



June 14th-18th

US Connect 2021

The Clinical Data
Science Conference

Power BI in Clinical Data exploration, powerful visuals that answer relevant questions

PHUSE Virtual US Connect 2021

June 14-17, 2021

DEBRUS Roxane

Lead Biostatistician and SAS Programmer

JACOBS Lotte

Senior Medical Affairs Specialist

European Medical and Clinical Department, TERUMO EUROPE



Abstract

Nowadays, dynamic data visualization is vital for clinical study conduct and decision making. Power BI is a user-friendly business analytics service by Microsoft which provides interactive visualizations and business intelligence capabilities, offering unique integration options with Python, R, and SQL. Although a leader in BI and Analytics Platforms, its potential in clinical research is currently unexplored. To test it in this capacity and help our clinical and medical teams, we utilized it to design modern-looking, interactive dashboards, with the aim to improve the way we access, review and interact with data. As a result, we developed several tools that facilitate monitoring, analyzing and testing the study data in real time throughout the study, confirming that Power BI is perfectly suited to answer the needs of clinical and medical teams.

Confidentiality Disclosure Statement

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Agenda

■ Introduction :

- Why Data Visualization ?
- Why Power BI ?
- How to develop dashboards in Power BI desktop?

■ Terumo's Power BI Dashboards

- Business Cases Presentation
- Next Steps

■ Conclusion

Introduction

Terumo medical device company

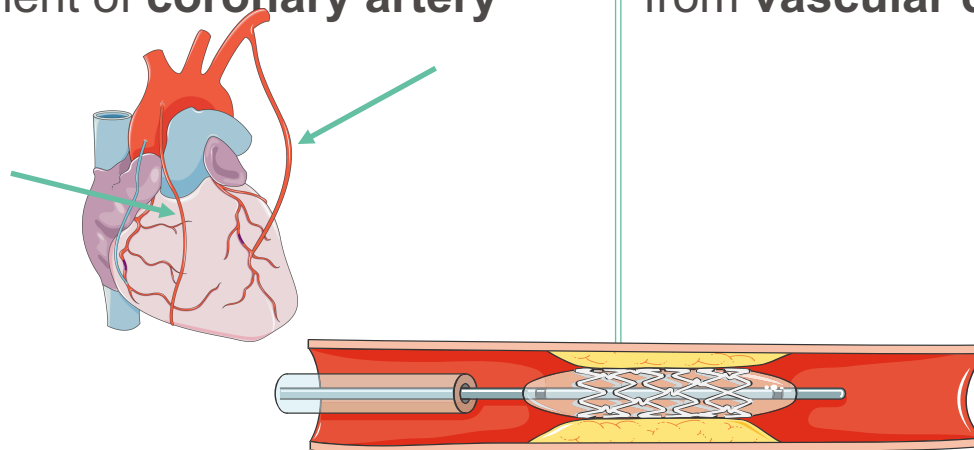
Radial Intervention

Interventional therapy performed from a blood vessel in the wrist to increase patient's comfort.



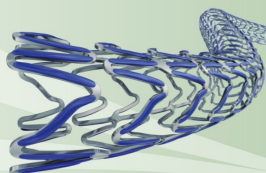
Interventional Cardiology

Global leader in cardiovascular care, providing less invasive devices for the treatment of **coronary artery disease**.



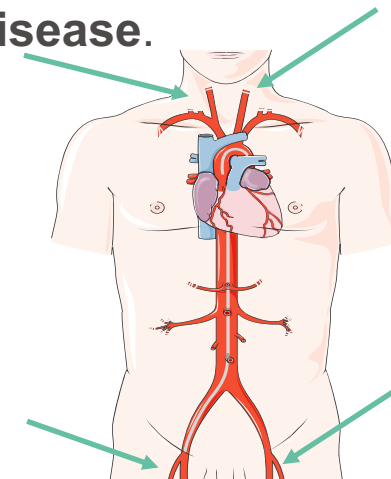
Coronary stents

Ultimaster™
Sirolimus Eluting Coronary Stent
System



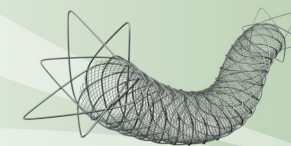
Peripheral Interventions

Offering minimally invasive therapies and solutions for patients suffering from **vascular disease**.



Peripheral stents

Roadsaver®
Carotid Artery Stent



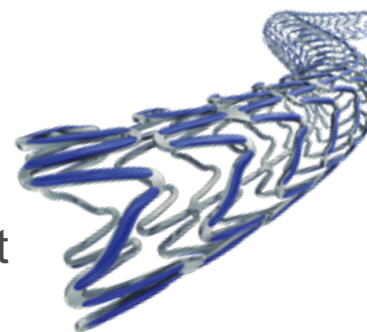
How / Why did we decided to start to use Data Visualization ?

In 2019, Terumo closed one of its largest study: e-ULTIMASTER

More information available at : <https://www.terumo-europe.com/en-emea/clinicaldata/e-ultimaster-trial>

■ Study Description

- Clinical Field: Interventional cardiology
- Investigational Medical Device : Coronary drug-eluting stent
- Global registry, observational study, include all kind of subject, no randomization, subjects treated as per hospital standard of care or PI's preferences.
- 37198 patients, 378 sites, 50 countries
- Collection of subject-level data, but also lesion-level and stent-level data



How / Why did we decided to start to use Data Visualization ?

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More information available at : <https://www.terumo-europe.com/en-emea/clinicaldata/e-ultimaster-trial>

■ Collected data

□ Patient-level data

- Demographics
- Medical history
- Clinical status

□ Lesion-level data

- How many lesions were identified and treated
- Lesion location
- Lesion characteristic: bifurcation, total occlusion, calcification

□ Stent-level data

- How many stents were implanted
- Stent length
- Stent diameter

How / Why did we decided to start to use Data Visualization ?

■ After DBL, Terumo organized a Publication Committee Meeting

- Top 15 Enrollers were invited to discuss all possible future publications
 - Principal Investigators had many questions !
 - They know the patients they included in the study
 - However they have no idea what others did
 - How many site / countries participated to the study ?
 - How much did the site / country participate to the study ? Number of subjects ?
First/Last enrollers ? Inclusion duration ? Inclusion speed ?
 - What is the quality of the data collected ? %LFU per site / per country ?
 - What is the typical profile for inclusion ?
Gender / Age distribution ? Lesion Characteristics ?
- ➔ How to share data overview without having to share full database?
- ➔ How to share data without compromising data confidentiality?

How / Why did we decided to start to use Data Visualization ?

- Most popular DV platforms in R&D are TIBCO Spotfire, Qlik Sense
- Terumo uses Power BI, which is part of Microsoft Office 365
 - DV is already in place at Terumo for Finance and IT Departments
 - Power BI Desktop is available for any Terumo employee
- **Why Power BI ?**
 - Advantages
 - User friendly interface, multiple data source (Excel, CSV, XML, ...)
 - Consistent reporting and analyses
 - Interactive reports and geo-map visualizations
 - Integration of R, Python and SQL
 - View reports across multiple platforms and devices
 - In constant evolution
 - Disadvantage(s)
 - No direct import of SAS Datasets (conversion to CSV or Excel needed)

... Or should I say, “Why Not Power BI”?

Magic Quadrant for 2021 for Analytics and Business Intelligence tools:



Source: Gartner (February 2021)

Scope of the presentation

■ Previous presentation PHUSE EU 2020 (DV09)

- Introduction
- Project Rationale and Objectives
- Presentation of Power BI Desktop Interface
- Demonstration of 4 Dashboards :
Enrollment, Lesion Description, Safety Monitoring and Complex PCI subset

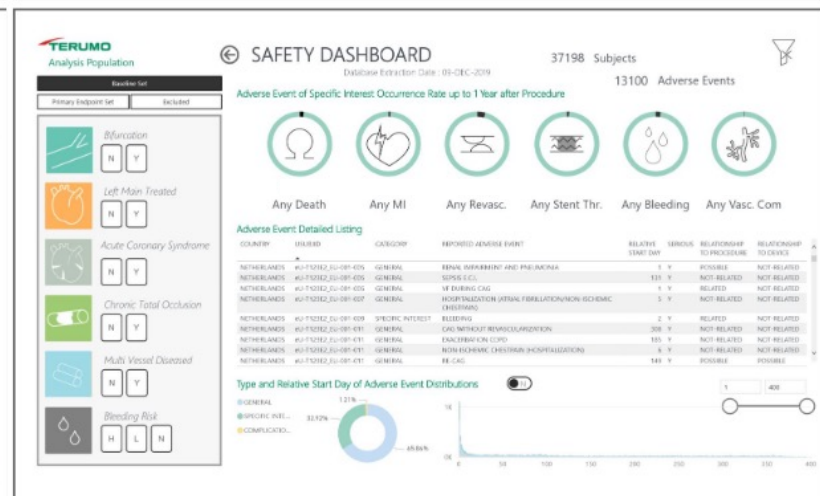
■ Today's presentation (PHUSE US 2021)

- Focus on Technical Options and applications :
 - Jump, Actions Buttons, Bookmarks, Drill-through, Export
- Demonstration of 4 Dashboards :
Procedural Description, Safety Monitoring, Bifurcation subset and Baseline Characteristics
- Demonstration of 1 Global Dashboard

