Beyond Compliance: Real-World Evidence in Post-Market

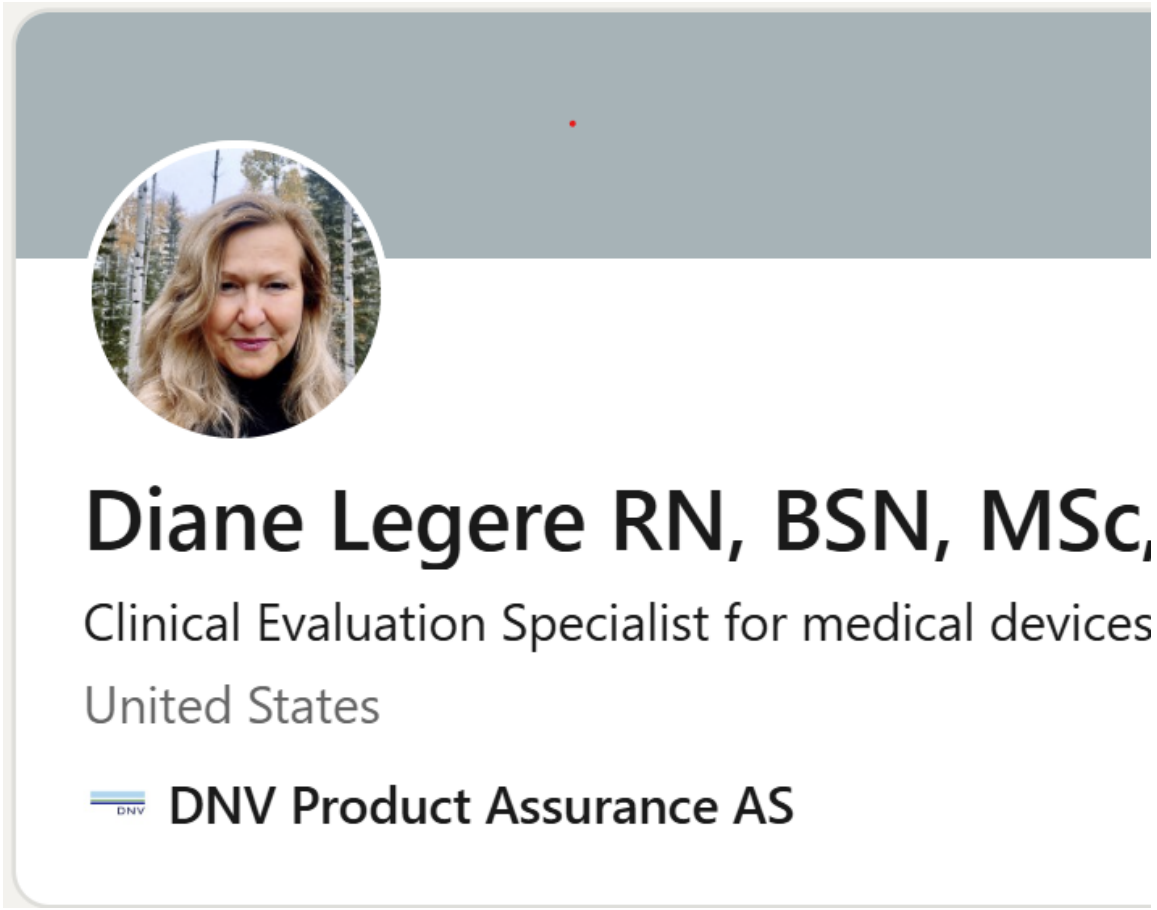
A Notified Body Perspective

Declaration of Interests

This presentation is intended for education purpose only and does not replace the legal text of the legislations, standards or guidance documents.

This presentation presents personal opinions and interpretation as a subject matter expert appreciating that the regulatory landscape is ever-changing as is our understanding.

I do not have any financial interests in any organizations represented here.



