

EMA Panel Discussion:

Danish Medicines Agency

– examples from a National Competent Authority utilising patient level data

Jesper Kjær, Director of Data Analytics Centre, Danish Medicines Agency



The vision

A world class data analytics centre that...

“Through use of clinical trial and real world data and advanced analytical methods we want to increase the accessibility of safe and effective medicines and medical devices”

EU: EMA and HMA - the European strategies

Data analytics at EMA and the network

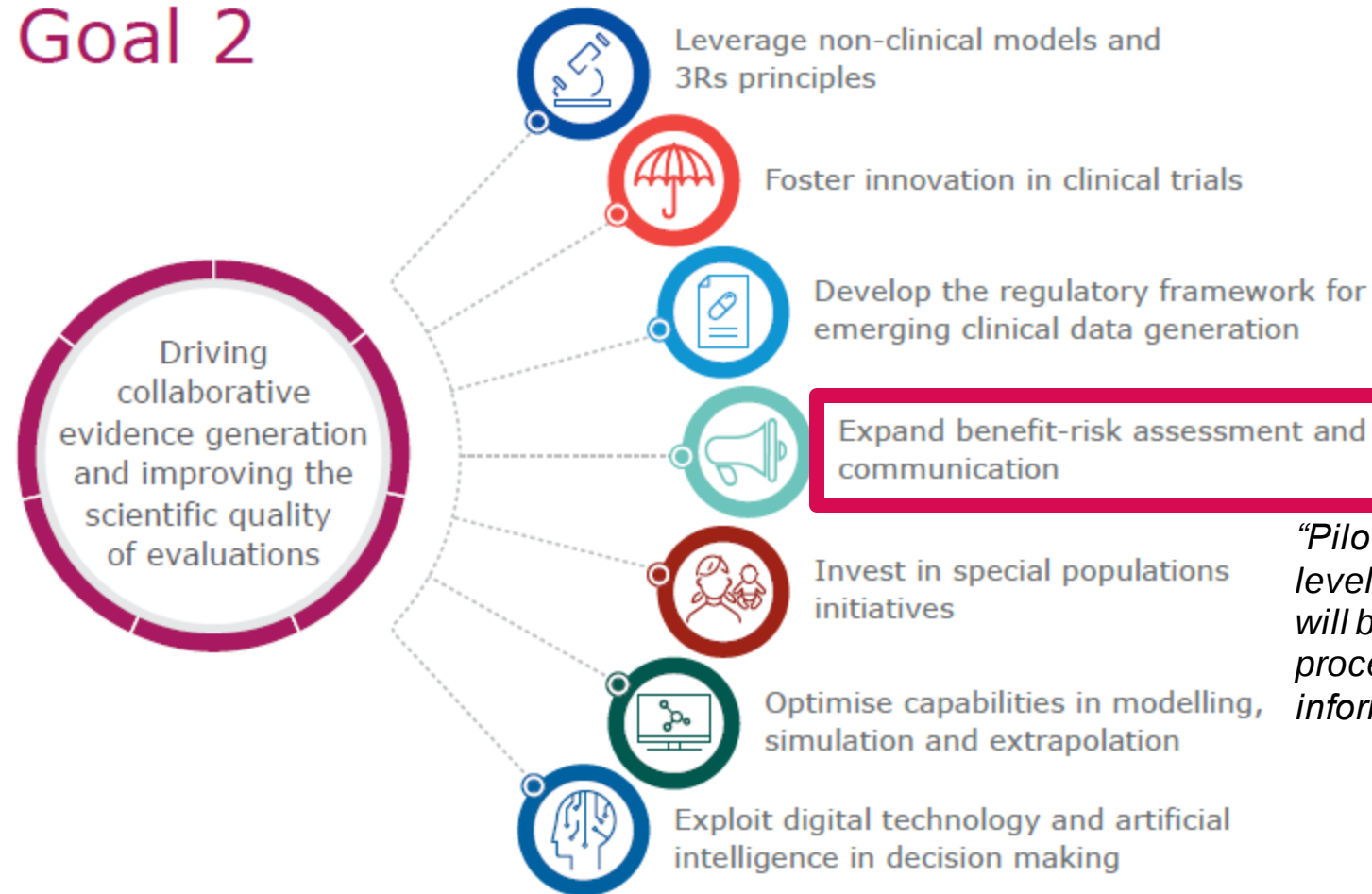


EMA Regulatory Science to 2025



EMA Regulatory Science to 2025

Goal 2

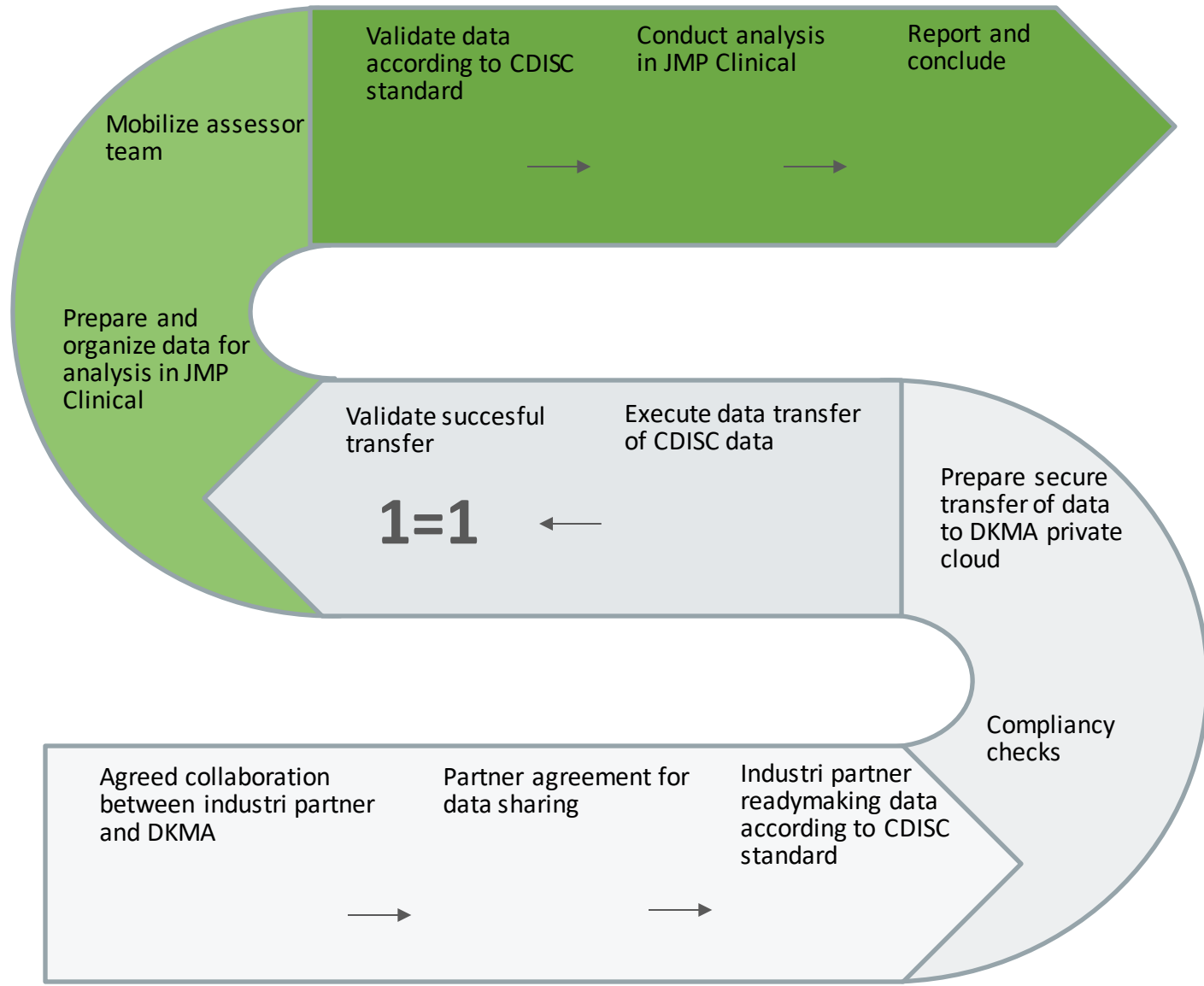


“Pilots of the analysis of patient level data (PLD) from clinical trials will be initiated so that policy, process and technology choices are informed by evidence.”



Network capability to Analyse

CDISC



CDISC

2021-
AUG:

