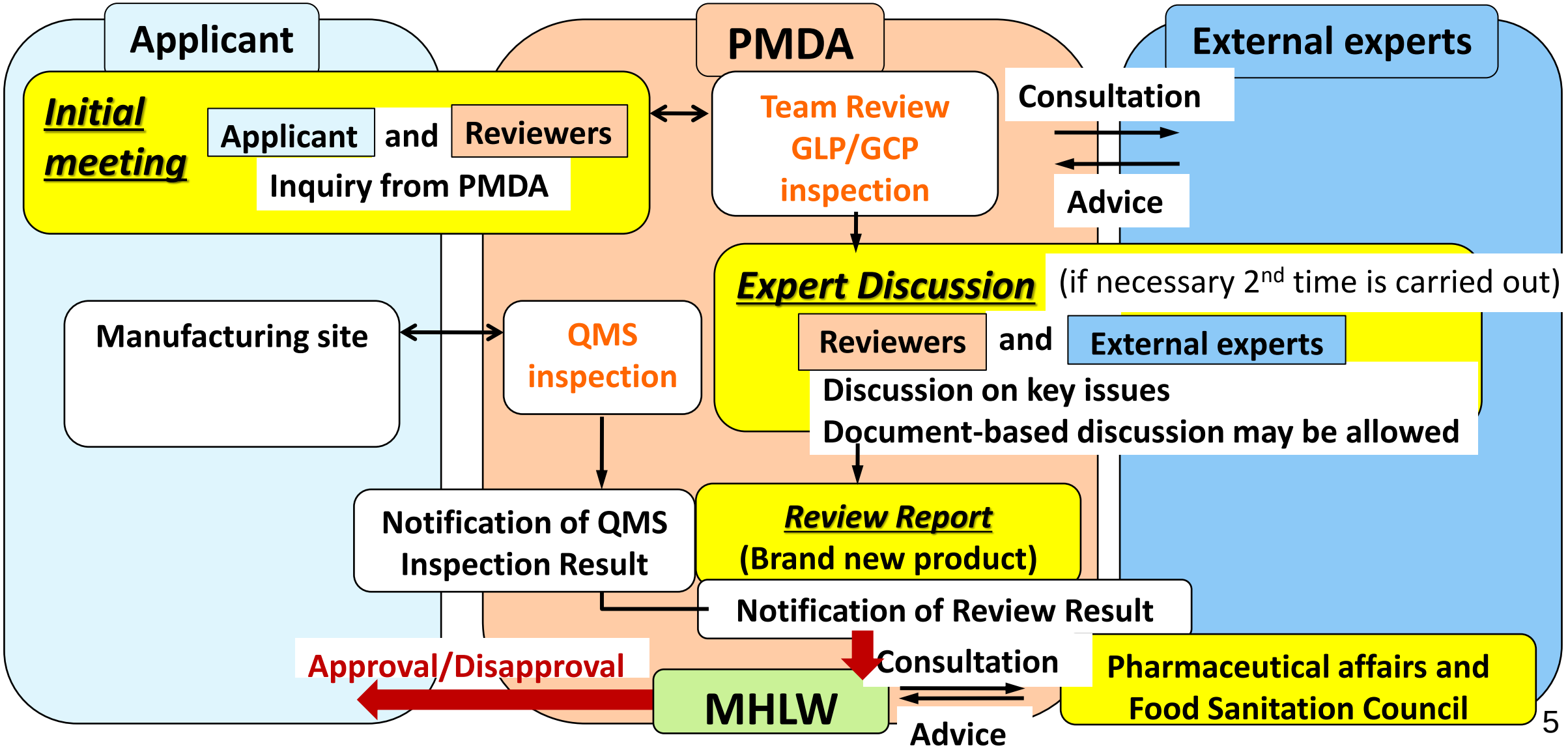
Total of approved devices: About 1,000 devices / year

Categories	Contents	Classification	Cost (yen)
Brand-new MD	● Medical devices whose structure, directions for use, effect or performance are clearly different from those already approved ● Clinical data required	Class Ⅳ	**17,721,200**
		Class Ⅱ/Ⅲ	**13,016,900**
Generic MD	● Medical devices whose structure, directions for use effect or performance are substantially equivalent to those already approved ● Clinical data not to be required	Class Ⅳ	**2,334,300**
		Class Ⅱ/Ⅲ	**1,879,900**

Ex. FDA (Standard / Small to medium enterprises)