Post-Market Data has always been Real-World Data

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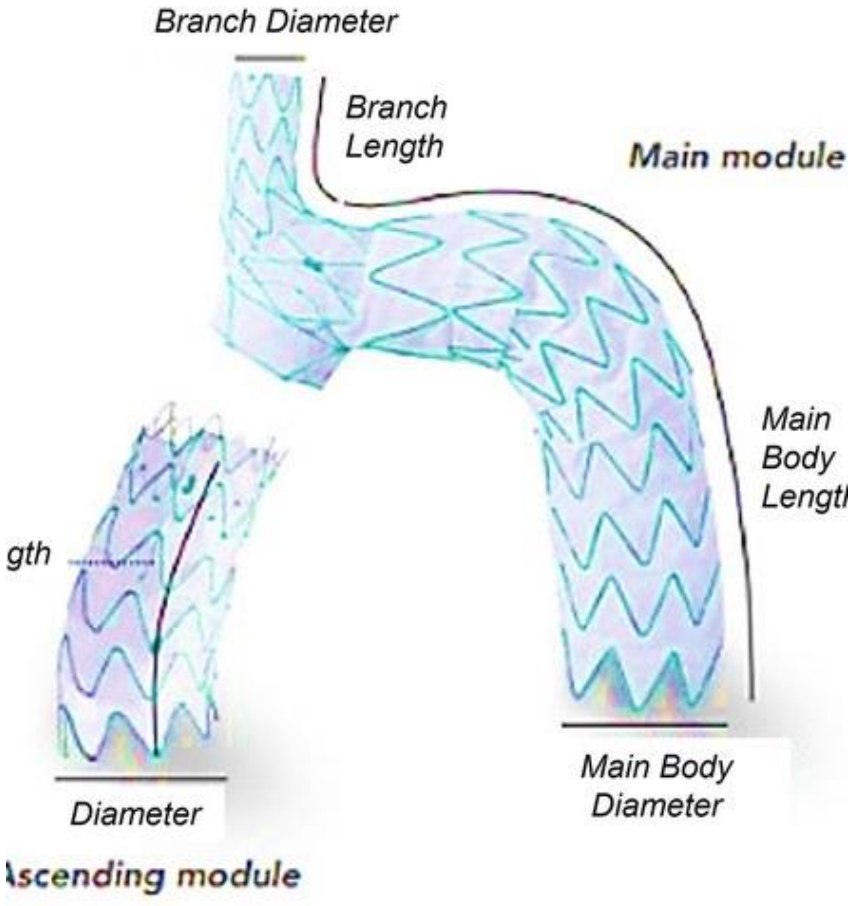
Abdominal Aortic Aneurysms (AAA)

Key recommendations include:

Establishing a real-world surveillance system to collect data for up to 10 years post-EVAR, focusing on clinical endpoints like all-cause mortality, aneurysm-related mortality, aortic rupture, and reintervention



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IGJ Report Urges Medical Device Manufacturers to Prioritize PMS

Post-market surveillance is a critical element to support the continued safety and effectiveness of a medical device. It is expected that manufacturers devote the necessary resources for this activity. PMS needs to be specific for the medical device or IVD. The plan needs to be **developed in advance**, identifying **all relevant data sources** and including the appropriate indicators, threshold values, and the consequences/activities for the manufacturer and the device when the data is at the indicator or threshold value. Manufacturers must assess their PMS processes and documentation in order to resolve any **deficiencies.**

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30 legacy devices class IIa and higher

85 NCs

IGJ Report Urges Medical Device Manufacturers to Prioritize PMS

Manufacturers need to monitor their medical devices on the market because some trends may become **visible only after market launch**, when a device is used in larger groups of patients and follow-up periods are longer.

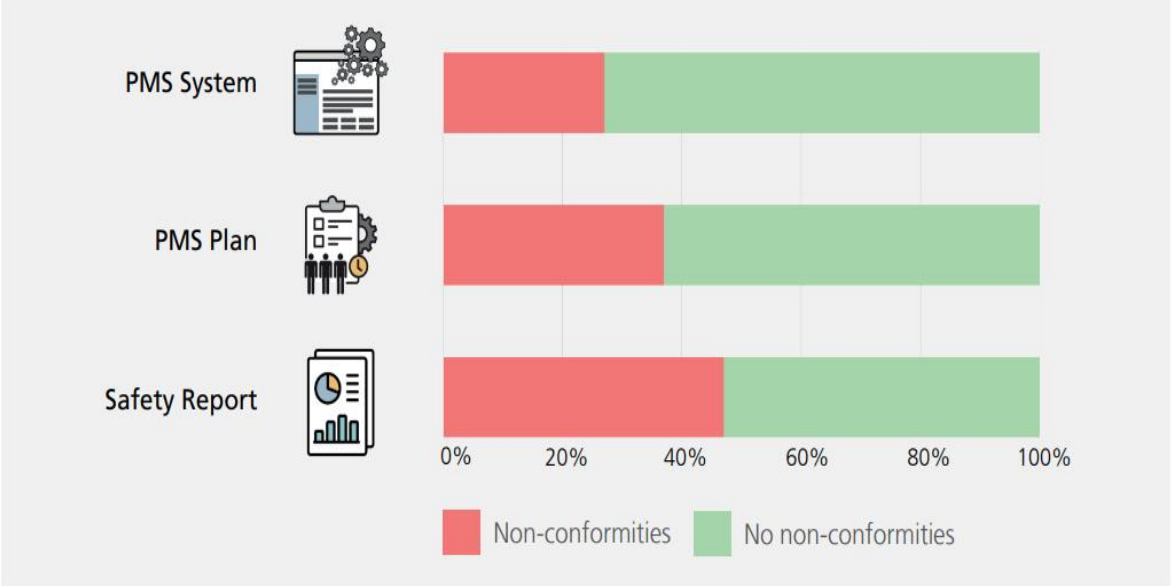

Figure 3: Number of cases with non-conformities (NCs) regarding PMS system, PMS plan and safety report