Terumo's Power BI Dashboards



STUDY HOMEPAGE

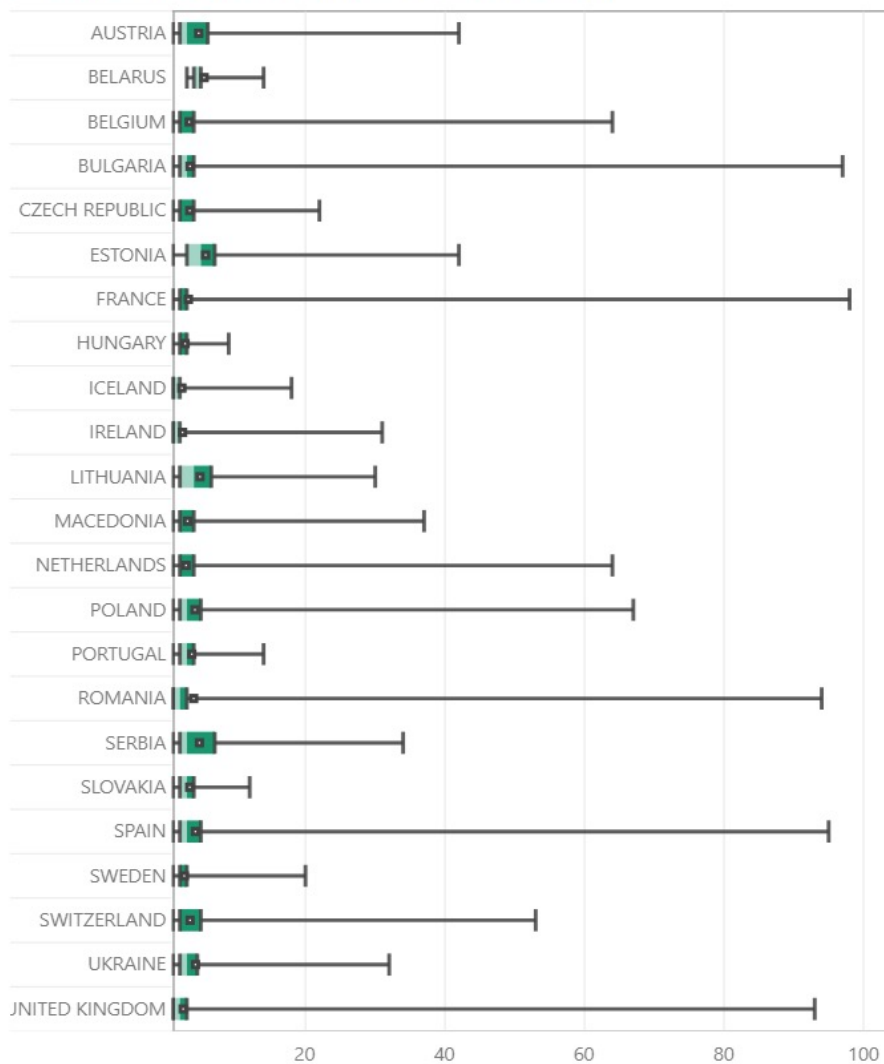


PROCEDURAL DESCRIPTION

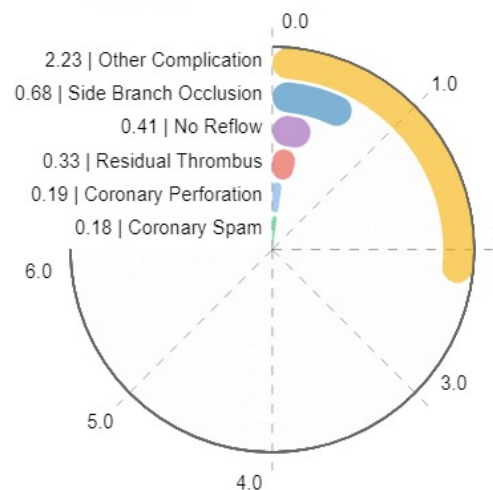


24819 Subjects - 24819 Procedures

Length Of Hospital Stay per Country (in Days)



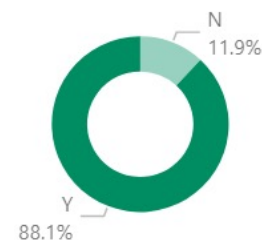
Post-angiographic Complications



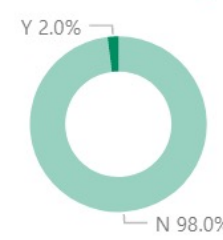
Relative Day of Discharge



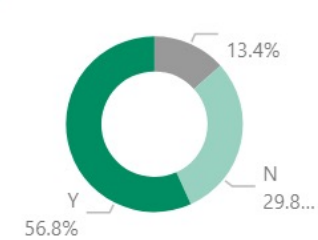
Radial Access



Intravascular Imaging



Closure Device



Procedural Characteristics and Safety at Discharge

REGION / COUNTRY	N	Length of Hospital Stay (Mean, Days)	Radial Access (%)	Intravascular Imaging (%)	Closure Device (%)	Any Bleeding (%)	Any BARC3-5 Bleeding (%)	Any Vascular Complication (%)	Any Complication Related to Access Site (%)
EUROPE	24819	3.30	88.09	1.95	56.76				
BELARUS	17	5.47	88.24	0.00	52.94				
ICELAND	50	2.28	92.00	0.00	96.00				
PORTUGAL	79	3.71	81.01	3.80	46.84				
SLOVAKIA	103	3.41	84.47	0.00	70.87				
AUSTRIA	157	4.69	64.33	0.64	91.08				
ROMANIA	188	3.97	94.68	0.00	55.32				
HUNGARY	221	2.75	94.57	0.00	5.88				
LITHUANIA	263	4.88	93.92	0.00	47.15				
UKRAINE	266	4.23	77.44	0.38	15.41				
Total	35389	3.75	82.83	4.64	45.60				

Analysis Population

Baseline Set

Primary Endpoint Set

Excluded

INDEX PROCEDURE

STAGED PROCEDURE #1

STAGED PROCEDURE #2

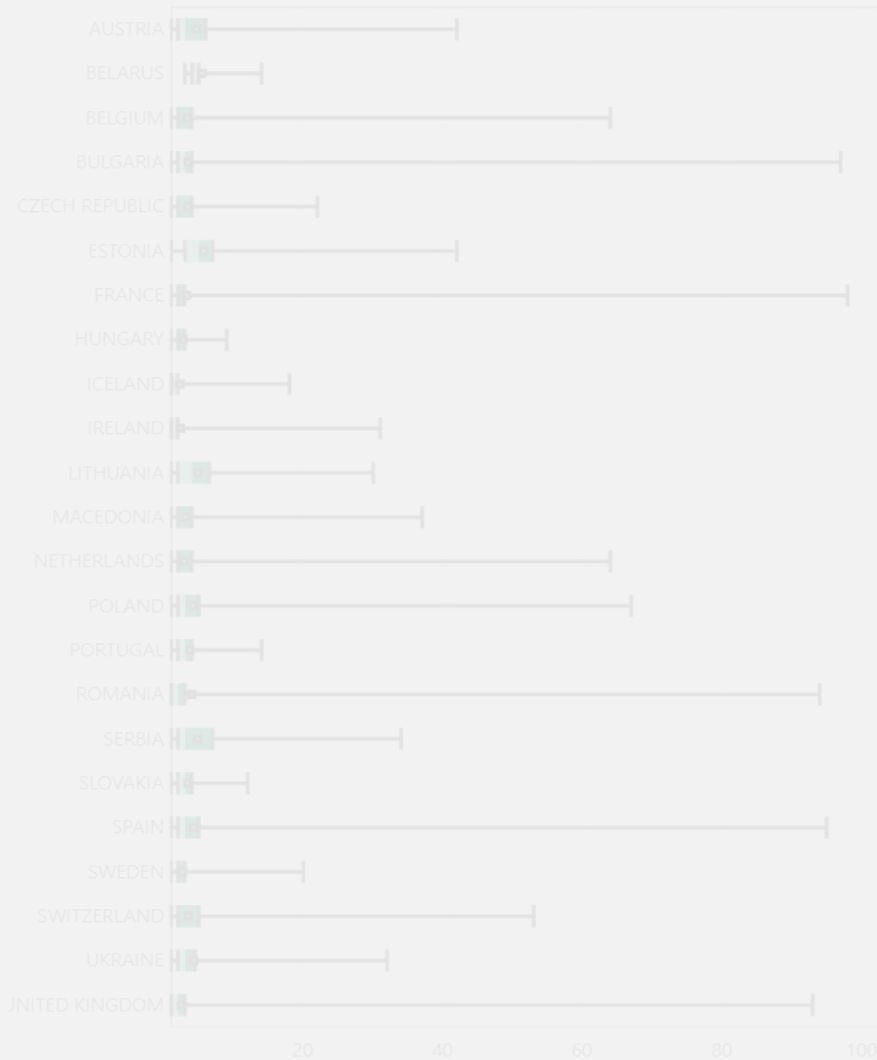
STAGED PROCEDURE #3

LENGTH OF
HOSPITAL STAYRADIAL
ACCESSINTRAVASCULAR
IMAGING

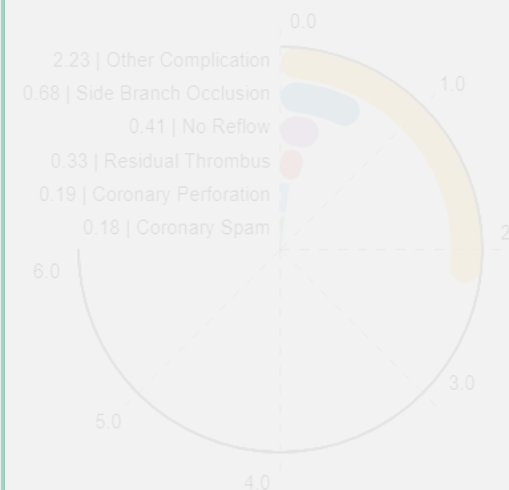
CLOSURE DEVICE

24819 Subjects - 24819 Procedures

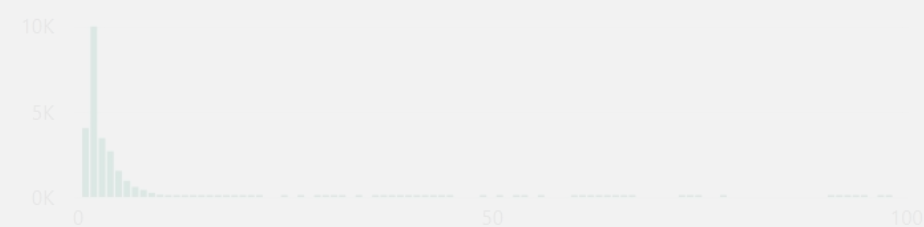
Length Of Hospital Stay per Country (in Days)