**CDISC Submission at the Danish
Medicines Agency**

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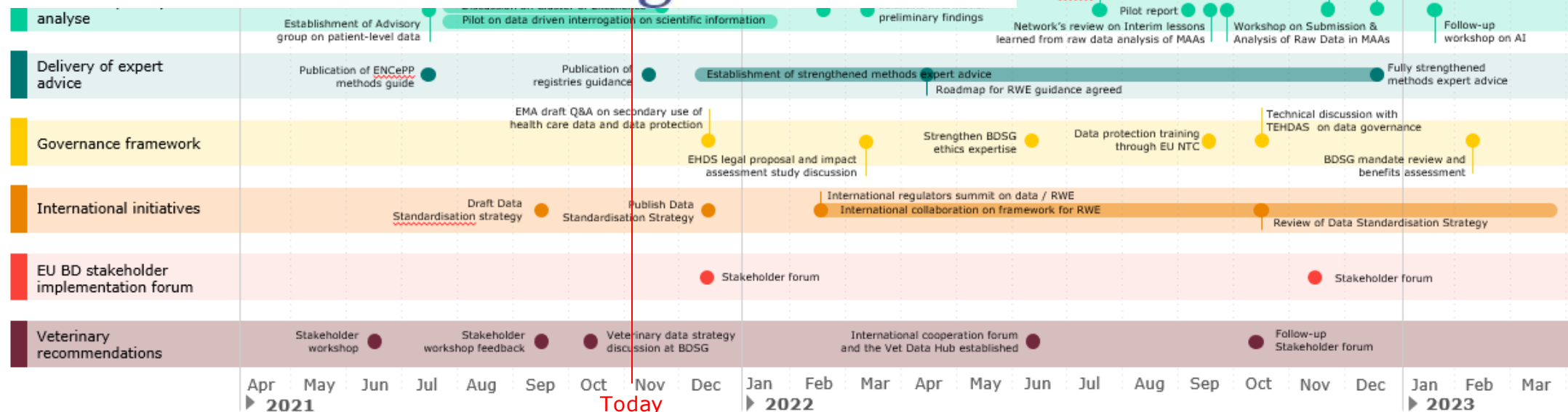
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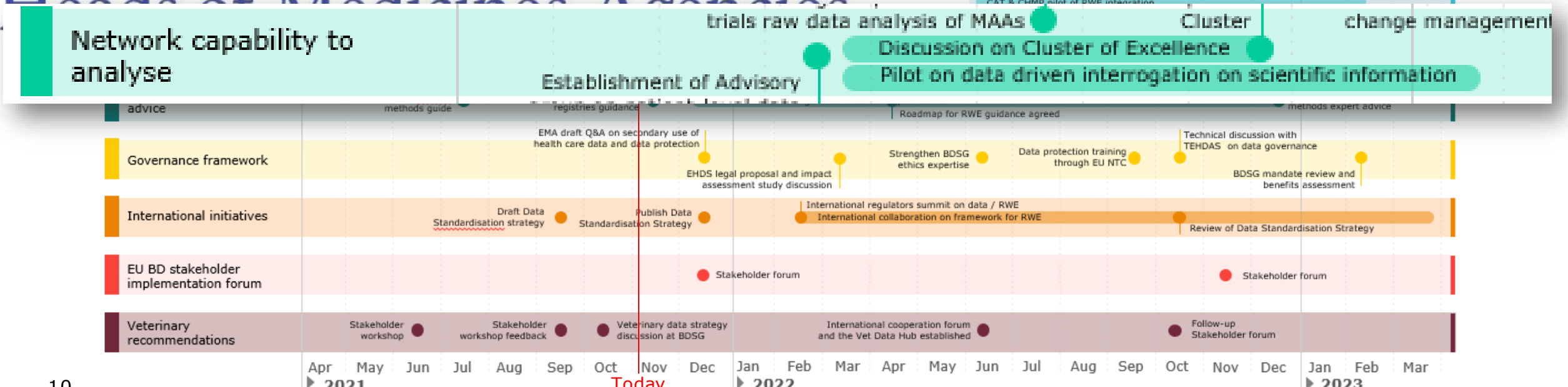
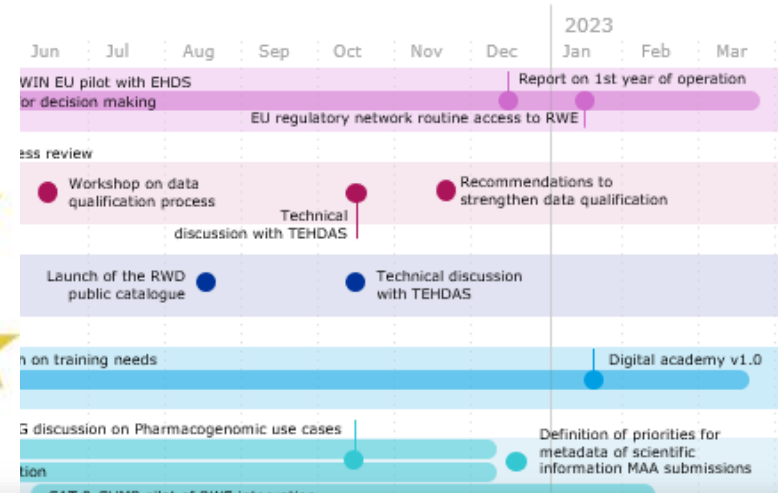
2021-SEP:

Sensitivity analysis on MAA with MEB (NL)