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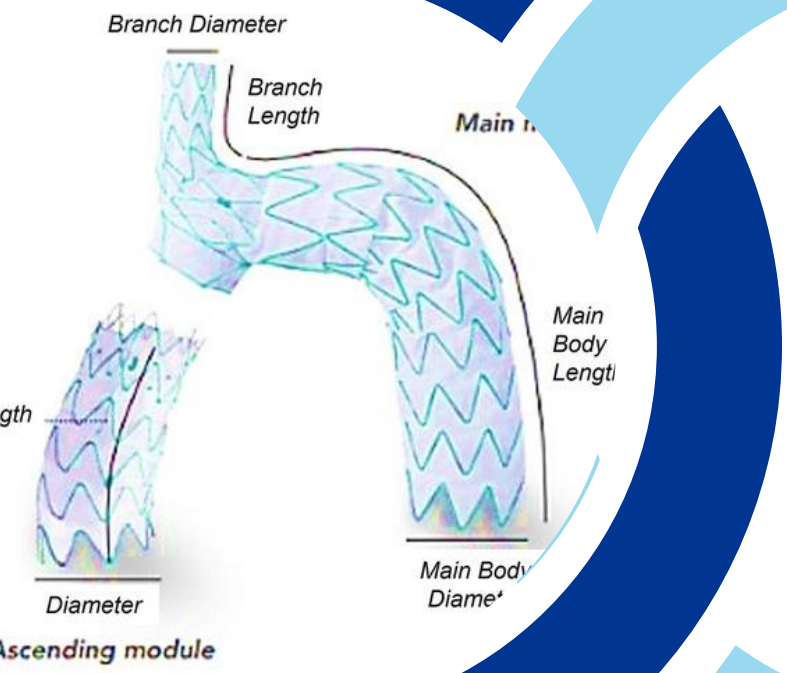

PMCF: Where RWE Has the Strongest Role

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Data Collection

Persona IQ is a first-to-world smart knee implant that captures patient-specific gait and range of motion metrics during the course of patient monitoring.

Stride Length

Calculated based on one gait cycle (meters)

Distance Traveled

Calculated based on step count and stride length (km)

Functional Range of Motion

Including tibia and functional knee ROM (degree)

