

# Shaping the Future Together: Innovation and Transformation Webinar

Wednesday 24 June 2026, 10am-12pm

**THIS EVENT STARTS AT 10AM**



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**CLINICAL AUDIT AWARENESS WEEK 2026**

*Improving lives with healthcare data*

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# Shaping the Future Together: Innovation and Transformation Webinar

Welcome to Clinical Audit Awareness Week, 22-26 June 2026: [www.hqip.org.uk/caaw26](http://www.hqip.org.uk/caaw26)

## Today's agenda:

- **Keynote:** Sir James Mackey, *Chief Executive of NHS England*
- **Aspirations of the National Joint Registry Artificial Intelligence Analytics Strategy:** Chris Boulton, *Director of Operations, National Joint Registry*
- **Real World Data to Improve Patient Safety: From Standardisation to Scale and Speed:** Professor Daniel Prieto-Alhambra, *Professor of Pharmaco- and Device Epidemiology, University of Oxford, NDORMS*
- **Excellence in Clinical Audit Awards Announcement and presentation:** Use of National Clinical Audit and Patient Outcomes Programme Data Commendation Winner 2026
- **Shaping Innovation through Clinical Audit: Evidencing MedTech Implementation and Patient Impact:** Sarah Chessell, *Head of Research and Innovation, NHS Dorset; Lead, Dorset Innovation Hub*
- **Using the National Emergency Laparotomy Audit Exponentially Weighted Moving Average (EWMA) Charts to Detect Outlier Mortality:** Aiman Al-Eryani, *Senior Data Analyst, Royal College of Anaesthetists*

# Before we start...

## Being seen and heard

- Event recorded
- Mics off for background noise
- Cameras on, if you are happy to

## Asking questions

- Use the Q&A to post your questions
- Contact us via HQIP website if Q&A unavailable for you

## Recommendations

- Laptop/PC, not phone
- Try browser version, not app
- If needed, rejoin using rejoin button on screen or original Teams link

Don't forget to share on social media: #CAAW26

# Keynote

**Sir James Mackey**

Chief Executive, NHS England

# Aspirations of the National Joint Registry Artificial Intelligence Analytics Strategy

**Chris Boulton**

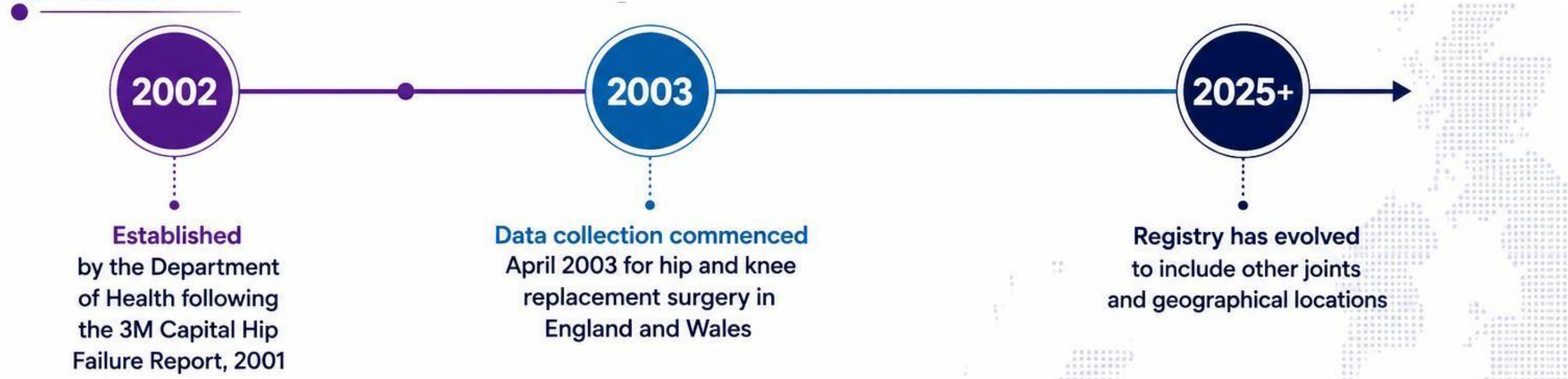
Director of Operations, National Joint Registry