Post-angiographic Complications



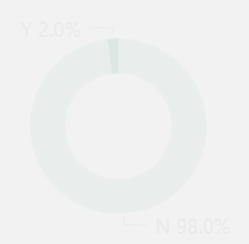
Relative Day of Discharge



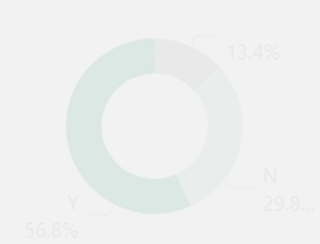
Radial Access



Intravascular Imaging



Closure Device



Procedural Characteristics and Safety at Discharge

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☒ EUROPE	24819	3.30	88.09	1.95	56.76	1.00	0.00	0.00	0.00
☒ BELARUS	17	5.47	88.24	0.00	52.94	0.00	0.00	0.00	0.00
☒ ICELAND	50	2.28	92.00	0.00	96.00	0.00	0.00	0.00	0.00
☒ PORTUGAL	79	3.71	81.01	3.80	46.84	0.00	0.00	0.00	0.00
☒ SLOVAKIA	103	3.41	84.47	0.00	70.87	0.00	0.00	0.00	0.00
☒ AUSTRIA	157	4.69	64.33	0.64	91.08	0.00	0.00	0.00	0.00
☒ ROMANIA	188	3.97	94.68	0.00	55.32	0.00	0.00	0.00	0.00
☒ HUNGARY	221	2.75	94.57	0.00	5.88	0.00	0.00	0.00	0.00
☒ LITHUANIA	263	4.88	93.92	0.00	47.15	0.00	0.00	0.00	0.00
☒ UKRAINE	266	4.23	77.44	0.38	15.41	0.00	0.00	0.00	0.00
Total	35389	3.75	82.83	4.64	45.60	0.00	0.00	0.00	0.00



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INDEX PROCEDURE

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STAGED PROCEDURE #2

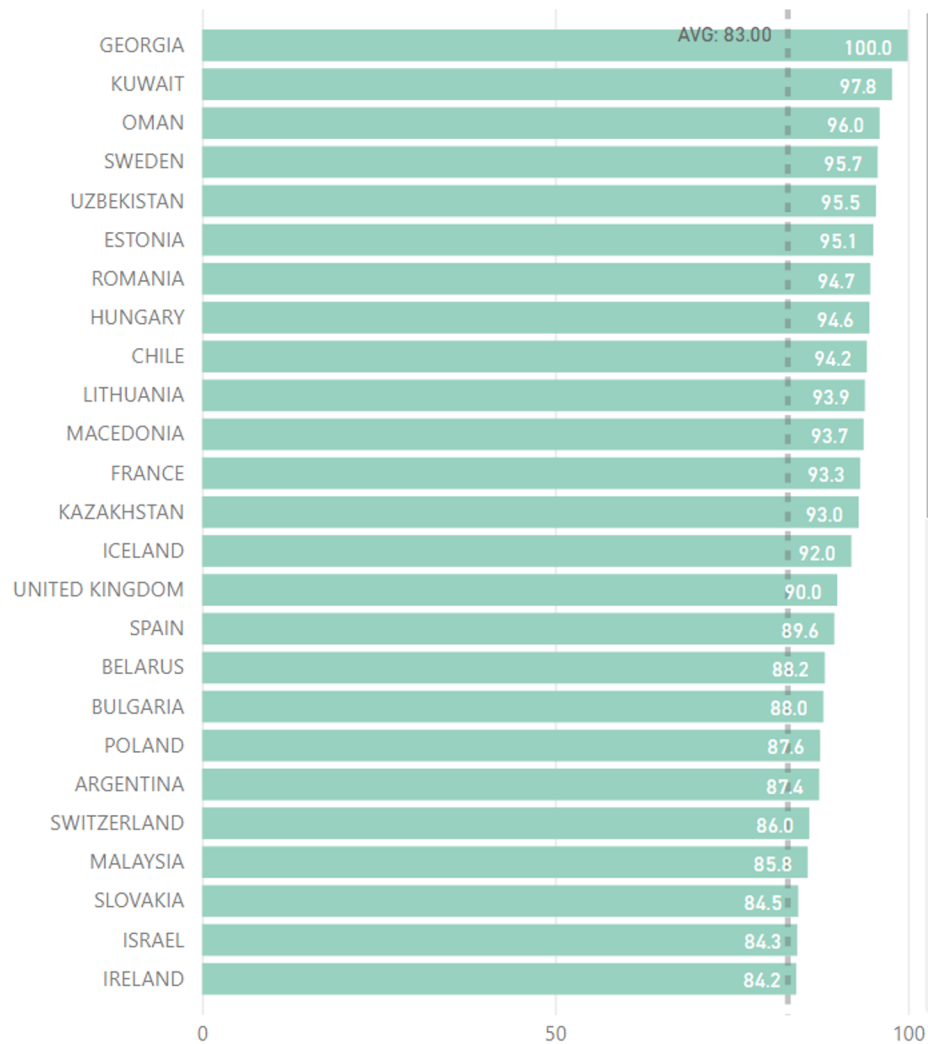
STAGED PROCEDURE #3

LENGHT OF
HOSPITAL STAYRADIAL
ACCESSINTRAVASCULAR
IMAGING

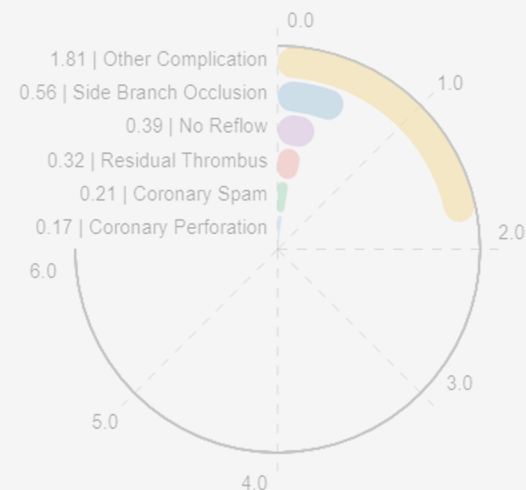
CLOSURE DEVICE

35389 Subjects - 35389 Procedures

Proportion of Radial Procedure per Country (%)



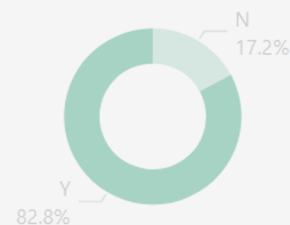
Post-angiographic Complications



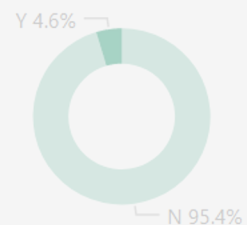
Relative Day of Discharge



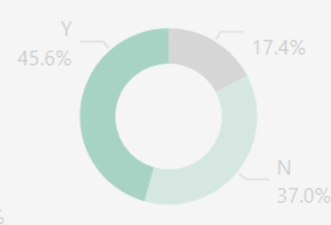
Radial Access



Intravascular Imaging



Closure Device



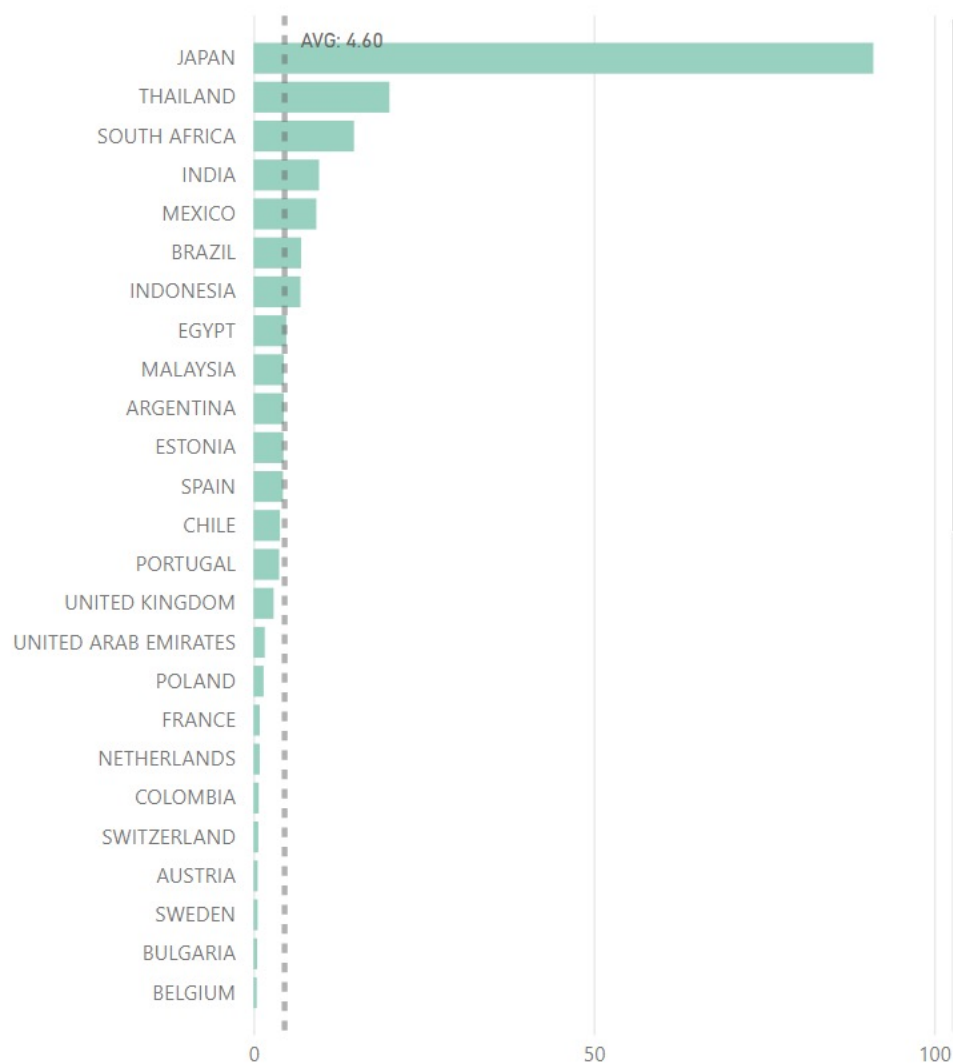
Procedural Characteristics and Safety at Discharge