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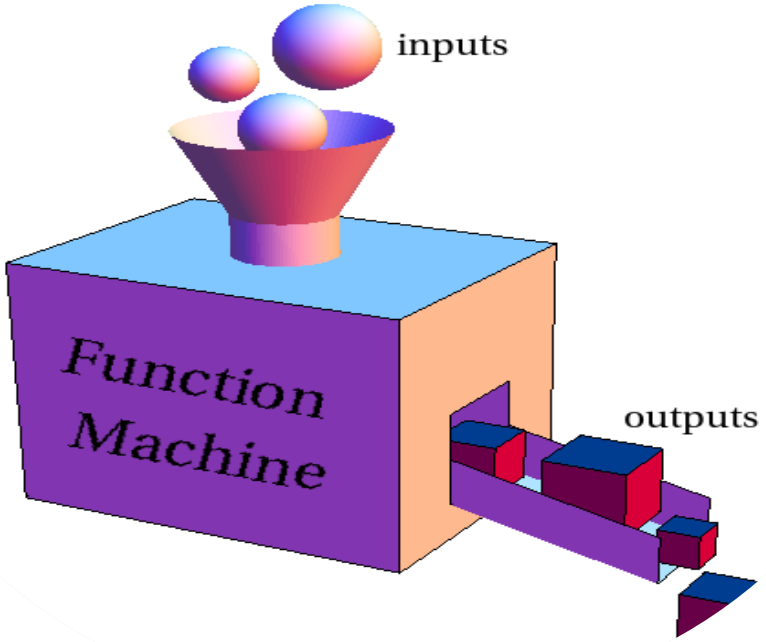
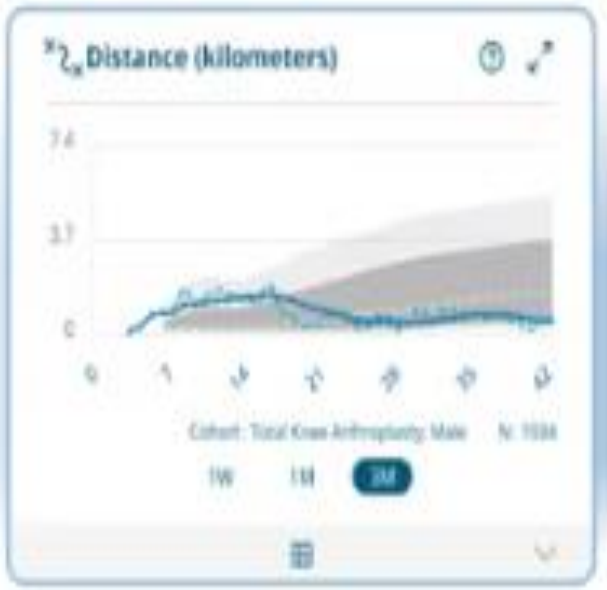
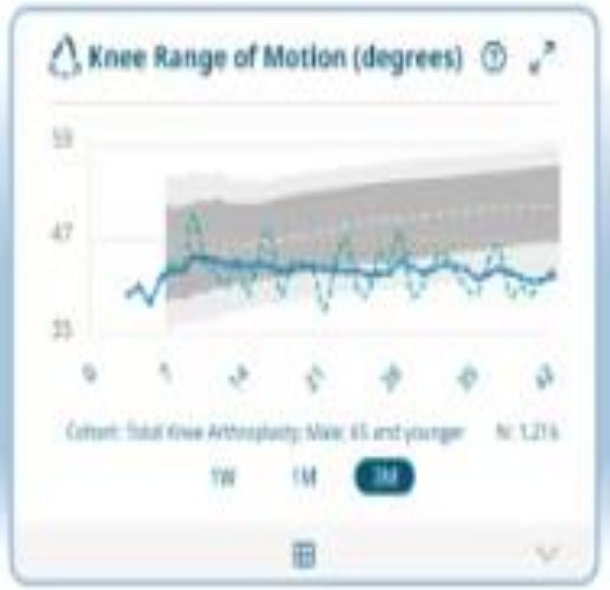
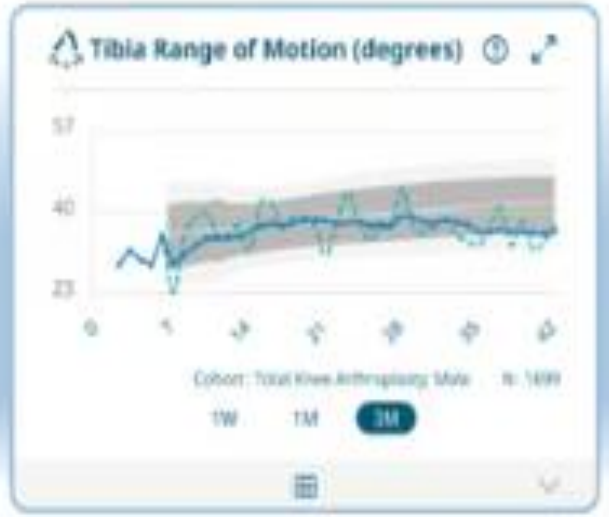

inputs
Function Machine
outputs


Distance (kilometers)
74
37
0
0
1
2
3
4
5
6
Cohort: Total Knee Arthroplasty Male
N: 1934
1W
1M
3M


Knee Range of Motion (degrees)
59
47
35
0
1
2
3
4
5
6
Cohort: Total Knee Arthroplasty Male: 65 and younger
N: 1,214
1W
1M
3M


Tibia Range of Motion (degrees)
57
40
23
0
1
2
3
4
5
6
Cohort: Total Knee Arthroplasty Male
N: 1699
1W
1M
3M


Walking Speed (meters/second)
0.8
0.5
0.2
0
1
2
3
4
5
6
Cohort: Total Knee Arthroplasty Male
N: 1934
1W
1M
3M

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Possibilities for improved patient outcomes from Real-World Data combined with Digital Health

Associated Intra-operative issues and patient's lower step count post-operatively