# Aspirations of the NJR artificial intelligence analytics strategy

**Chris Boulton**  
**NJR Director of Operations**  
**Clinical Audit Awareness Week**  
**June 2026**



# NJR background



**2002**  
Established by the Department of Health following the 3M Capital Hip Failure Report, 2001

**2003**  
Data collection commenced April 2003 for hip and knee replacement surgery in England and Wales

**2025+**  
Registry has evolved to include other joints and geographical locations



**Started with one patient safety issue**  
3M Capital Hip Failure Report, 2001



**Grew into a national programme**  
Hip and knee replacement data collection began in April 2003



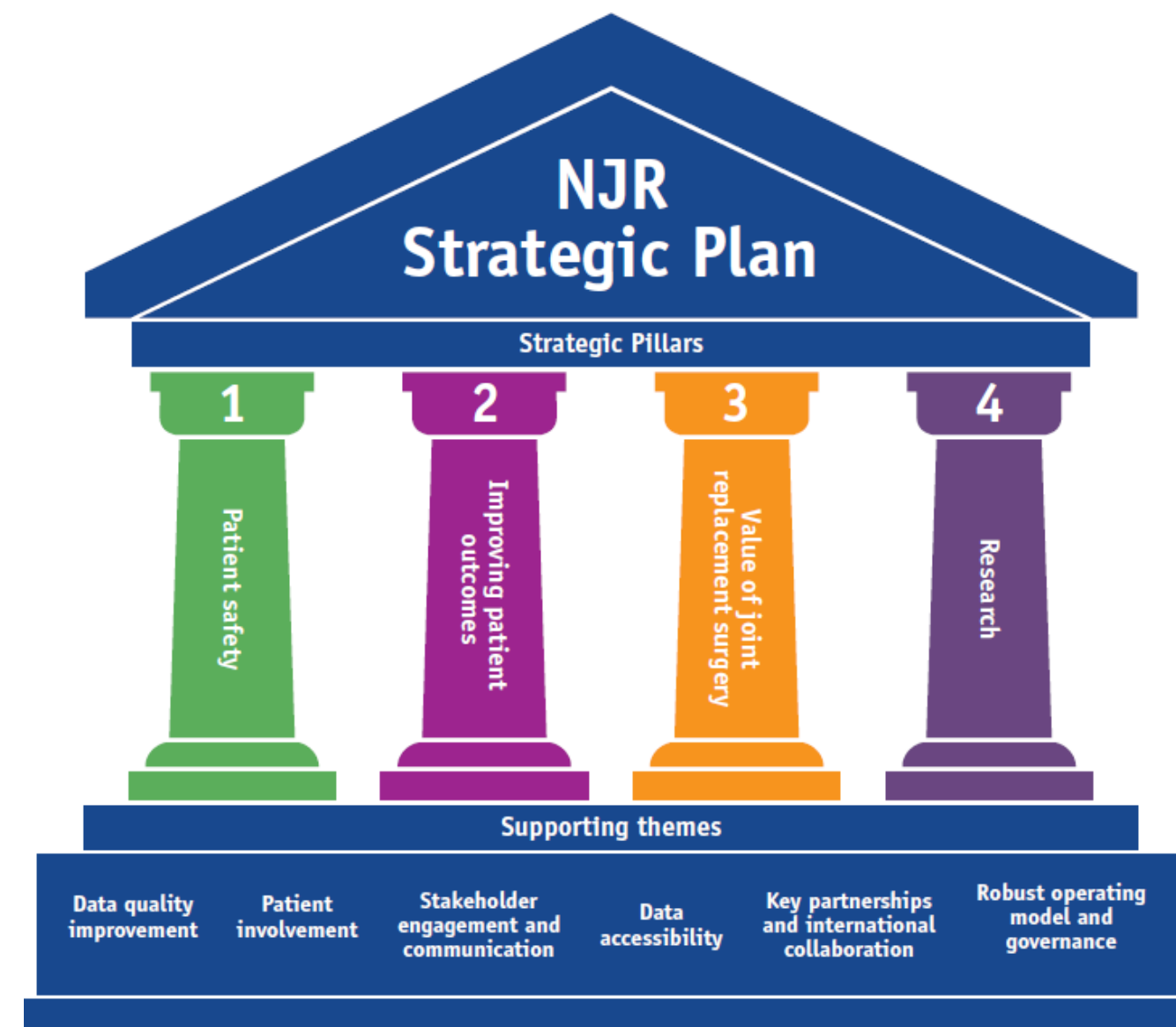
**Became a global resource**  
The NJR now informs clinicians, patients and policy worldwide