HMA

Heads of Medicines Agencies



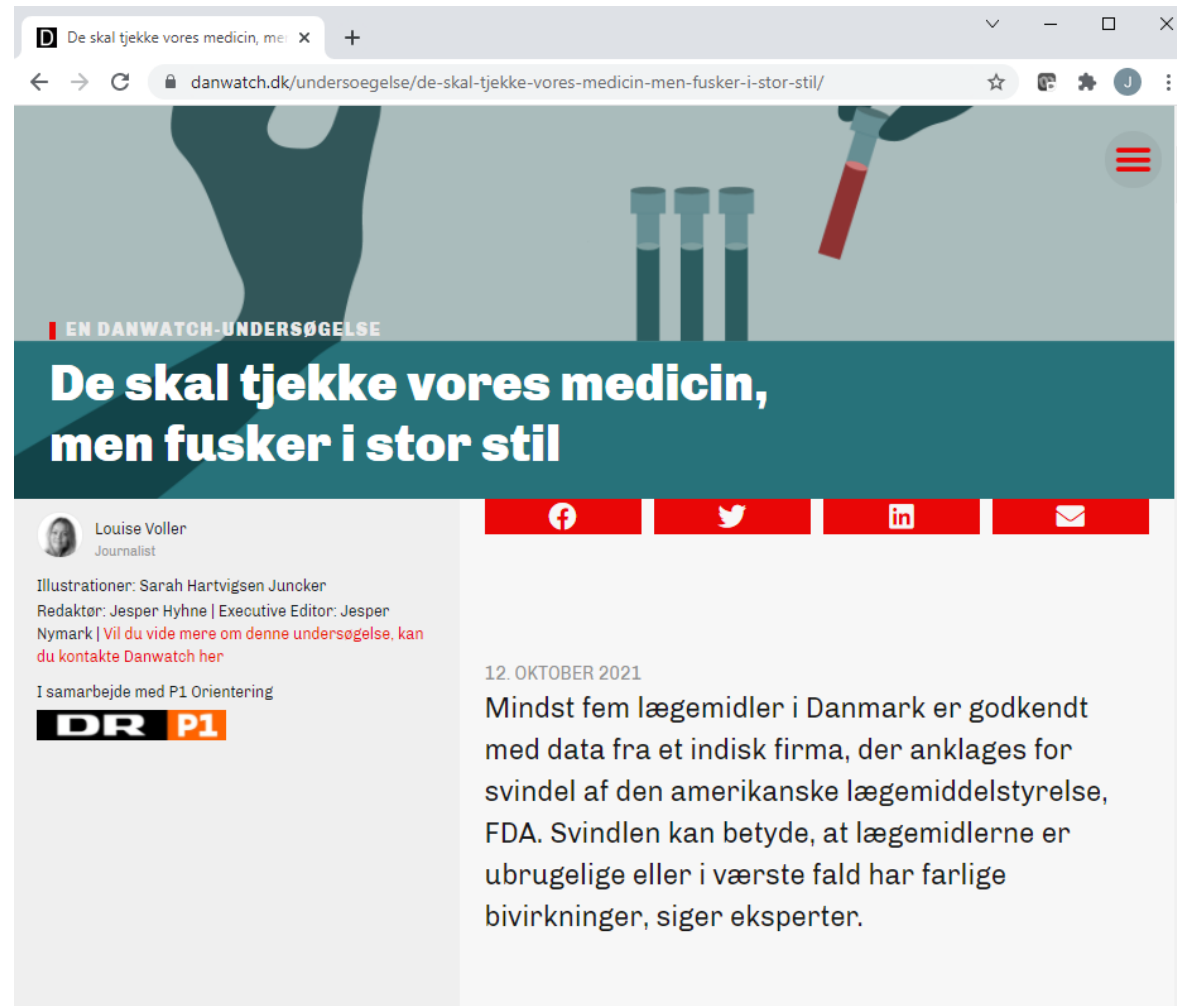


Cluster of Excellence (CoE)

Build EU Network capability to analyse big data

Build computing capacity to receive, store, manage and analyse large data sets including patient level data (PLD), establish a network of analytics centres linked to regulatory agencies, and strengthen the network's ability to validate AI algorithms.

Biosimilars and fraud (?)



De skal tjekke vores medicin, men fuser i stor stil

EN DANWATCH-UNDERSØGELSE

Louise Voller