- PMA : $483,560 / $120,890
- 510(k) : $21,760 / $5,440

Flowchart of general review process



Review reports of the approved medical devices

Reviews and Related Services

- Outline
- Consultations
- Reviews
  - Master File System
  - Accreditation of Foreign Manufacturers
  - New Drug Review with Electronic Data
  - Regenerative Medical Products
  - Advanced Efforts
  - Information for Approved Products
    - Drugs

Review Reports: Medical Devices

The following English translations of review reports are intended to be a reference material to provide convenience for users. In the event of inconsistency between the Japanese originals and the translations, the former shall prevail. PMDA shall not be responsible for any consequence resulting from use of the English versions.

The review reports were selected for translation among those of new medical devices that recently received marketing approval, in consideration of relevant factors including the novelty and priority.

Read more:

Procedures for Public Release of Information on Review of Applications for New Medical Devices (PMDA Notification No. 0206007, February 6, 2009)

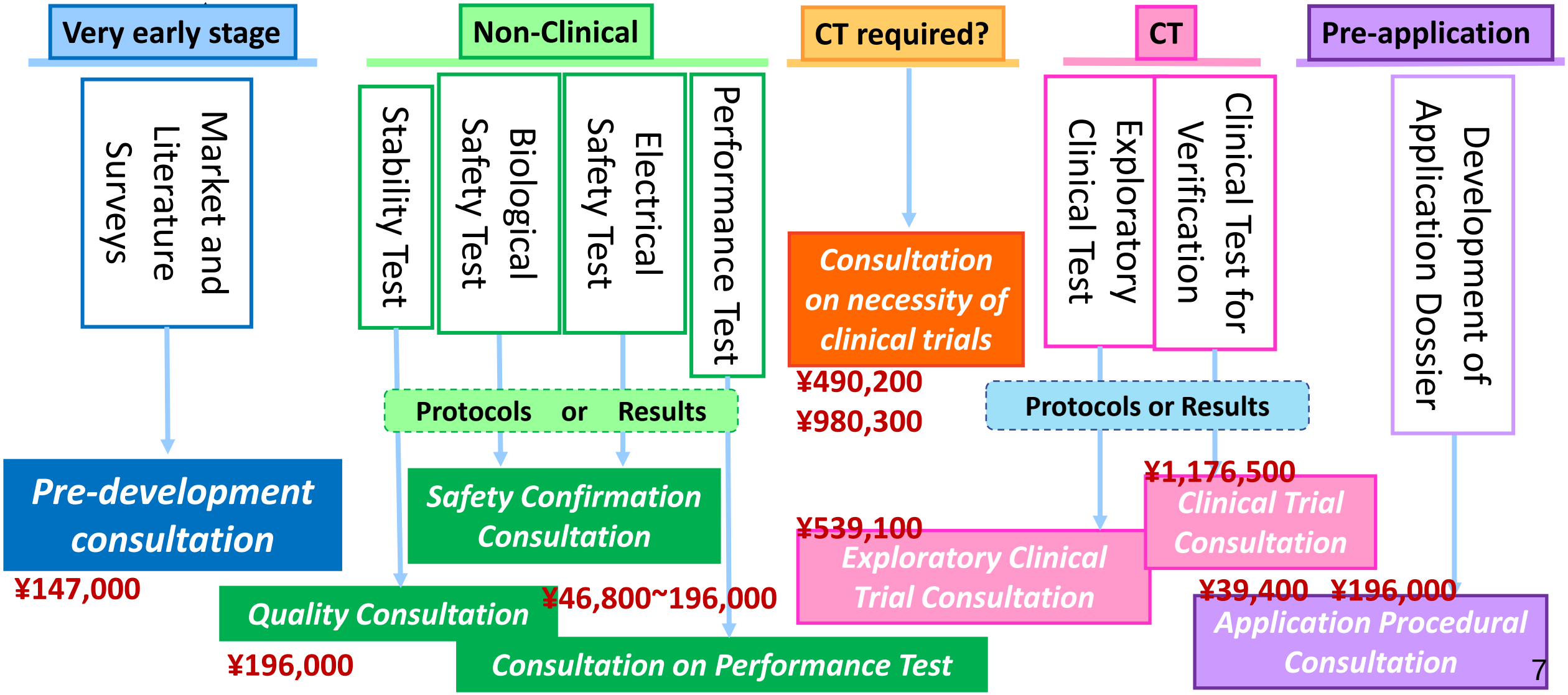
Browse by letter

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

Brand Name	Term Name	Approved In	English	Japanese
Absorb GT1 Bioresorbable Vascular Scaffold	bio-absorbable coronary stent	November 2016	Review Report	Review Report