**4.65M+**  
Joint replacement procedures recorded

**~250,000**  
new records submitted every year

**From a single implant failure to the world's largest joint replacement registry**

*We record, monitor, analyse and report on outcomes of joint replacement surgery to continuously enhance patient safety, support surgeons, and assure value and improved patient outcomes.*



# Why now?

Five powerful forces are reshaping joint replacement care

## More procedures

Demand for joint replacement surgery continues to grow.



## Robotics and digital surgery

Increasing use of technology in the operating theatre.



## Ageing population

More people living longer with musculoskeletal conditions.



## New implants and innovations

A rapidly evolving landscape of devices, materials and techniques.



## Increasing expectations

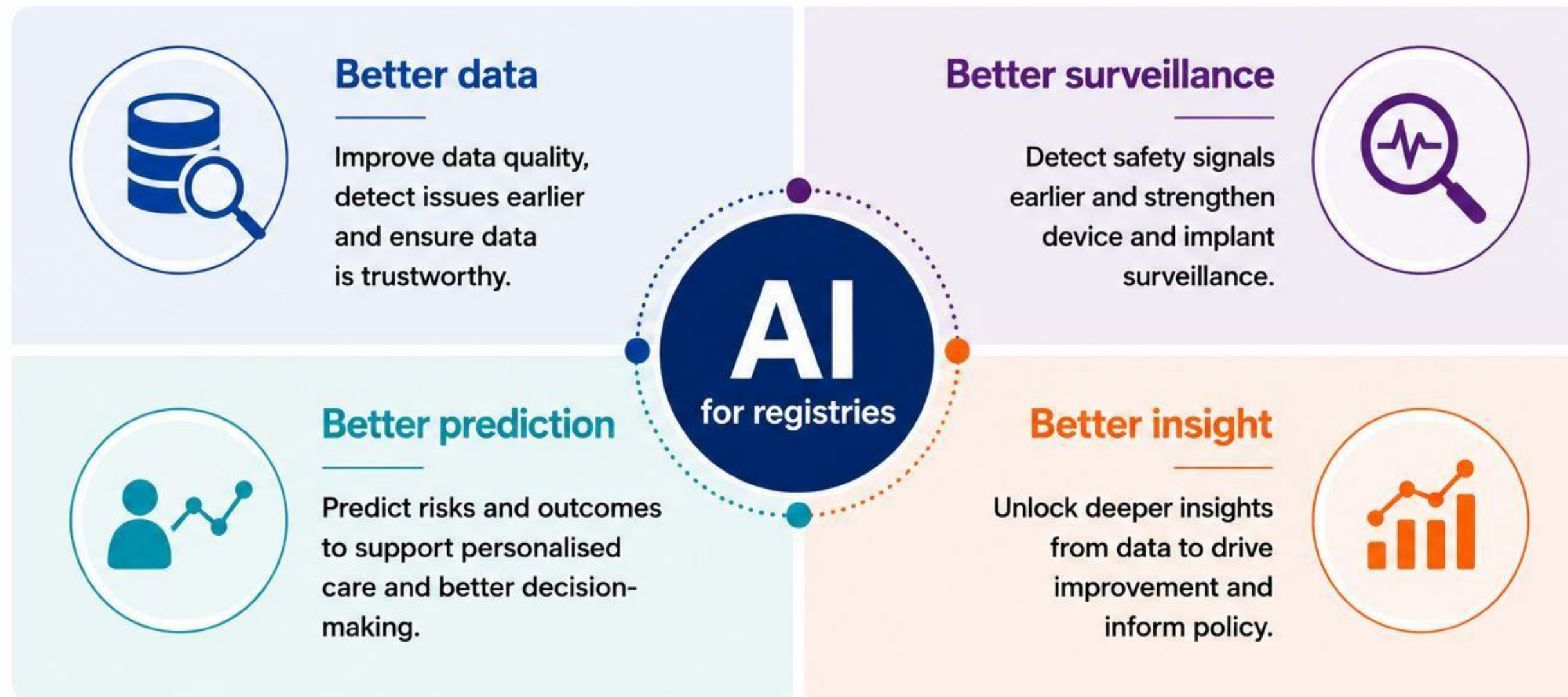
Patients and clinicians expect safer care, better outcomes and personalised information.