REGION / COUNTRY	N	Length of Hospital Stay (Mean, Days)	Radial Access (%)	Intravascular Imaging (%)	Closure Device (%)	Any Bleeding (%)	Any BARC3-5 Bleeding (%)	Any Vascular Complication (%)	Any Complication Related to Access Site (%)
AFRICA AND MIDDLE EAST	2081	3.15	51.80	3.32	34.50				
ASIA	6305	5.71	72.97	15.89	14.97				
EUROPE	24819	3.30	88.09	1.95	56.76				
AUSTRIA	157	4.69	64.33	0.64	91.08				
BELARUS	17	5.47	88.24	0.00	52.94				
BELGIUM	600	3.33	78.33	0.50	80.83				
BULGARIA	1070	3.45	88.04	0.56	58.88				
CZECH REPUBLIC	277	3.42	76.53	0.36	46.21				
ESTONIA	654	5.69	95.11	4.43	56.42				
Total	35389	3.75	82.83	4.64	45.60				

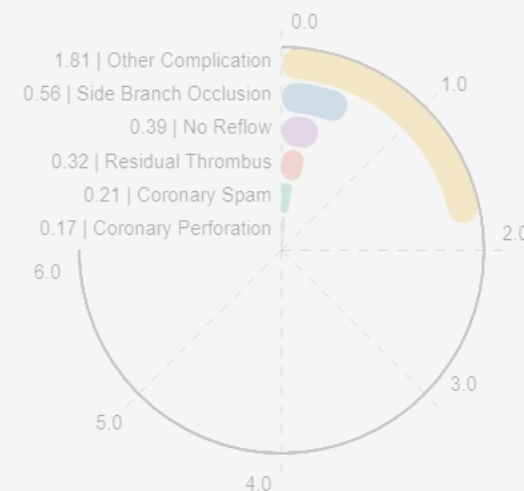


35389 Subjects - 35389 Procedures

Proportion of Intravascular Imaging Performed per Country (%)



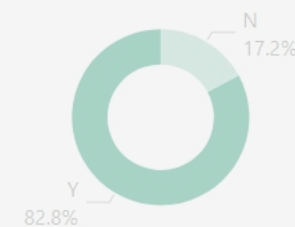
Post-angiographic Complications



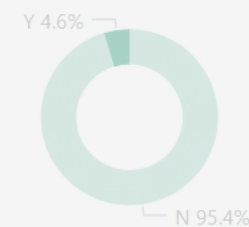
Relative Day of Discharge



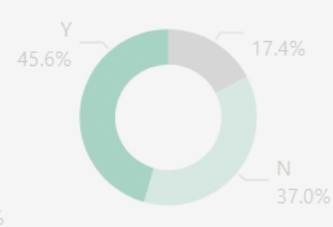
Radial Access



Intravascular Imaging



Closure Device



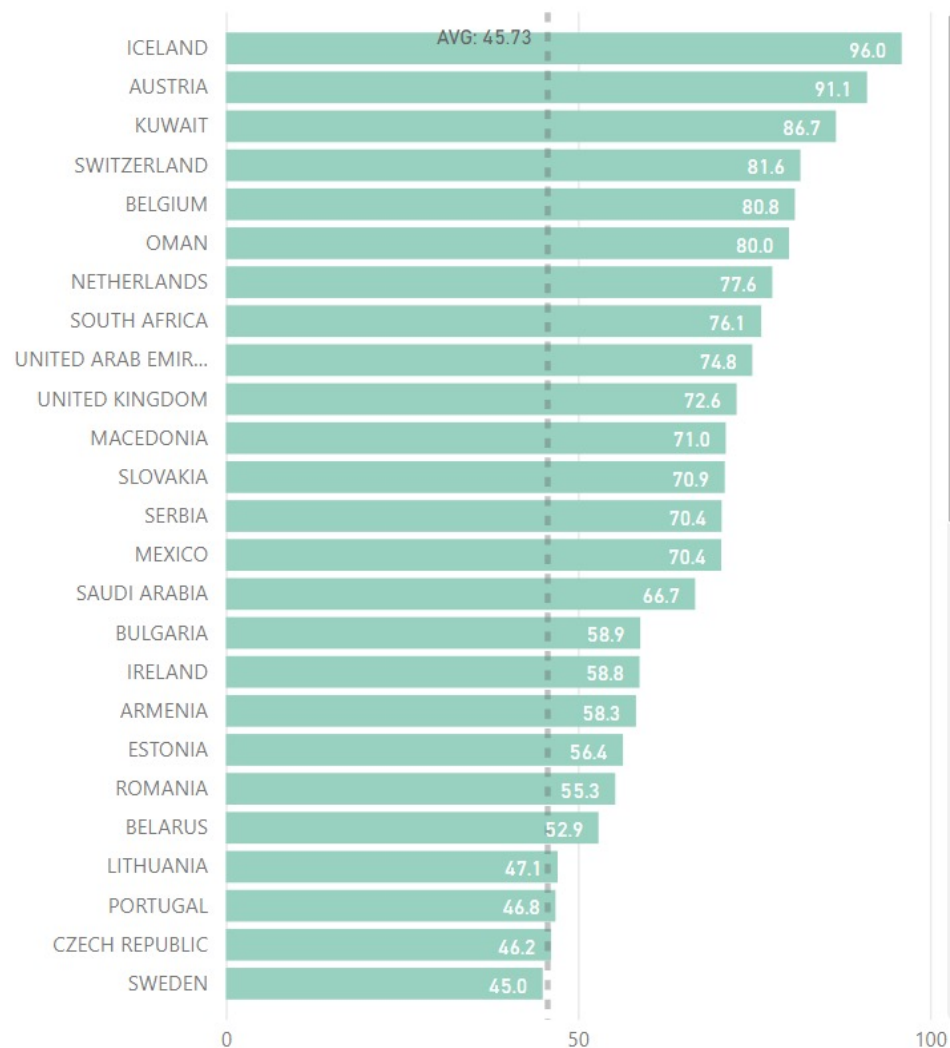
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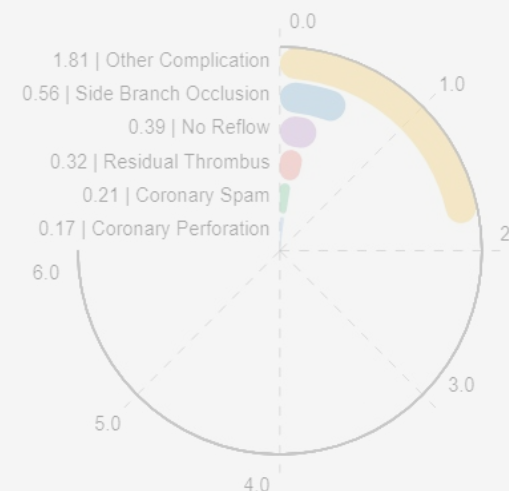


35389 Subjects - 35389 Procedures

Proportion of Closure Device Use per Country (%)



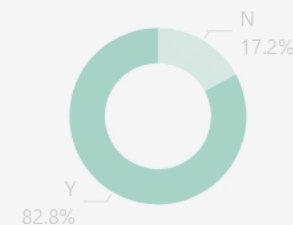
Post-angiographic Complications



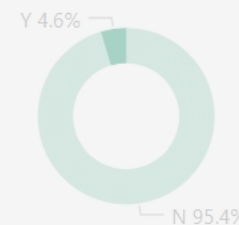
Relative Day of Discharge



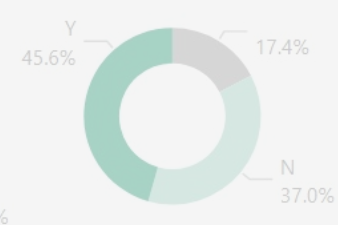
Radial Access



Intravascular Imaging



Closure Device



Procedural Characteristics and Safety at Discharge

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Total	35389	3.75	82.83	4.64	45.60				



SAFETY DASHBOARD



Baseline Set

Primary Endpoint Set

Excluded

Adverse Event of Specific Interest Occurrence Rate up to 1 Year after Procedure



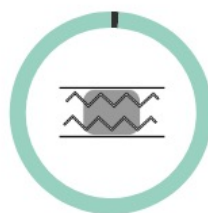
2.11%
Any Death



1.20%
Any MI



4.20%
Any Revasc.



1.20%
Any Stent Thr.