Prediction model for individual patient's

Predict patients at higher risk for 90-day gait speed

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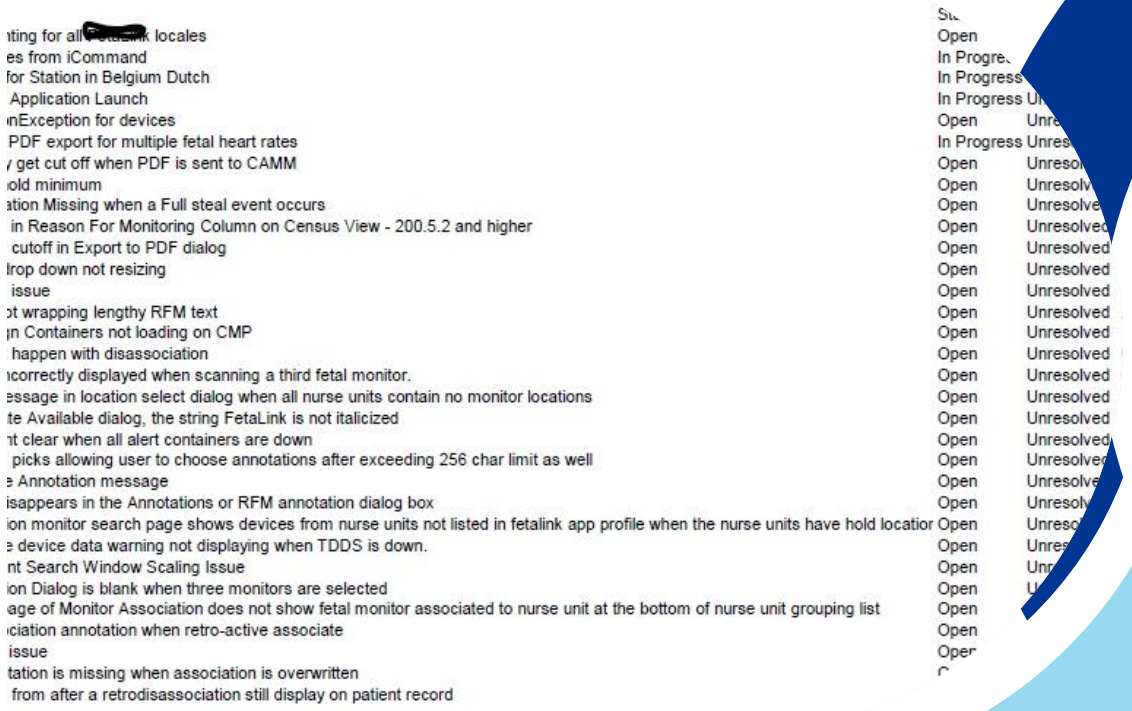