Data is growing faster than our ability to analyse it.

# What could AI do for registries?

Four key areas where AI and advanced analytics can create the greatest value

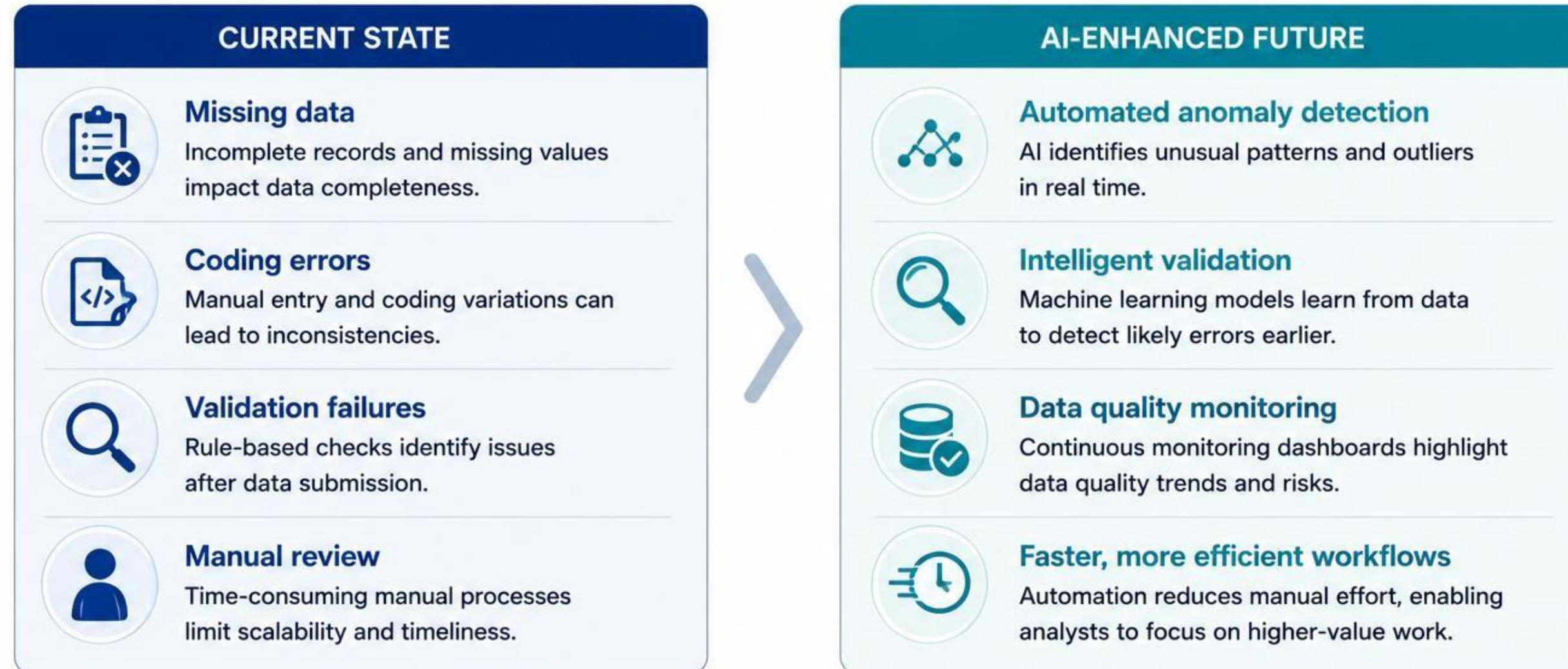


 **Harnessing AI responsibly to improve outcomes and patient safety for all.**

# Better data

## AI can transform how we ensure data quality and integrity

High quality data is the foundation of trustworthy insights and patient safety.