Journalist

Illustrationer: Sarah Hartvigsen Juncker
Redaktør: Jesper Hyhne | Executive Editor: Jesper Nymark | Vil du vide mere om denne undersøgelse, kan du kontakte Danwatch her

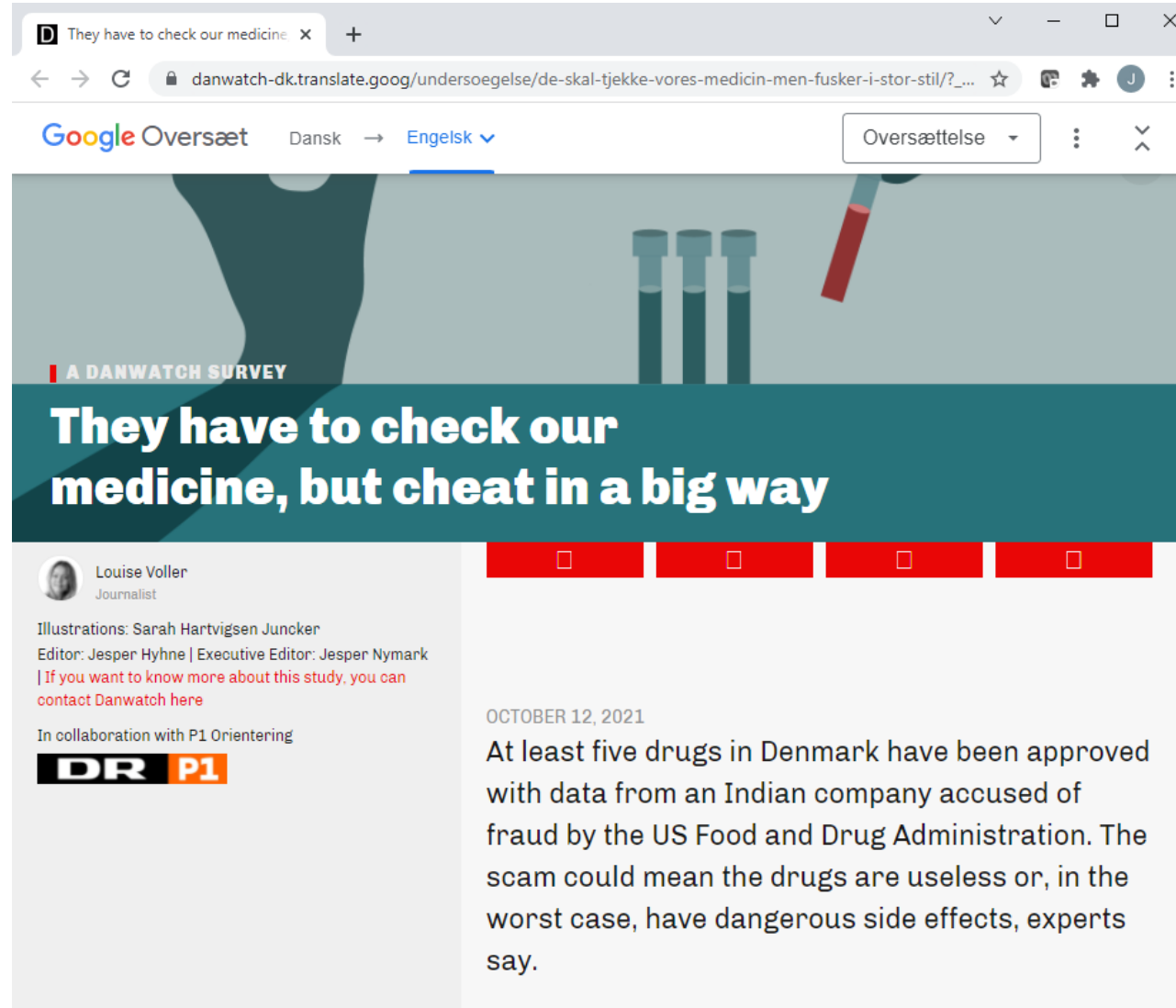
I samarbejde med P1 Orientering

DR P1

12. OKTOBER 2021

Mindst fem lægemidler i Danmark er godkendt med data fra et indisk firma, der anklages for svindel af den amerikanske lægemiddelstyrelse, FDA. Svindlen kan betyde, at lægemidlerne er ubrugelige eller i værste fald har farlige bivirkninger, siger eksperter.