2.57%
Any Bleeding



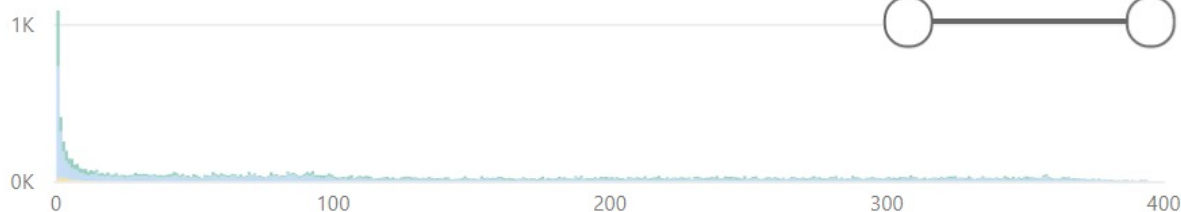
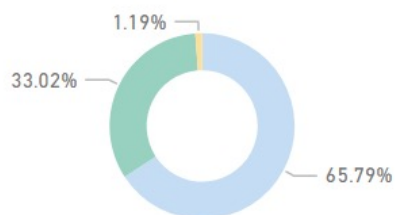
0.30%
Any Vasc. Com

Adverse Event Detailed Listing

COUNTRY	USUBJID	CATEGORY	REPORTED ADVERSE EVENT	RELATIVE START DAY	SERIOUS	RELATIONSHIP TO PROCEDURE	RELATIONSHIP TO DEVICE
NETHERLANDS		GENERAL	SIGMOIDOSCOPE	175	N	NOT-RELATED	NOT-RELATED
NETHERLANDS		GENERAL	RE-HOSPITALIZATION DUE TO ASYMPTOMATIC CHEST COMPLAINTS	160	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS		GENERAL	ANGINA COMPLAINTS	154	Y	POSSIBLE	NOT-RELATED
NETHERLANDS		SPECIFIC INTEREST	RE-PCI	6	Y	RELATED	RELATED
NETHERLANDS		GENERAL	NON-ISCHEMIC CHESTPAIN	26	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS		GENERAL	PANCREATITIS	123	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS		SPECIFIC INTEREST	BLEEDING	469	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS		GENERAL	TOTAL KNEE OPERATION	358	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS		SPECIFIC INTEREST	RE-PCI	120	Y	POSSIBLE	POSSIBLE

Type and Relative Start Day of Adverse Event Distributions

● GENERAL
● SPECIFIC INTE...
● COMPLICATIO...





Baseline Set

Primary Endpoint Set

Excluded

12942 Adverse Events

Adverse Event of Specific Interest Occurrence Rate up to 1 Year after Procedure



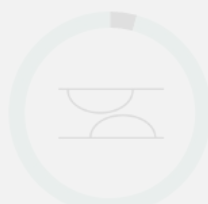
2.17%

Any Death



1.20%

Any MI



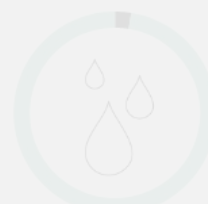
4.20%

Any Revasc.



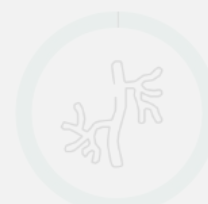
1.37%

Any Stent Thr.



2.57%

Any Bleeding



0.40%

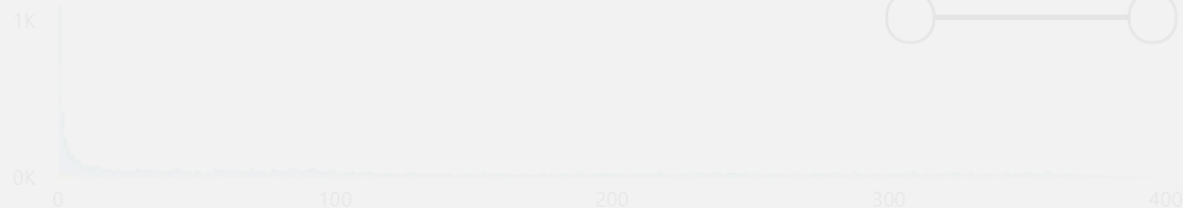
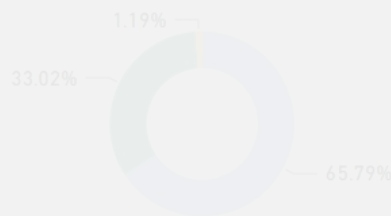
Any Vasc. Com

Adverse Event Detailed Listing

COUNTRY	USUBJID	CATEGORY	REPORTED ADVERSE EVENT	RELATIVE START DAY	SERIOUS	RELATIONSHIP TO PROCEDURE	RELATIONSHIP TO DEVICE
NETHERLANDS	001-100000000000000000	GENERAL	SIGMOIDSCOPIE	175	N	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	GENERAL	RE-HOSPITALIZATION DUE TO ASYMPTOMATIC CHEST COMPLAINTS	160	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	GENERAL	ANGINA COMPLAINTS	154	Y	POSSIBLE	NOT-RELATED
NETHERLANDS	001-100000000000000000	SPECIFIC INTEREST	RE-PCI	6	Y	RELATED	RELATED
NETHERLANDS	001-100000000000000000	GENERAL	NON-ISCHEMIC CHESTPAIN	26	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	GENERAL	PANCREATITIS	123	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	SPECIFIC INTEREST	BLEEDING	469	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	GENERAL	TOTAL KNEE OPERATION	358	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	001-100000000000000000	SPECIFIC INTEREST	RE-PCI	430	Y	POSSIBLE	POSSIBLE

Type and Relative Start Day of Adverse Event Distributions

GENERAL
SPECIFIC INTE...
COMPLICATIO...



SAFETY DASHBOARD

Database Extraction Date : 09-DEC-2019

35389 Subjects

12942 Adverse Events



Baseline Set

Primary Endpoint Set

Excluded

Adverse Event of Specific Interest Occurrence Rate up to 1 Year after Procedure



2.11%

Any Death



1.20%

Any MI



4.20%

Any Revasc.



1.20%

Any Stent Thr.



2.57%

Any Bleeding



0.90%

Any Vasc. Com

Adverse Event Detailed Listing

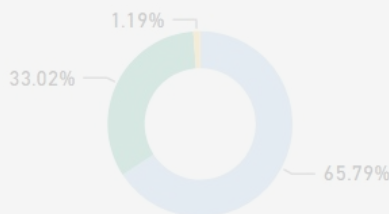
COUNTRY	USUBJID	CATEGORY	REPORTED ADVERSE EVENT	RELATIVE START DAY	SERIOUS	RELATIONSHIP TO PROCEDURE	RELATIONSHIP TO DEVICE
NETHERLANDS	1000000001	GENERAL	SIGMOIDSCOPIE	175	N	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000002	GENERAL	RE-HOSPITALIZATION DUE TO ASYMPTOMATIC CHEST COMPLAINTS	160	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000003	GENERAL	ANGINA COMPLAINTS	154	Y	POSSIBLE	NOT-RELATED
NETHERLANDS	1000000004	SPECIFIC INTEREST	RE-PCI	6	Y	RELATED	RELATED
NETHERLANDS	1000000005	GENERAL	NON-ISCHEMIC CHESTPAIN	26	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000006	GENERAL	PANCREATITIS	123	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000007	SPECIFIC INTEREST	BLEEDING	469	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000008	GENERAL	TOTAL KNEE OPERATION	358	Y	NOT-RELATED	NOT-RELATED
NETHERLANDS	1000000009	SPECIFIC INTEREST	RE-PCI	120	Y	POSSIBLE	POSSIBLE

Type and Relative Start Day of Adverse Event Distributions

GENERAL

SPECIFIC INTE...

COMPLICATIO...



BIFURCATION DASHBOARD

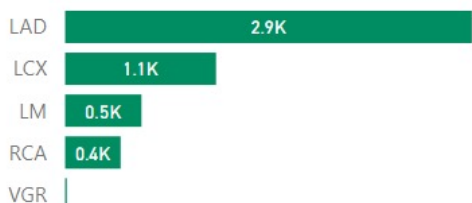
⬅ SUBSET - BIFURCATION

Database Extraction Date : 09-DEC-2019

Baseline Set
Primary Endpoint Set
Excluded

4508 Subjects -
4940 Lesions

Lesion Location



Lesion Type Description



TRUE BIFURCATION
53.06%
2621



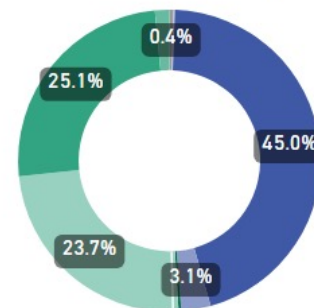
Medina	1,1,1	1,0,1	0,1,1
% (n)	36.82 % (1819)	8.14 % (402)	8.10 % (400)

OTHER BIFURCATION
45.53%
2249



Medina	1,1,0	0,1,0	0,0,1	1,0,0
% (n)	25.16 % (1243)	8.77 % (433)	3.62 % (179)	7.98 % (394)

Stenting Location and Techniques

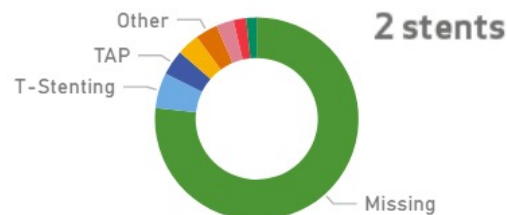


- No:
- No: Main branch only
- No: Side branch only
- Yes: Both Lesions treated with balloon
- Yes: Other
- Yes: Stent in both main and side branch
- Yes: Stent in main branch, balloon in side branch
- Yes: Stent in side branch, balloon in main branch