 **The first use of AI isn't replacing analysts. It's improving the quality of the data analysts work with.**

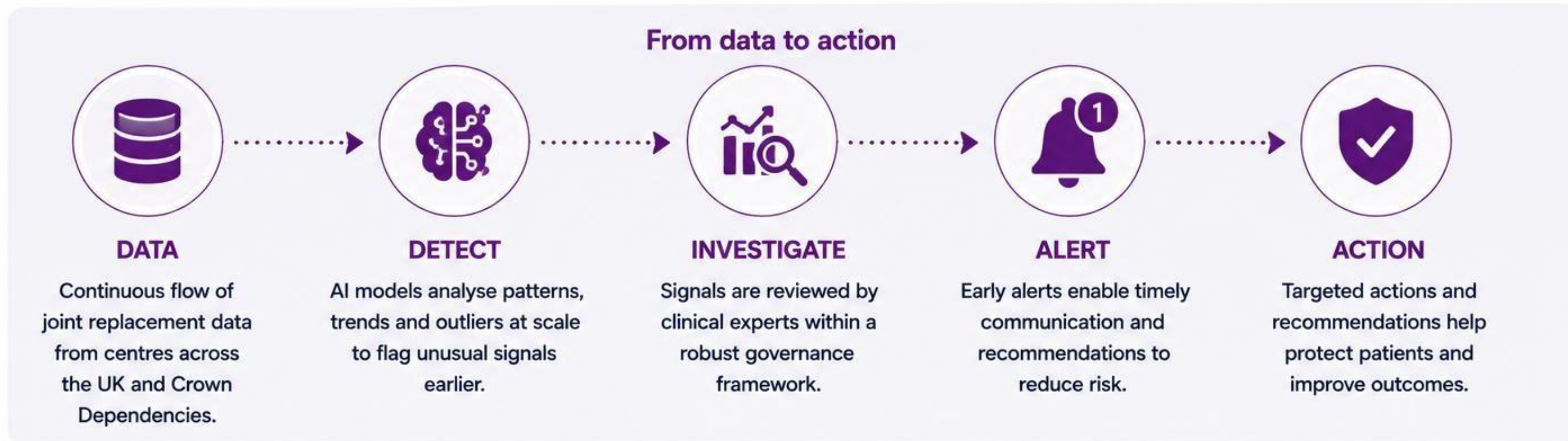
# Better surveillance

## AI can help us detect safety signals earlier and act faster

Advanced analytics and AI can analyse millions of records continuously to identify potential problems before they become widespread.



**Learning from the past**  
The Metal-on-Metal experience showed the importance of timely signal detection.  
**Could we identify emerging issues months or years earlier?**



**Modern signal detection, powered by AI, strengthens patient safety and our ability to respond quickly.**

- ✓ Earlier detection
- ✓ Better prioritisation
- ✓ Stronger evidence
- ✓ Faster action

# Better prediction

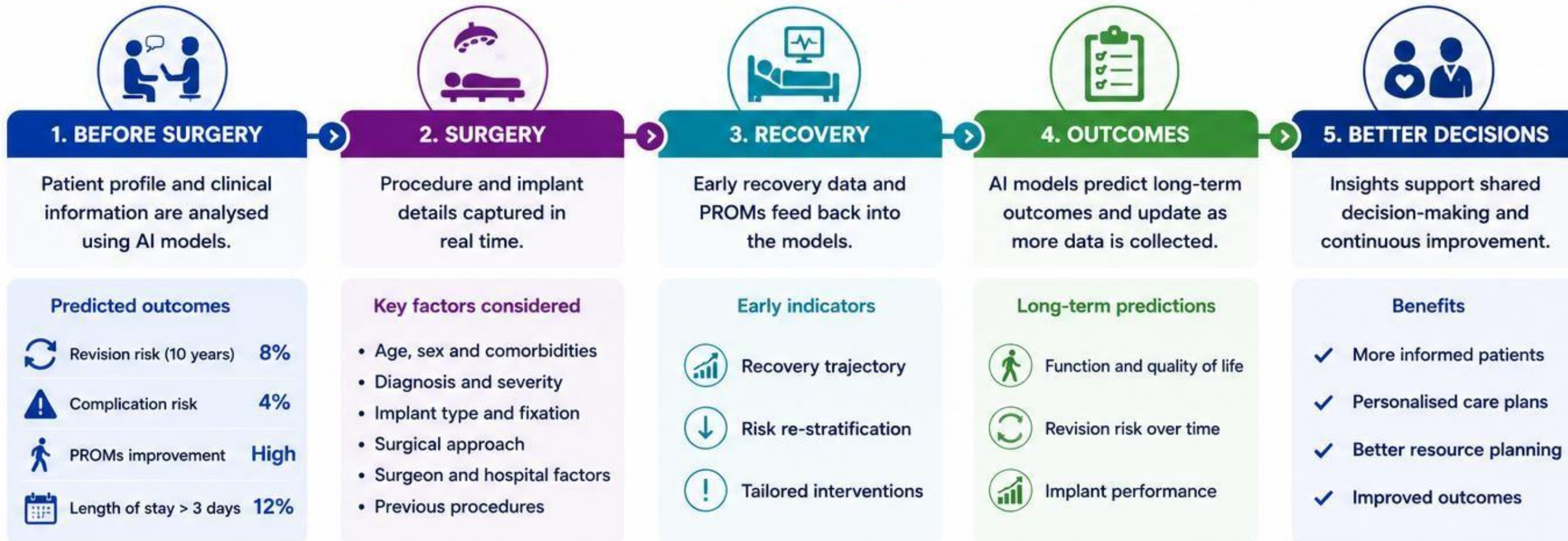
AI can predict risks and outcomes to support personalised care and better decisions