PMDA's consultation menu about medical devices



Actual results of PMDA's consultation

Consultation menu	2019	2020	2021
Pre-meeting for formal consultation	263	255	286
Pre-development consultation	141	132	172
Consultation on necessity of clinical trials	29	24	21
Safety Confirmation Consultation Quality Consultation Consultation on Performance Test	57	72	73
Exploratory Clinical Trial Consultation Clinical Trial Consultation	55	53	50
Application Procedural Consultation	33	27	36
Total	**578**	**563**	**638**

Actual success case in recent reviews

- SAKIGAKE Designation System
- Conditional Approval System
- Utilization of Real World Evidence

Accelerated Review Systems in Japan

- Japan Offers Various Supporting Schemes for R&D Companies and Researchers.

Type	Area	Product features
Expedited review	Any product categories	In a particular situation requiring expedited review
Priority review		Designated as: 1. Orphan 2. Apparent improvement of medical care for severe diseases
SAKIGAKE (Forerunner designation)		• Innovative medical products • For serious diseases • Development & NDA in Japan: The NDA submission being the world's first or simultaneous with other countries • Prominent effectiveness expected based on non-clinical and early phase clinical study data
Conditional Approval	Drugs	Early application through confirmation of a certain degree of efficacy and safety in clinical trials other than confirmatory clinical trials
	Medical Devices	• High clinical needs • Balancing the pre- and post-market requirements
Conditional and Time-limited Approval	Regenerative Medical Products	• Based on the clinical data from the limited number of patients, efficacy is predicted in a shorter time compared with the conventional process. • Early-phase adverse reactions, etc. can be evaluated for safety in a short period of time.

SAKIGAKE Designation System

- Teijin's cardiovascular patch "Synfolium" -

Synfolium

80 mm × 130 mm
（thickness
：0.2～0.4 mm）

- Cardiovascular patch used to modify blood flow, secure blood channels, and construct and reconstruct surrounding tissues in surgical procedures for congenital heart diseases.

- A knitted product consisting of biodegradable polylactic acid (PLLA) yarn and non-biodegradable polyethylene terephthalate (PET) yarn covered with a cross-linked gelatin membrane.

Co-developed products ;
Teijin Limited, Shintaro Nemoto, M.D., Ph.D.,
Osaka Medical and Pharmaceutical University,
Fukui Tateami Co., Ltd.

＜ Development Concept ＞

- **The biodegradable portion is gradually replaced by self-organization over a period of years**
- **The remaining non-biodegradable portion reinforces the regenerated autologous tissue and does not inhibit tissue growth**

➡ **Contributes to the prevention of deterioration and intimal hyperplasia, which have been issued in previously approved products**

Sapien 3 (PA)

Conditional Approval System

- “Edwards Sapien 3” Addition of indication for pulmonic position -

Patients with congenital structural abnormalities in the heart and aortic system around the heart

…1% of newborns ➡ **10~12% Pulmonary valve stenosis**

(e.g.) Tetralogy of Fallot

(e.g.) ePTFE valved conduit

Use the conditional approval system to add the indication for the pulmonic position.

Utilization of Real World Evidence

[Primary data or complement of clinical trials]

SAPIEN 3
(TAV in TAV)

■ Edwards SAPIEN 3
（Edwards Lifesciences Limited, Approved in 2022）

- ➢ Prosthetic heart valve system used for transcatheter aortic valve replacement (TAVR)
- ➢ Clinical evidence for indication expansion: TAV in TAV
- ✓ Transcatheter Valve Therapies (TVT) Registry

The first case of that registry data is used as the primary data of clinical evaluation in Japan.

Background of pre-market review for a pre-market application in Japan

- ➢ Difficulties in conducting clinical trial
  (e.g. Patient population is limited., Target patients for TAV in TAV are elderly.)
- ➢ The reliability of TVT registry data was confirmed.
- ➢ The TAVR medical environment is similar in Japan and the US.