POT Technique



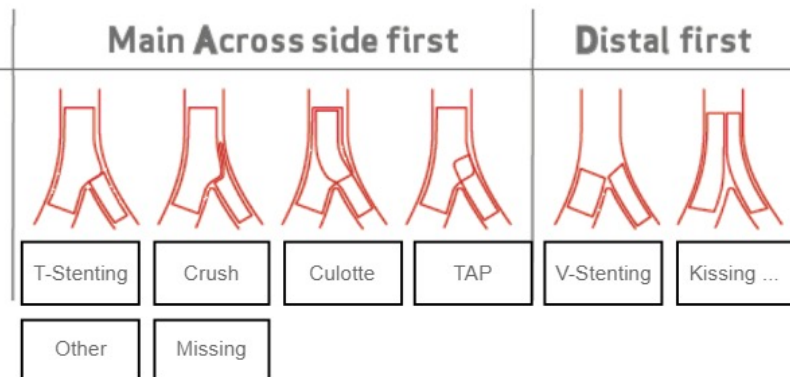
Kissing Balloon



2 stents

1 Year Outcome

MEDINA	N Lesions	N Subjects	DTHCU%	MITVIMP%	RVTLCD%	TLF%	POCE%	STDP%	BLMAJ%
TRUE	2621	2388							
111	1819	1664							
101	402	386							
011	400	359							
OTHER	2249	2149							
110	1243	1206							
100	394	386							
010	433	430							
001	179	172							
	70	65							
	70	65							
Total	4940	4508							



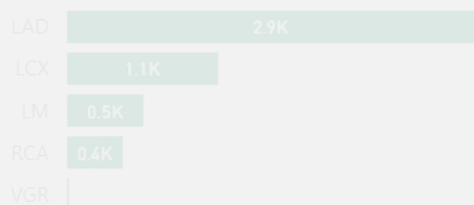
Baseline Set

4508 Subjects -
4940 Lesions

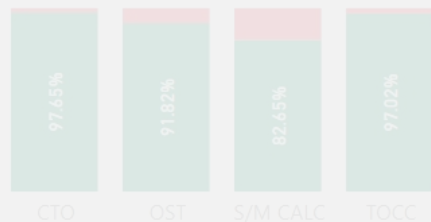
Primary Endpoint Set

Excluded

Lesion Location



Lesion Type Description



TRUE BIFURCATION

53.06%
2621

Medina	1,1,1	1,0,1	0,1,1
% (n)	36.82 % (1819)	8.14 % (402)	8.10 % (400)

OTHER BIFURCATION

45.53%
2249

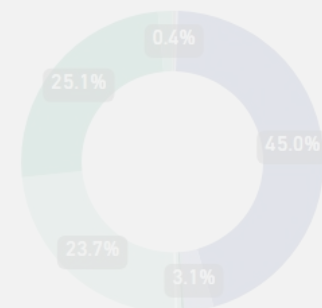
Medina	1,1,0	0,1,0	0,0,1	1,0,0
% (n)	25.16 % (1243)	8.77 % (433)	3.62 % (179)	7.98 % (394)

Stenting Location and Techniques

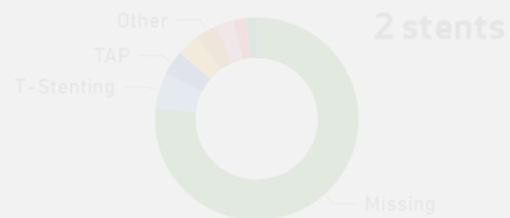
POT Technique



Kissing Balloon



- No:
- No: Main branch only
- No: Side branch only
- Yes: Both Lesions treated with balloon
- Yes: Other
- Yes: Stent in both main and side branch
- Yes: Stent in main branch, balloon in side branch
- Yes: Stent in side branch, balloon in main branch



Main Across side first

Distal first



1 Year Outcome

MEDINA	N Lesions	N Subjects	DTHCU%	MITVIMP%	RVTLCD%	TLF%	POCE%	STDP%	BLMAJ%
TRUE	2621	2388							
111	1819	1664							
101	402	386							
011	400	359							
OTHER	2249	2149							
110	1243	1206							
100	394	386							
010	433	430							
001	179	172							
	70	65							
	70	65							
Total	4940	4508							

BASELINE DASHBOARD

Database Extraction Date : 26-OCT-2020

5 Countries - 6 Sites - 397 Subjects

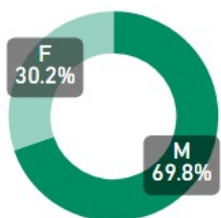
Enrollment over time



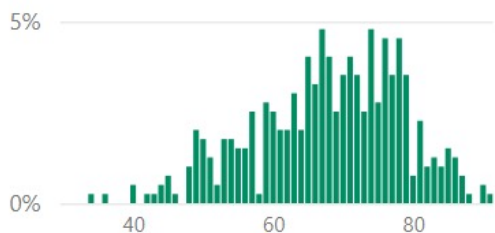
Total Subjects Enrolled per Country



Gender Distribution



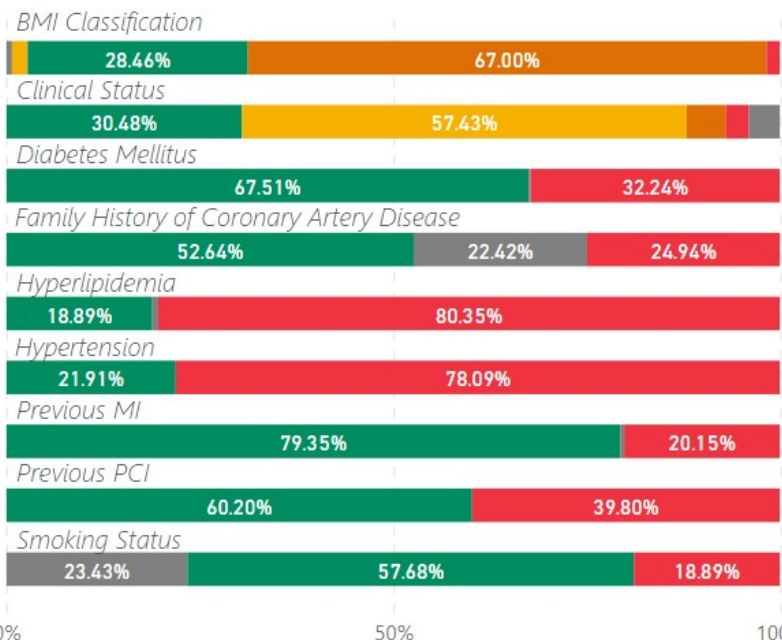
Age Distribution



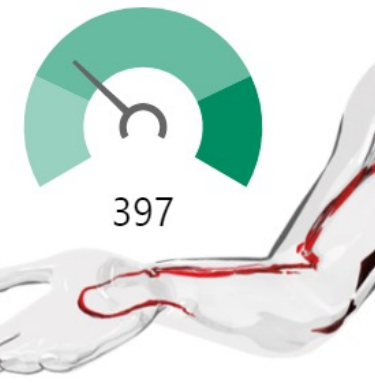
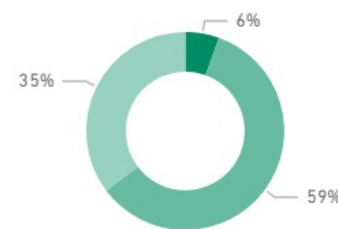
Enrollment Achievement per Country and per Site

COUNTRY	N Enrolled	N Site	Mean AGE	FPI	LPI
BEL	182	2	67.10	23-Jun-20	15-Sep-20
1	99	1	64.31	24-Jun-20	10-Sep-20
2	83	1	70.42	23-Jun-20	15-Sep-20
HUN	120	1	66.90	10-Dec-19	16-Sep-20
5	120	1	66.90	10-Dec-19	16-Sep-20
ITA	50	1	68.22	01-Sep-20	05-Oct-20
6	50	1	68.22	01-Sep-20	05-Oct-20
JPN	41	1	74.17	12-Mar-20	04-Sep-20
8	41	1	74.17	12-Mar-20	04-Sep-20
MKD	4	1	61.75	15-Oct-20	20-Oct-20
9	4	1	61.75	15-Oct-20	20-Oct-20
Total	397	6	67.86	10-Dec-19	20-Oct-20

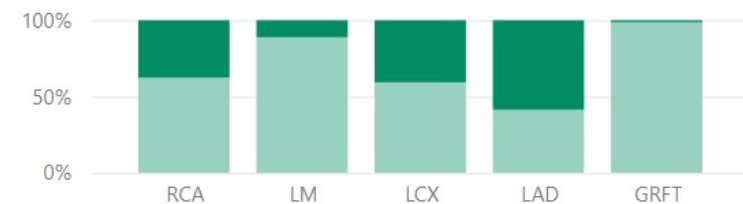
Baseline Characteristics



Reason for Intervention



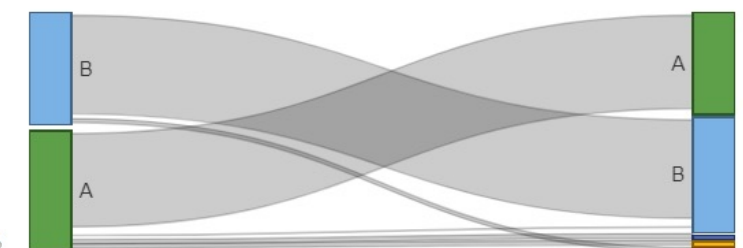
Diseased Vessels



Treated Vessels



Randomized Access vs Successful Access



Database Extraction Date : 26-OCT-2020

2 Countries - 3 Sites - 12 Subjects



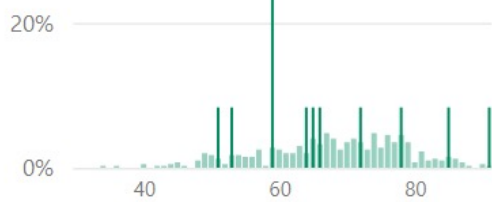
Total Subjects Enrolled per Country



Gender Distribution



Age Distribution

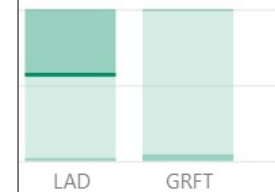
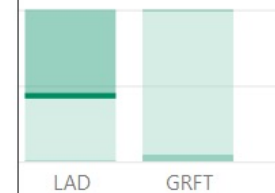