Biosimilars and fraud (?)



The screenshot shows a web browser window with a Google Translate interface. The address bar displays the URL: `danwatch-dk.translate.google/undersogelse/de-skal-tjekke-vores-medicin-men-fusker-i-stor-stil/?_...`. The page is titled "They have to check our medicine, but cheat in a big way" and is labeled as "A DANWATCH SURVEY". The author is Louise Voller, a Journalist. The article is dated October 12, 2021, and discusses the approval of at least five drugs in Denmark based on data from an Indian company accused of fraud by the US Food and Drug Administration. The article mentions that the scam could mean the drugs are useless or, in the worst case, have dangerous side effects, according to experts.

They have to check our medicine, but cheat in a big way

A DANWATCH SURVEY

Louise Voller
Journalist

Illustrations: Sarah Hartvigsen Juncker
Editor: Jesper Hyhne | Executive Editor: Jesper Nymark
| If you want to know more about this study, you can contact Danwatch here

In collaboration with P1 Orientering

DR P1

OCTOBER 12, 2021

At least five drugs in Denmark have been approved with data from an Indian company accused of fraud by the US Food and Drug Administration. The scam could mean the drugs are useless or, in the worst case, have dangerous side effects, experts say.

Data Integrity: Unsupervised Analyses (stat. methods)

Types of Data Issues

- Site: Modified or fabricated records of participants within study site
- Site: Failure to follow protocol
- Site: Data entry errors
- Patient: Subjects with multiple enrollment across sites

Straight-forward data integrity analyses examples:

- Non-random data distributions
- Variability and similarity of subjects within and across sites
- Duplicate detection across measurements
- Duplicated patient information (Birthdays/Initials)
- Correlation of laboratory findings for a patient
- Visit distribution occurrence and attendance

Data Integrity: Available Analyses in JMP Clinical

- Cluster Subjects Across Study Sites
- Cluster Subjects Within Study Sites
- Constant Findings
- Correlated Findings
- Digit Preference
- Duplicate Records
- Enrollment Patterns
- Frequencies
- Missing Findings
- Multivariate Inliers and Outliers
- Outliers
- Perfect Scheduled Attendance
- Screening Bias
- Visit Order
- Weekdays and Holidays

Data Anomalies in Bio Equivalence Data

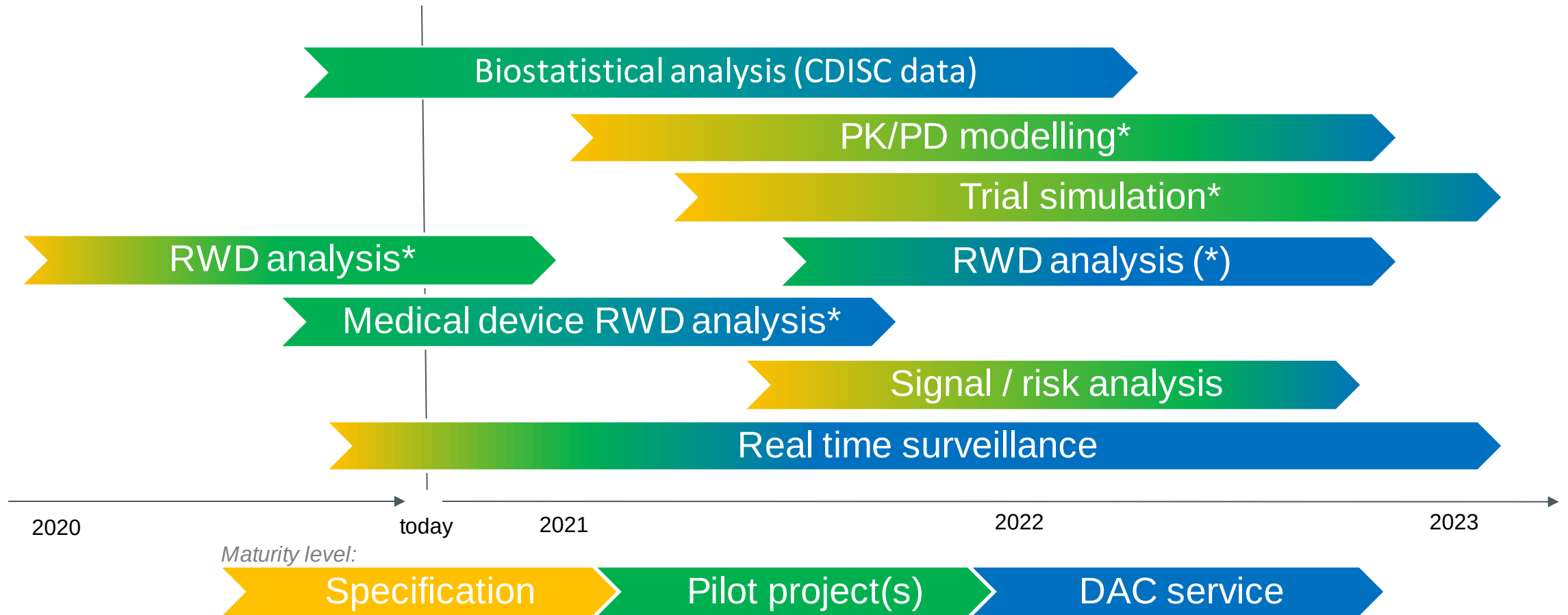
- An application that helps detect anomalies in concentration data from clinical BE studies submitted.
Courtesy of US FDA.