Kawasumi Najuta

MitraClip NT system

Utilization of Real World Evidence

[External control of clinical trials]

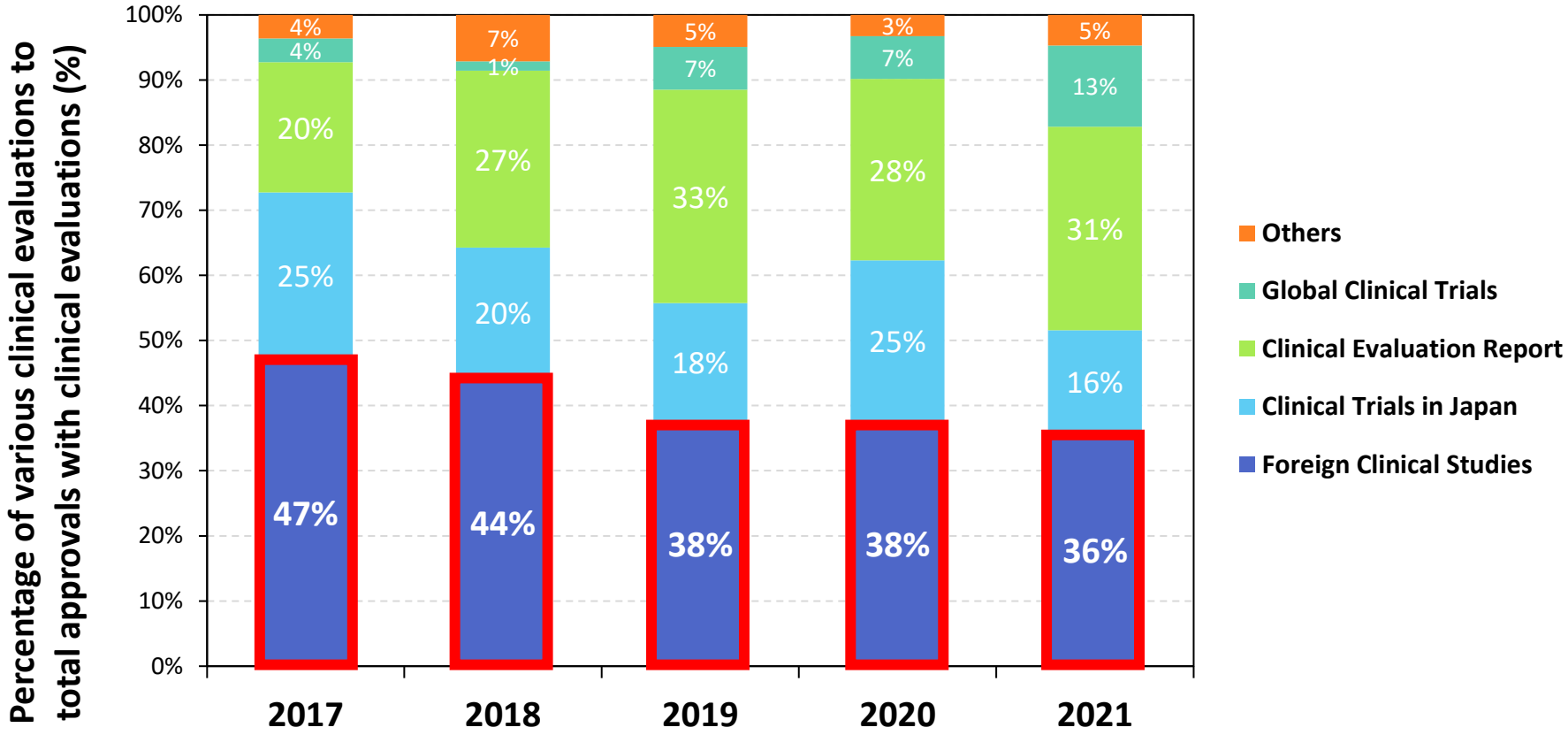
■ Kawasumi Najuta Thoracic Stent Graft System
(Kawasumi Laboratories, Incorporated , Approved in 2012)

- Aortic stent graft
- Comparison with patients registered in the Japan Adult Cardiovascular Surgery Database (JACVSD)

■ MitraClip NT system
(Abbott Medical Japan LLC, Approved in 2017)

- Percutaneous repair system for mitral valve coaptation failure
- Comparison with patients with medical treatment for symptomatic severe mitral regurgitation from Duke Medical Center database

Type of clinical evaluation of approved medical devices in Japan



About half of approved medical devices with clinical evaluations **are evaluated with foreign clinical studies.**

Thank you for your kind attention.

If you have any questions, please contact us.

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