Update on HBD activities
- Focusing on the last 5 years-

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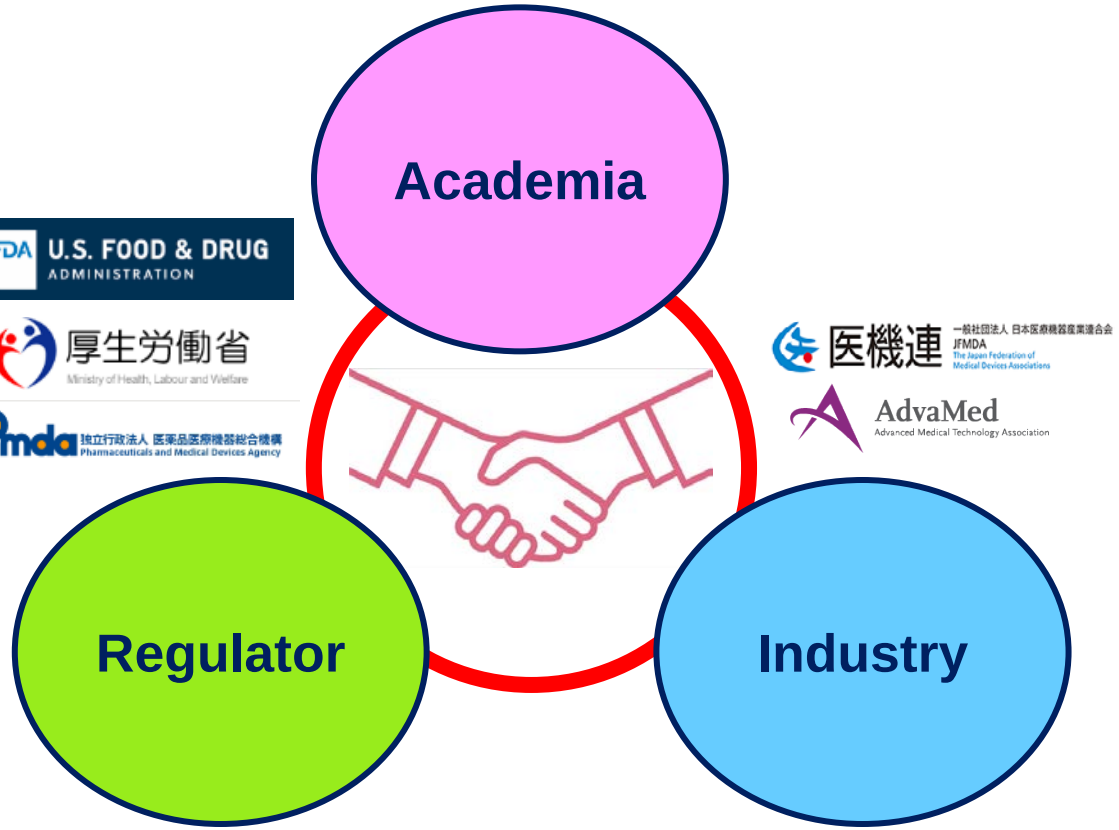
HBD East Think Tank 2023 Dec.14, 2023
Session C : Learning from HBD activity and recent update

Harmonization By Doing (HBD)

Under different medical environment and regulatory system,
HBD gives a valuable opportunity of direct discussions between stakeholders
to achieve global medical device development.



- Think Tank Meeting
- Scientific Sessions
- Publications
- POC (Proof of Concept) Project
- Monthly teleconference

HBD Think Tank Meeting,
HBD Town Hall Session (Scientific Session)

Meeting to **share achievements, the ongoing projects and future direction of HBD activities** among stakeholders.

➢ **Topics being discussed:**

- ✓ Real-world evidence (RWE) ***:Session D***
- ✓ Patient involvement
- ✓ GCP inspection of global clinical trial
- ✓ Heart failure disease, Venous disease, Paclitaxel issue, Chronic Limb-Threatening Ischemia (CLTI)
- ✓ Pediatric medical devices ***:Session F***
- ✓ SaMD ***:Session E*** etc…