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for Station in Belgium Dutch	In Progress	
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/ get cut off when PDF is sent to CAMM	Open	Unreso
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in Reason For Monitoring Column on Census View - 200.5.2 and higher	Open	Unresolved
cutoff in Export to PDF dialog	Open	Unresolved
drop down not resizing	Open	Unresolved
issue	Open	Unresolved
ot wrapping lengthy RFM text	Open	Unresolved
ın Containers not loading on CMP	Open	Unresolved
happen with disassociation	Open	Unresolved
ıcorrectly displayed when scanning a third fetal monitor.	Open	Unresolved
essage in location select dialog when all nurse units contain no monitor locations	Open	Unresolved
te Available dialog, the string FetaLink is not italicized	Open	Unresolved
nt clear when all alert containers are down	Open	Unresolved
picks allowing user to choose annotations after exceeding 256 char limit as well	Open	Unresolve
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isappears in the Annotations or RFM annotation dialog box	Open	Unresolv
ion monitor search page shows devices from nurse units not listed in fetalink app profile when the nurse units have hold location	Open	Unreso
e device data warning not displaying when TDDS is down.	Open	Unres
nt Search Window Scaling Issue	Open	Unr
ion Dialog is blank when three monitors are selected	Open	U
age of Monitor Association does not show fetal monitor associated to nurse unit at the bottom of nurse unit grouping list	Open	
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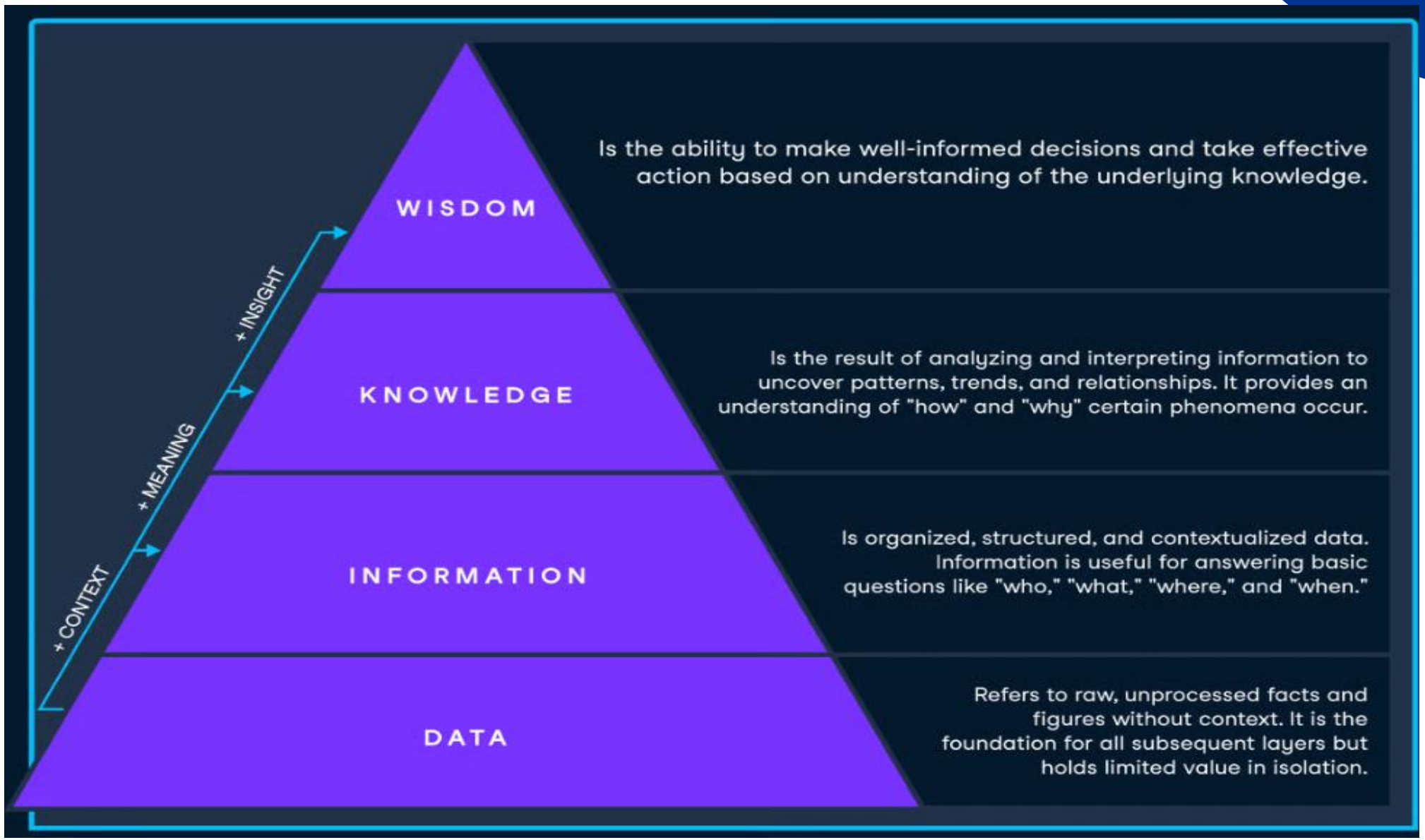
issue	Oper	
tation is missing when association is overwritten	C	
from after a retrodisassociation still display on patient record		

What Real-World Data submission should NOT be.

Limitations
Structured data- limited information
Unstructured data-access
Errors and misalignment

Data becomes Evidence……..



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Use of Real-World Evidence for International Regulatory Decision Making in Medical Devices