12 Subjects

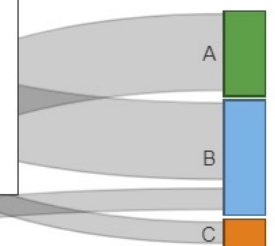
COUNTRY	SITEID	USUBJID	AGE	SEX	ARM	ACTARM	BCLINS	BMIBL	DIAFL
BEL	1		59	M	CONVENTIONAL	CONVENTIONAL	NSTEMI	27.40	N
BEL	1		59	M	DISTAL	DISTAL	NSTEMI	25.10	N
BEL	1		85	F	CONVENTIONAL	CONVENTIONAL	NSTEMI	30.20	N
BEL	1		59	F	DISTAL	DISTAL	NSTEMI	25.10	N
BEL	1		64	M	CONVENTIONAL	CONVENTIONAL	NSTEMI	23.30	Y
BEL	1		91	F	DISTAL	DISTAL	NSTEMI	22.90	N
BEL	2		78	F	CONVENTIONAL	FEMORAL	NSTEMI	32.50	Y
BEL	2		66	M	DISTAL	CONVENTIONAL	NSTEMI	32.80	N
BEL	2		72	M	DISTAL	DISTAL	NSTEMI	27.40	N
HUN	5		65	F	CONVENTIONAL	CONVENTIONAL	NSTEMI	29.30	Y
HUN	5		53	F	DISTAL	DISTAL	NSTEMI	23.70	N
HUN	5		51	M	CONVENTIONAL	CONVENTIONAL	NSTEMI	28.40	N

Reason for Intervention

12



Access



STUDY POPULATION DASHBOARD

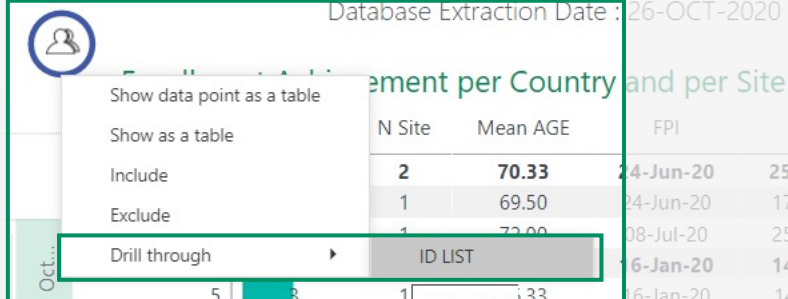
DISTal versus *CONventional RADIAL* access for coronary angiography and intervention

Global Enrollment Achievement

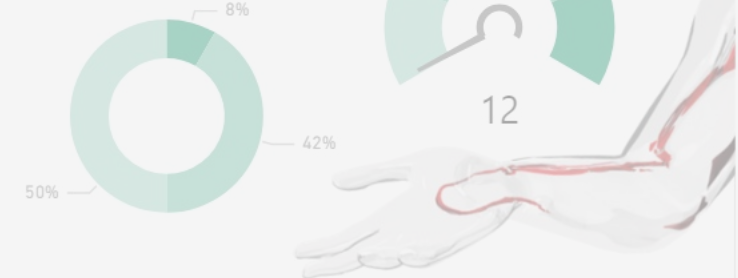
2 Countries - 3 Sites - 12 Subjects
Enrollment over time



Database Extraction Date: 26-OCT-2020



Reason for Intervention



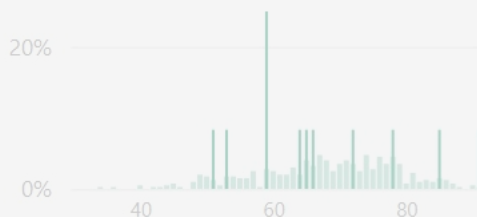
Total Subjects Enrolled per Country



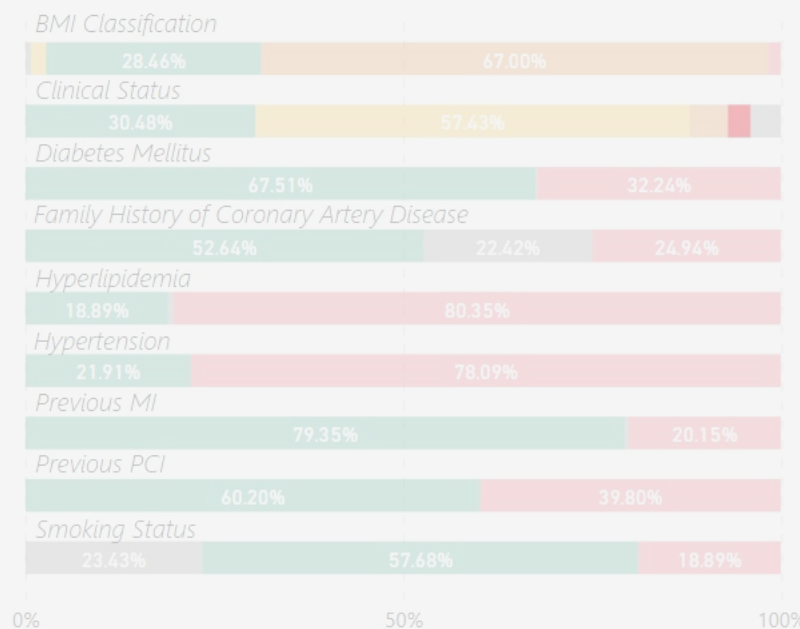
Gender Distribution



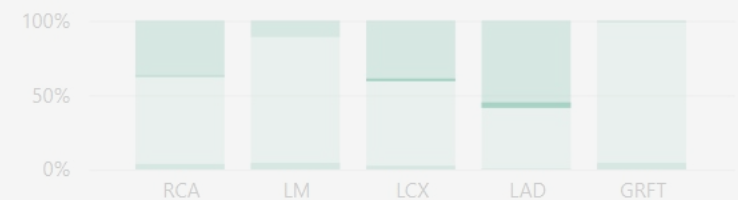
Age Distribution



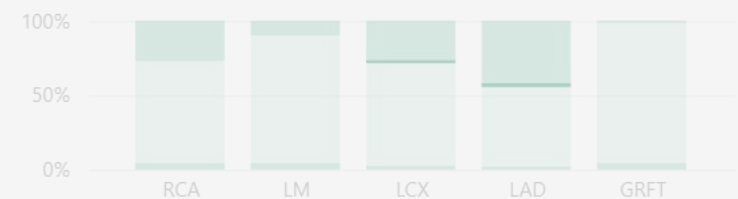
Baseline Characteristics



Diseased Vessels



Treated Vessels



Randomized Access vs Successful Access





12

Subjects

COUNTRY	SITEID	USUBJID	AGE	SEX	ARM	ACTARM	BCLINS	BMIBL	DIAFL
BEL	1		59	M				27.40	N
BEL	1		59	M				25.10	N
BEL	1		85	F				30.20	N
BEL	1		59	F				25.10	N
BEL	1		64	M				23.30	Y
BEL	1		91	F				22.90	N
BEL	2		78	F				32.50	Y
BEL	2		66	M				32.80	N
BEL	2		72	M				27.40	N
HUN	5		65	F				29.30	Y
HUN	5		53	F				23.70	N
HUN	5		51	M				28.40	N

Export data

Which data would you like to export?

☒ Summarized data

☐ Underlying data ⓘ

File format:

.xlsx (Excel 150,000-row max) ▼

ⓘ Data exports with all applied filters.

ⓘ For large data models, only a limited number of rows can be exported. [Learn more](#)

[Learn about aggregates](#)