By utilizing the available data in new ways DAC can help usher in a new regulatory paradigm

Area	Now	Future
Scientific advice	• Increasingly complex advanced clinical trial designs • No quantitative scientific advice	• Authorities expanded capacity → quantitative scientific advice • Better regulatory framework
Pre-approval	• Development and approval > 10 years • Approval based on RCT • Authorities review summaries of data	• Precision Medicine • Breakthrough / PRIME • Authorities have access to applicant's clinical trial data (known as CDISC formatted data) • Conditional approvals expands
Post-approval	• Subsequent detection of suspected side effects and signal generation	• Adverse drug reaction supplemented with real world data (RWD) • RWD: Registries, EHR, SoMe etc.

DAC product catalogue road map

Iteratively and through collaboration expanding the analytical capabilities

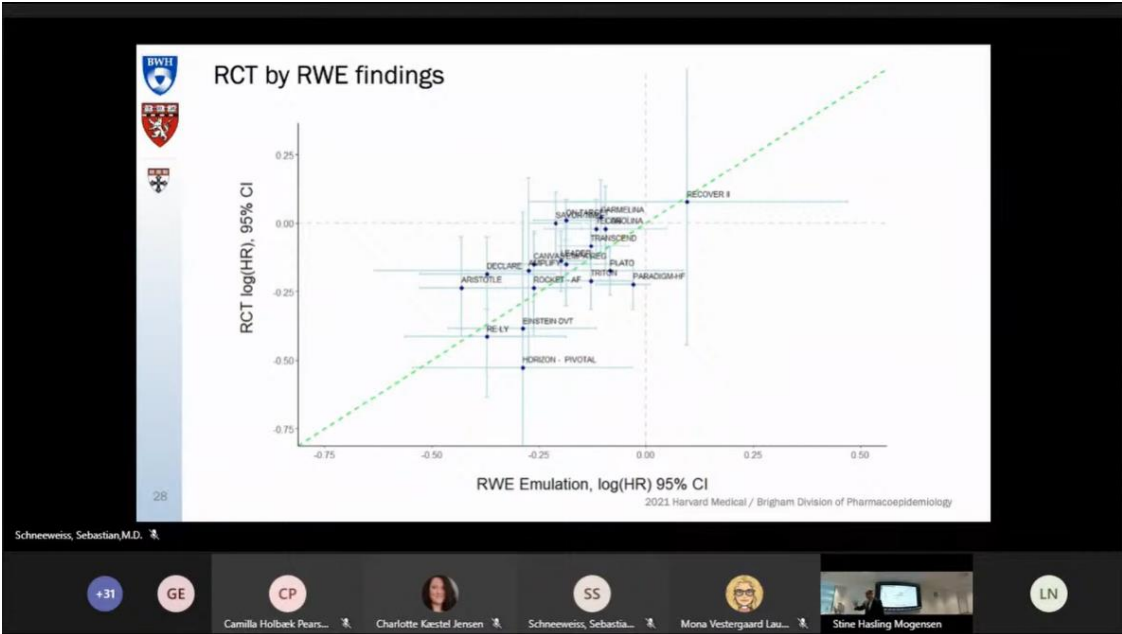


** Collaboration with academia*

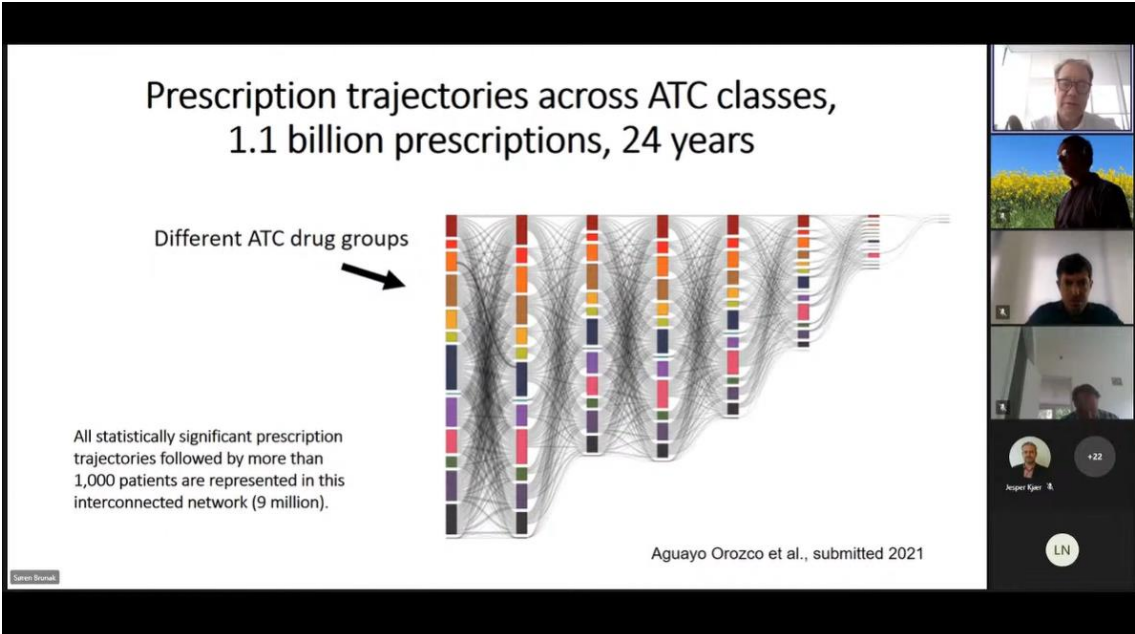
For more information...