REVIEW ARTICLE

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HOW NOTIFIED BODIES VIEW REAL-WORLD EVIDENCE

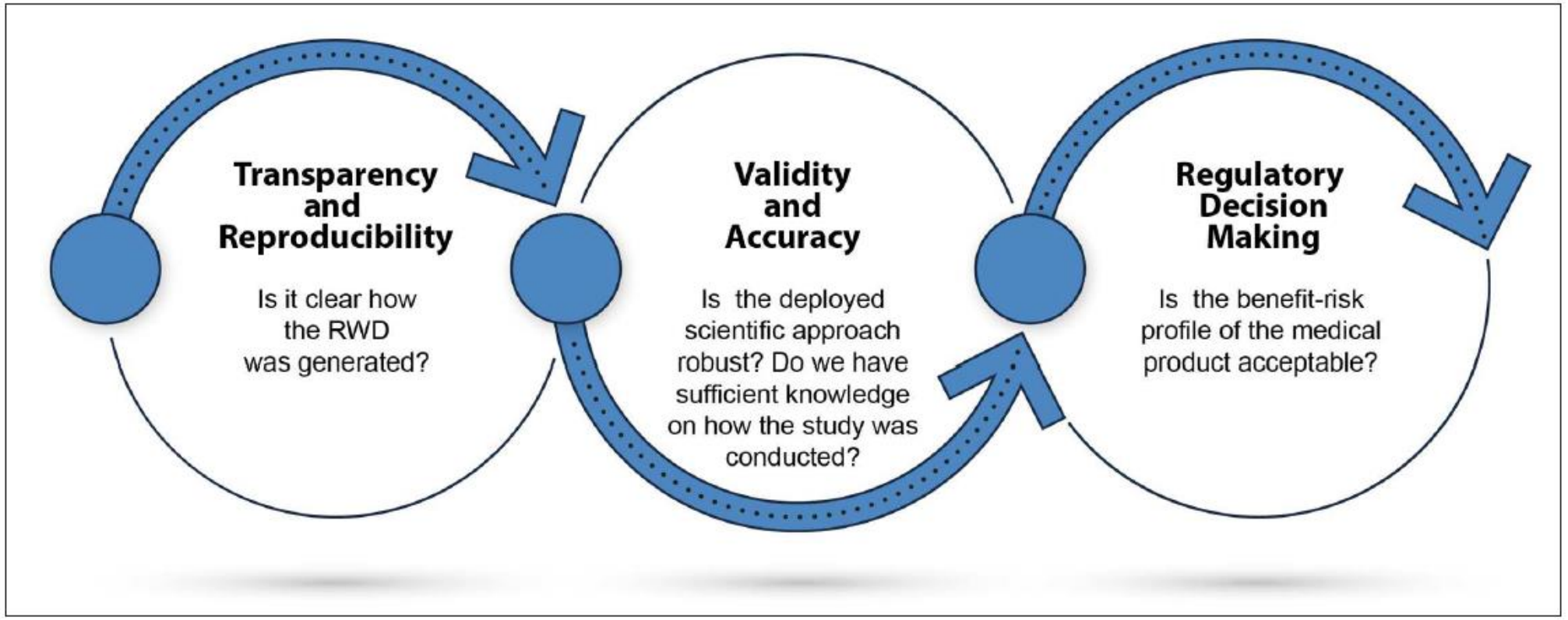

Figure 2 The basic pillars for the determination of acceptability of RWD/RWE in regulatory decision-making.

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MDCG where RWD/RWE is included

MDCG 2020-1 Clinical Evaluation of SaMD
MDCG 2020-6 Clinical Evidence needed for Legacy devices
MDCG 2020-7 PMCFP Template
MDCG 2020-8 PMCFP Evaluation Template
MDCG 2022-2 Clinical Evidence for IVD
MDCG 2024-10 Orphan devices

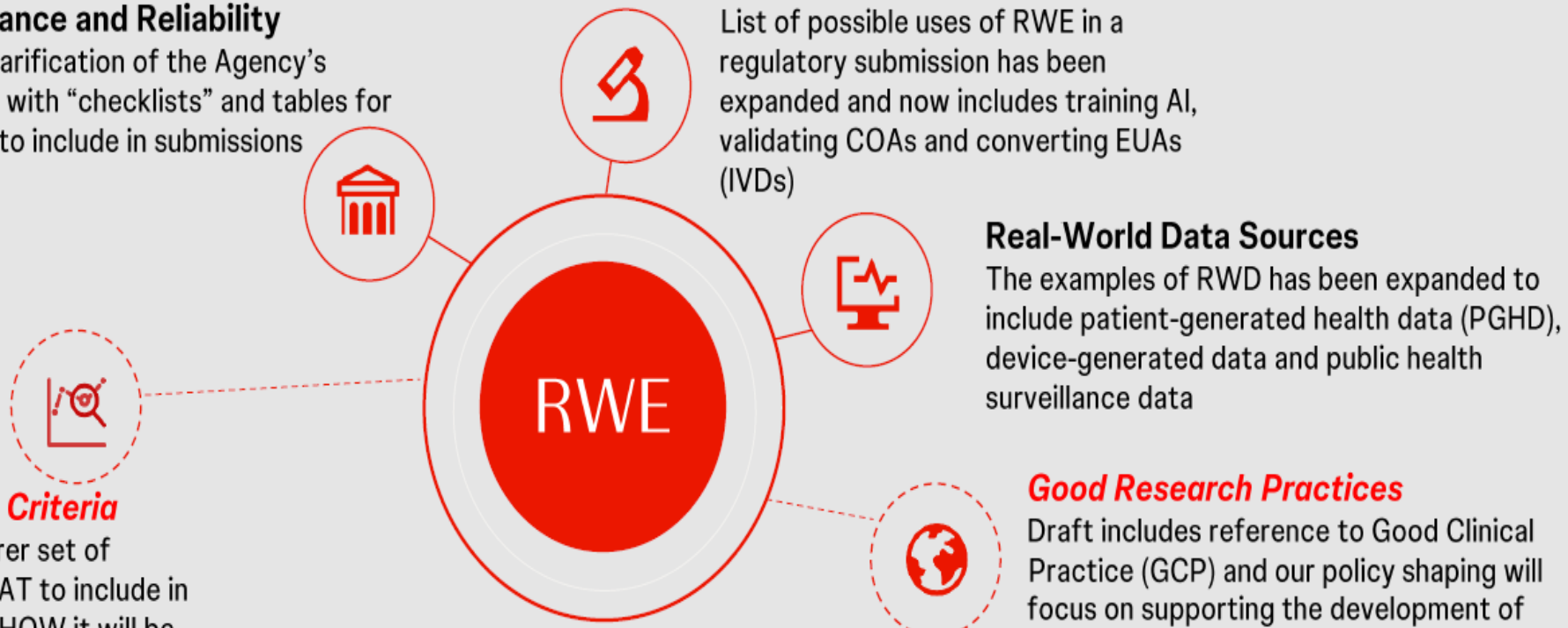
Promising to see several guidance documents include RWD.