Export

Cancel

Add a comment

Chat in Teams

Export data

Show as a tab

Spotlight

Sort descending

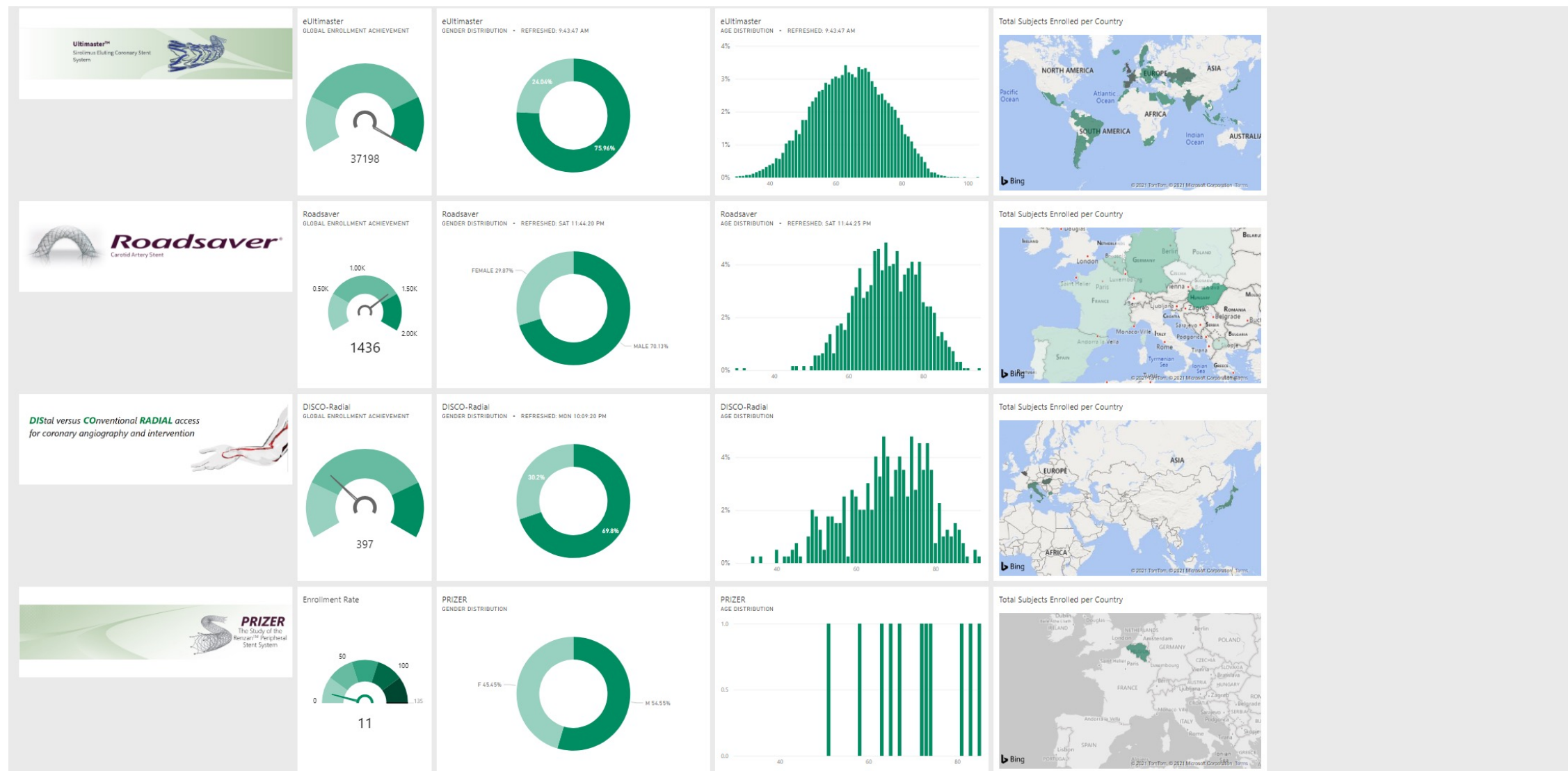
Sort ascending

Sort by ▶

Export data

POOLING OF DIFFERENT STUDIES TO GET MORE GLOBAL PICTURE

POOLING OF DIFFERENT STUDIES TO GET MORE GLOBAL PICTURE



What's Next ?

■ Target Audience Specific Dashboards

I want to see data of my patients

Principal Investigator



I want to identify subjects with abnormal values for a specific parameter

Data Manager



I want to see outcomes in specific patient subsets

Medical Specialist



I want to see on my tablet how the studies are progressing

Chief Medical Officer
/ Clinical Operation Directors



I want to check enrolment status per country

Project Manager



I want to check how many patients missed a follow-up visit

Clinical Research Associate



I want to see if distributions are similar across studies

Statistician

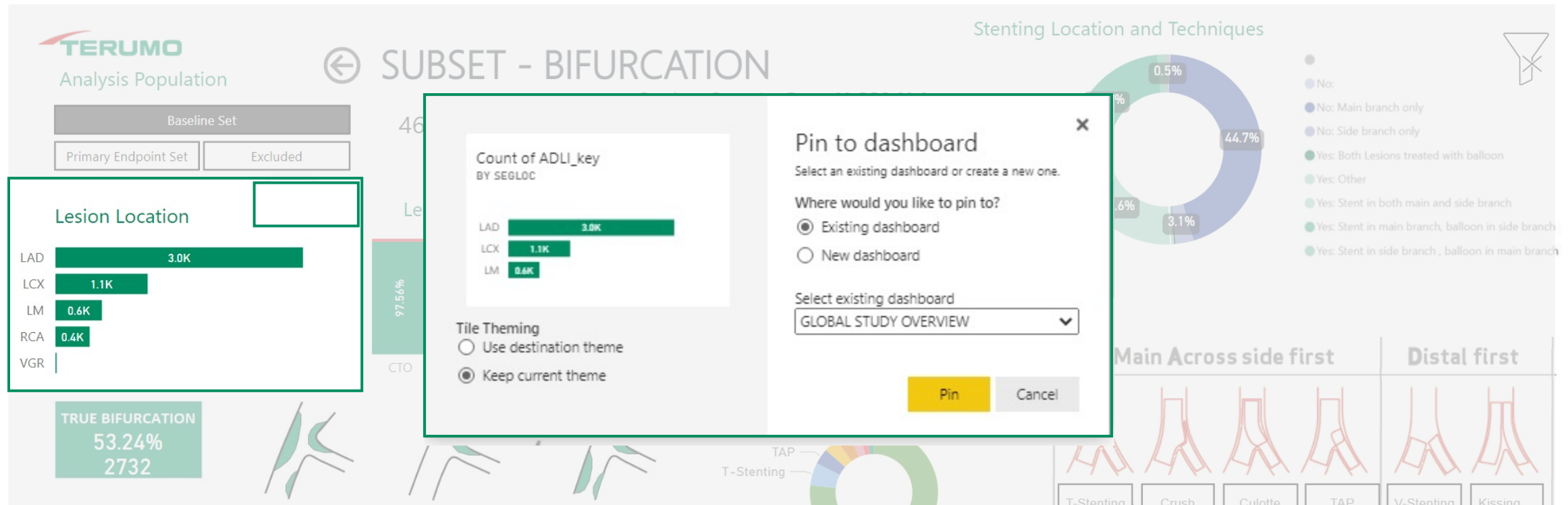


I want to monitor specific AE rates for all the studies

Safety Officer

What's Next ?

■ Target Audience Specific Dashboards



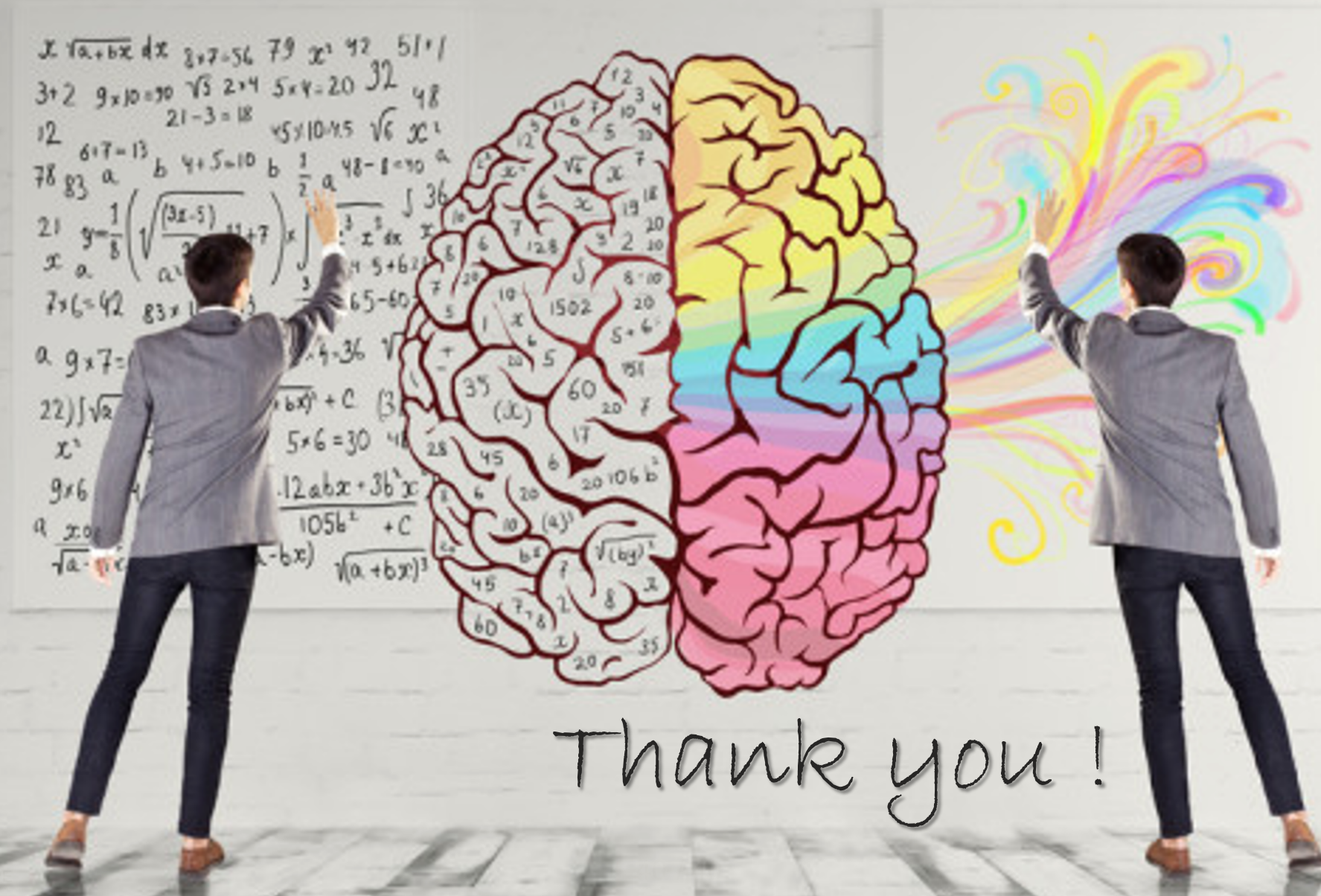
Conclusion

Conclusion

■ How to start ?

- Define your user story !
 - Try to identify what you miss
 - Define a question you want to answer
 - Define your audience and their expectations

- Define the data to be used (raw vs standardized)
- Start small and increase complexity progressively
- Do not overcomplicate things
- Do not link data randomly, start from a medical question, does “X impact Y ?”



Thank you !