Imst.dk/DAC

DAC InnovationTalks and MasterClass webinars on youtube:

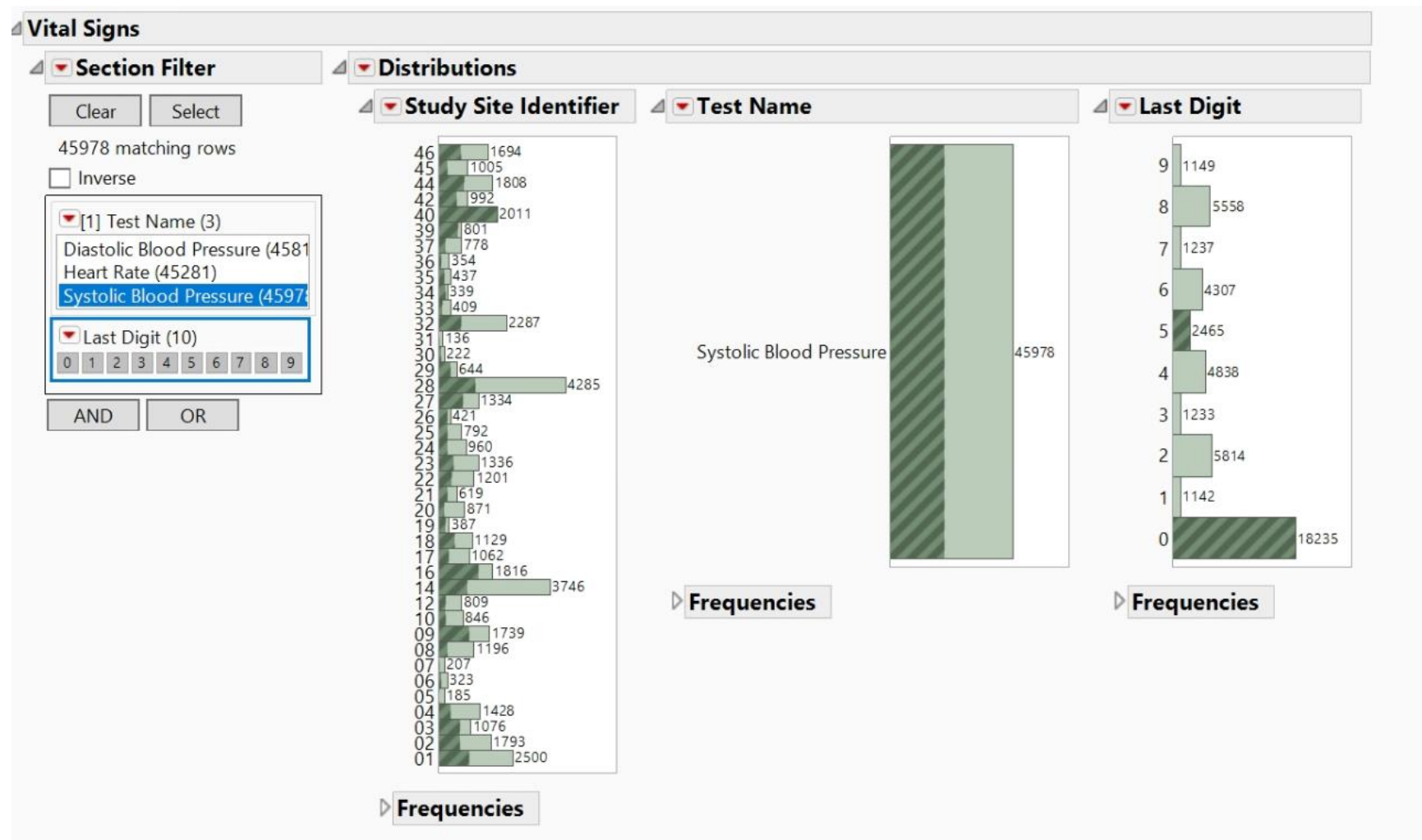


DAC MASTER CLASS: Pharmacovigilance 2.0 – real world signal generation

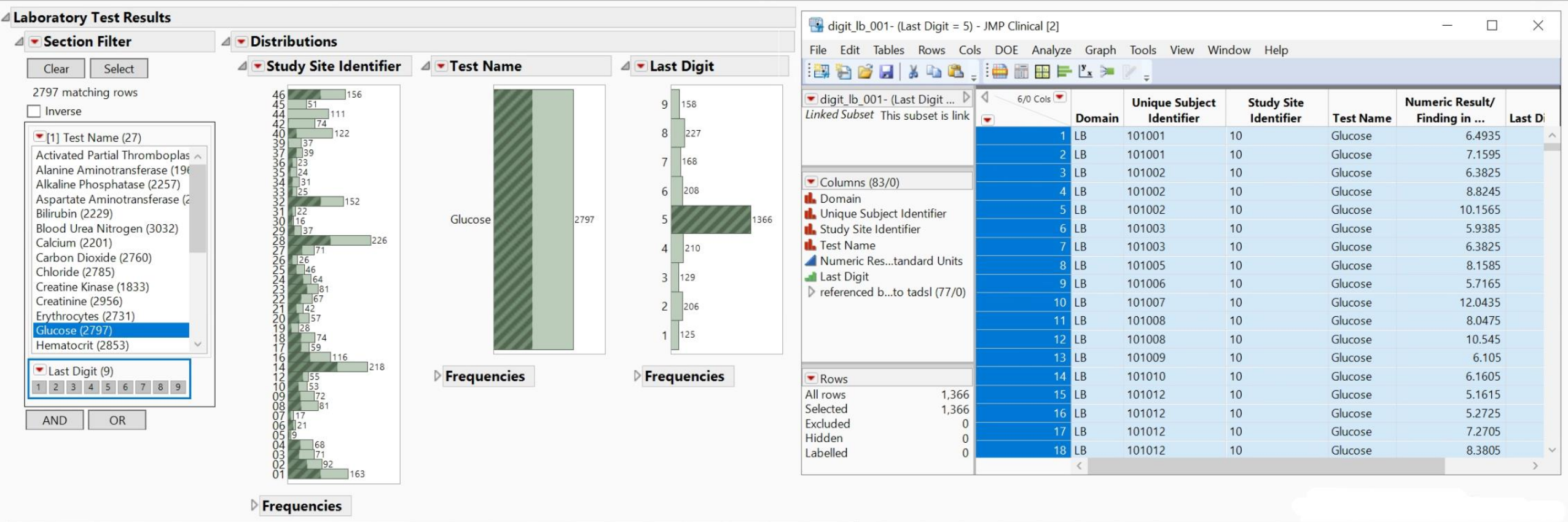


INNOVATION TALKS @ DAC feat. PROFESSOR SØREN BRUNAK