☐ HBD Think Tank

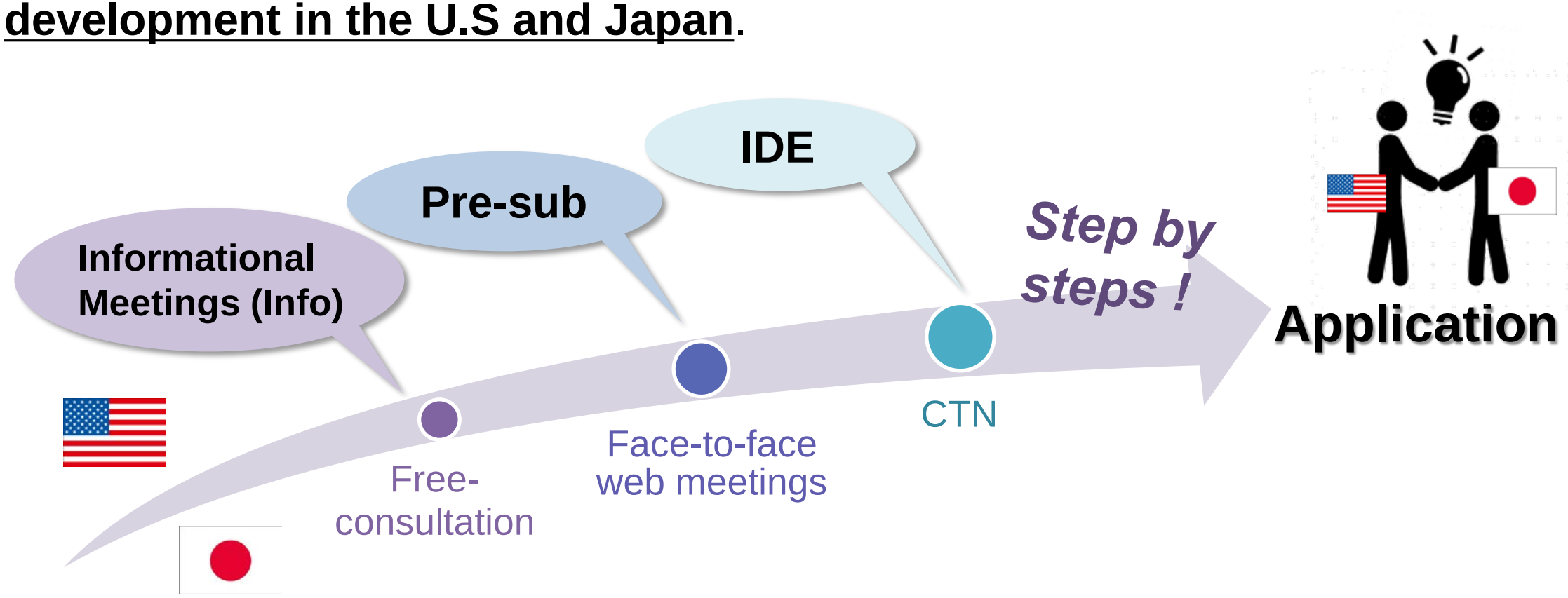
East 2019 (Tokyo)
West 2020 (Online)
East 2021(Online)
West 2022 (@CRT2022)
East 2023 (Tokyo)

☐ Scientific Sessions

CRT, CVIT, TCT, VIVA, RAPS, PICS, JCIC, JSPCCS

POC Project

Purpose of “POC” is to promote the convergence from parallel clinical trials in the U.S. and Japan toward **single clinical trial protocol/simultaneous development in the U.S and Japan**.



POC Project

These innovative products are choses as POC projects **to encourage development both in the U.S and Japan**.

＜**Ongoing projects**＞

- Atrial Shunt device for heart failure (Corvia Medical)
- Sealed Synthetic Graft (Diaxamed)
- Transcatheter mitral valve replacement (4C Medical)
- TricValve® (Orbus Neich)
- Device for CLTI treatment (Lim Flow)

Atrial Shunt device

Sealed Synthetic Graft

Experience of the POCs will be shared at
Session G : What should be considered for global harmonization of medical device development through HBD activity ? (16:10~)

Publications to share lessons learned

1. Key Considerations for US-JP Joint Medical Device Clinical Trial

➢ A concept paper based on our experiences through HBD activity

< Overview of the concept paper>

- The basic regulatory pathway of US-Japan joint clinical trial
- Lessons learned from previous global trials
- The points to harmonize for promoting global clinical trials

Publication:

Global Medical Device Clinical Trials Involving Both the United States and Japan: Key Considerations for Development, Regulatory Approval,and Conduct
Cardiovascular Revascularization Medicine 52 (2023) 67–74

2. Comparing the latest regulation system in the U.S and Japan

➢ Promotion of the use of specific programs intended to promote innovation based on points to note and utilization example of those programs.

➢ This paper has been drafting with US-JP stakeholders.

HBD-for-Children

Activities to **find problems and solutions** for the early development of **pediatric medical devices** through HBD scheme.

- Identify the needs/seeds of pediatric medical devices
- Supporting global trial (POC project, consensus definition)
- Considering to utilize special approval processes in both countries
- Utilizing clinical data except clinical trial (such as RWD) for pre- and post-market evaluation

Effort of pediatric medical device development will be shared at *Session F:* Approaches of HBD activity to promote the development of pediatric devices (14:45~)

Academic Research Consortium (ARC)

Collaborative forum across stakeholders
for consensus definitions and nomenclature to help data collection for new devices.