The SaMD and Orphan devices guidance give a little more information on how RWD is relevant to clinical assessments.

FDA CDRH RWE Guidance

2023 DRAFT

Main Take-Aways: Generally, similar components as 2017 version. Updates include expanded details on expectations AND more structured overview of the Agency's submission expectations.



Data Relevance and Reliability
Significant clarification of the Agency's expectations with "checklists" and tables for components to include in submissions

RWE Use Cases
List of possible uses of RWE in a regulatory submission has been expanded and now includes training AI, validating COAs and converting EUAs (IVDs)

Real-World Data Sources
The examples of RWD has been expanded to include patient-generated health data (PGHD), device-generated data and public health surveillance data

RWE Assessment Criteria
Draft provides a clearer set of expectations for WHAT to include in a submission but not HOW it will be assessed by the Agency

Good Research Practices
Draft includes reference to Good Clinical Practice (GCP) and our policy shaping will focus on supporting the development of consensus on good RWE research practices.

Source: https://www.fda.gov/regulatory-information/search-fda-guidance-documents/draft-use-real-world-evidence-support-regulatory-decision-making-medical-devices

NEST
NATIONAL EVALUATION SYSTEM FOR HEALTH TECHNOLOGY

NESTcc Research Methods Framework– *A Practical Guide to RWE for Medical Devices*

A Report of the Research Methods Subcommittee of the NEST Coordinating Center – An initiative of MDIC

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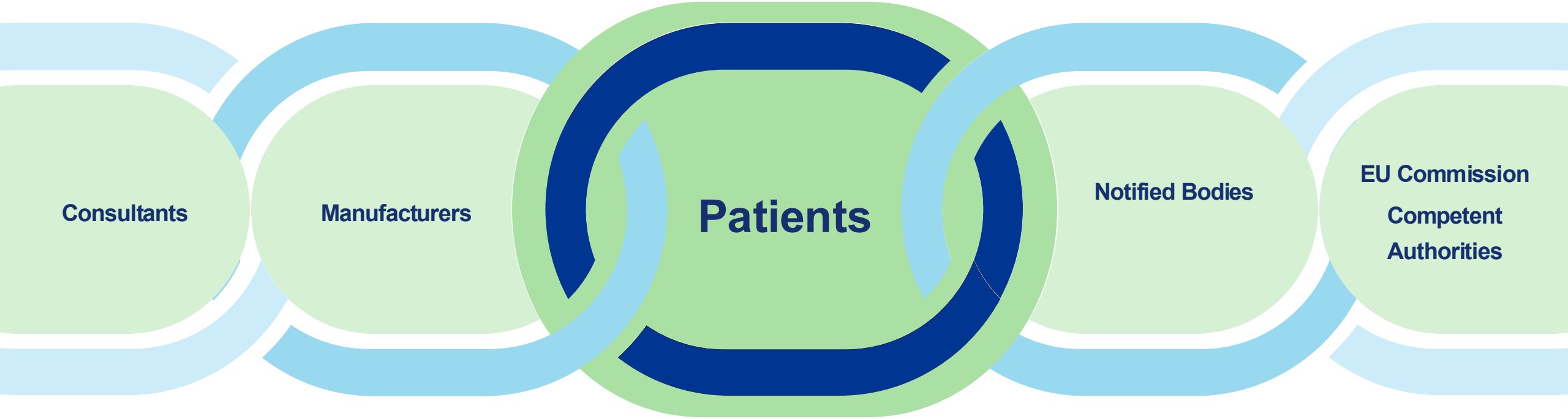
IT TAKES A (digital) VILLAGE

Thank you!



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