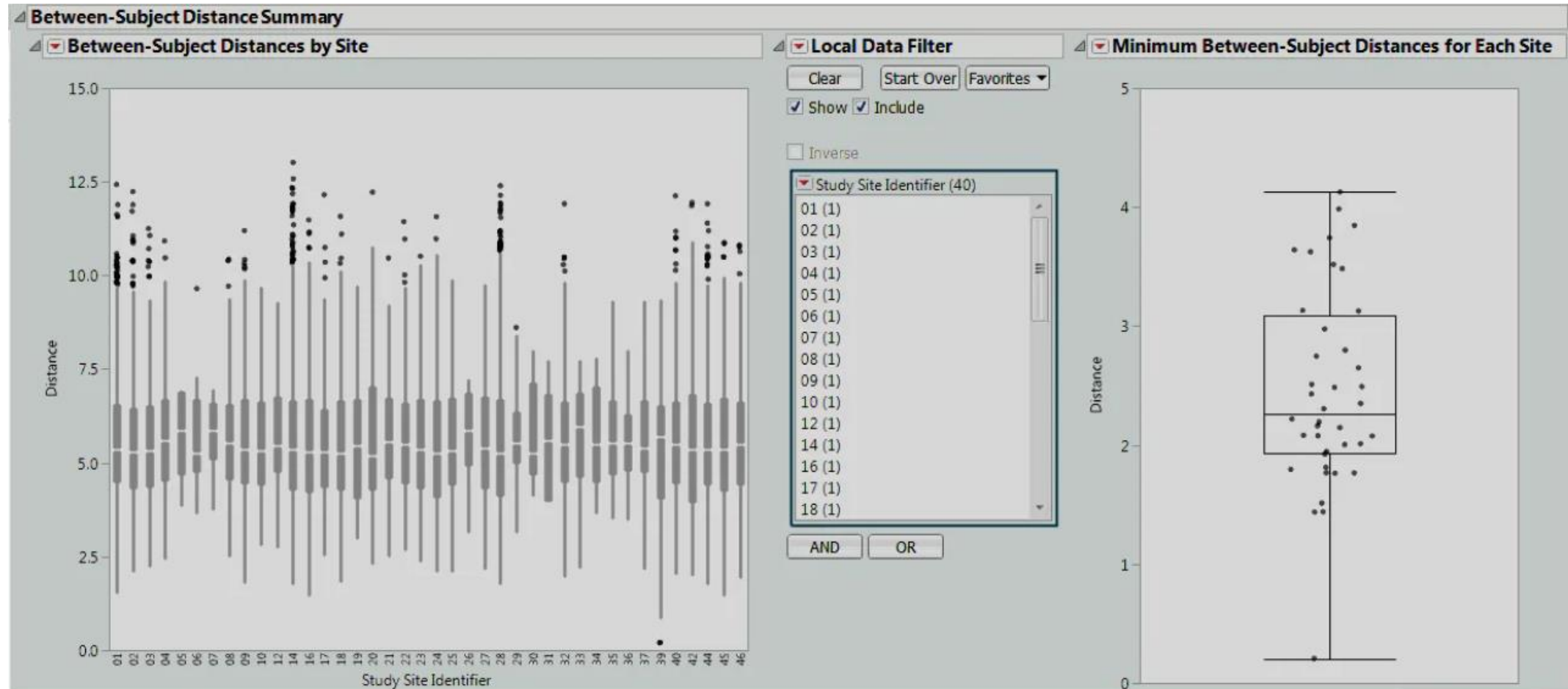
Digit preference



Digit preference



Cluster Subjects Within Study Sites



Multivariate Inliers and Outliers

To identify subject inliers and outliers in multivariate space from the multivariate mean