1. **Pulmonary Artery Stenosis-PAS ARC**

- Definition of classification of the lesions (Biventricular/Single ventricular)
- Outcome and Adverse event

2. **Mechanical Circulatory Support-PedsMCS ARC**

- Pathophysiology of Heart Failure in children complex
- Will seek to address:
  - ✓ procedural success
  - ✓ Complications
  - ✓ anatomic complexity and variability (age and size)

POC Projects of HBD-for-Children

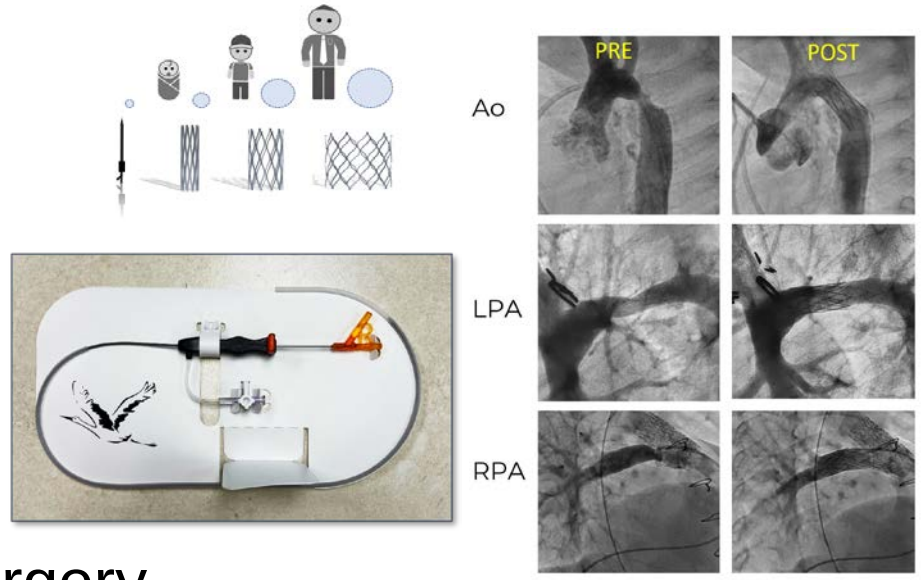
1. **The Harmony™ TPV system (Medtronic, Inc)**

- Self-Expanding Stent Graft + Porcine Pericardial Tissue Valve
- The first product approved under the framework of HBD-for-Children

C-3: What we can say now based on our experience in obtaining approval in Japan and the U.S. /Case 2

2. **The Minima Stent (Renata Medical)**

- A neonatal stent designed for a lifetime
- Pivotal IDE are now ongoing.



3. **Synfolium (Teijin Limited)**

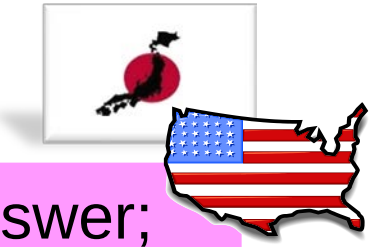
- Cardiovascular patch for pediatric cardiac surgery

F-3: The road from development to approval of pediatric medical devices and future approaches.

Publications to identify clinical needs

1. Questionnaire to Industries in the U.S. and Japan

Why do you think the developing pediatric medical device is difficult?



The most frequent answer;
The market is too small.

2. Classification of pediatric devices

1. Approved in the U.S. but not approved in Japan
2. Not approved in the U.S. and Japan but used as Off-label in the U.S. (or Japan) for a long time
3. Not approved and not used in the U.S. and Japan but used/approved in other countries
4. Under development
5. Approved in Japan but not approved in the U.S.

Understanding of current situation and specification of problems

Circ. J. 2020, 84, 786-791

Japanese research project for promotion of early development of pediatric medical devices

Japanese academia received national research grant for the promotion of pediatric medical device development derived from HBD-for-Children activity.

1. **Identifying and resolving issues pertaining to the parallel development of the pediatric medical devices between Japan and United States (FY2019-21)**
   - Performed a systematic review and survey to academia/industry
   - Surveyed registry organization in the U.S. and Japan
   - Discussed difference of GCP inspection procedure between the U.S. and Japan
   - Organized symposium participated in Japanese stakeholders

   Research report: https://www.shizuoka-pho.jp/kodomo/news/20220516/index.html (Japanese only)

   Publication: *Circ Rep. 2021 Mar 10; 3(3): 153–160.*

2. **Research on the Improvement of the Environment to Promote the Development of Pediatric Medical Devices (FY2023-26)**
   - Establishment of registry utilized for regulatory decision making (minimum data set, data reliability)

Conclusion

You can join anytime!

- **HBD activity** is
  - ✓a US-JP collaborative framework involving academia, industry and regulator.

Collaboration

  - ✓paving the way through professional experience and knowledge

By Doing

  - ✓contributing to the early development of medical devices by supporting the U.S.-Japan global development.

For The Patients

We will continue to seek real problems and solutions by connecting people.

in Fukuoka @CVIT2023

Thank you

- If you are interested in the activity, please contact the HBD secretariat hbd.contact@pmda.go.jp

- You can check the latest activities.
https://www.pmda.go.jp/files/000252829.pdf (HBD Brochure)

- Please check our website.
PMDA: (in JP) https://www.pmda.go.jp/int-activities/int-harmony/hbd/0015.html
(in EG) https://www.pmda.go.jp/english/int-activities/int-harmony/0028.html

FDA: https://www.fda.gov/medical-devices/cdrh-international-affairs/us-japan-regulatory-collaboration