What if every patient understood their likely outcome before surgery?

Turning data into personalised insight empowers patients and clinicians.

## The patient journey



Predicting outcomes is not about certainty. It is about better information for better decisions.



Empowers patients



Supports clinicians



Improves safety



Drives better outcomes

# Better insight

AI helps analysts ask better questions and focus on what matters most



**From descriptive reporting to meaningful insight**

AI frees analysts from manual tasks so they can interpret, challenge and drive improvement.

## CURRENT WORLD



Analysts spend most of their time on:

-  Extracting and preparing data
-  Creating standard reports
-  Running routine analyses
-  Responding to ad hoc requests

Typical question

*“Show me revision rates by implant.”*

## FUTURE WORLD



Analysts focus on higher-value work:

-  Interpreting and challenging patterns
-  Identifying what matters most
-  Working with clinicians to drive change
-  Generating new hypotheses and insight

Better questions

*“Which implants are performing unexpectedly poorly in younger patients?”*



AI doesn't replace analysts. It frees them to do higher-value, impact-driven work.



More time for insight



Stronger collaboration



Better decisions for patients

# The NJR approach

A careful, governed and collaborative path to realising the value of AI

Our strategy is built in three phases, with governance and ethical principles at the core.



**Governance comes before technology. People and ethics come before algorithms.**  
Building the right foundations today will enable responsible innovation and lasting impact.

# Opportunities and responsibilities

Realising the promise of AI while upholding the trust placed in registries

Our commitment: deliver insight that improves patient outcomes, safely and ethically.

## THE OPPORTUNITIES



### Better quality data

More complete, accurate and reliable data at scale.



### Earlier detection

Identify safety signals and issues sooner.



### Faster, richer insight

Analyse more data, more quickly to answer important questions.



### Better decisions

Support clinicians and patients with evidence that matters.



### Better outcomes

Safer care, improved experience and value for patients.



Innovation and integrity  
in balance

## OUR RESPONSIBILITIES



### Transparency

Clear about how models are built, used and evaluated.



### Explainability

Models and outputs must be understandable and justifiable.



### Fairness and equity

Actively monitor for bias and ensure fair outcomes for all.



### Privacy and security

Protect patient data and maintain robust information governance.



### Public trust

Deliver public value and uphold the trust placed in us.



AI will *not* replace registries.



AI will *not* replace clinicians.



AI will **transform** how registries support clinicians and improve outcomes for patients.



The future registry won't simply tell us what happened. It will help us **understand** what is happening, **predict** what might happen next, and **support** better decisions for patients.

# Thank you

## Contact details

**Chris Boulton**

**Director of Operations**

**[chris.boulton@njr.org.uk](mailto:chris.boulton@njr.org.uk)**

# Real World Data to Improve Patient Safety: From Standardisation to Scale and Speed

**Professor Dani Prieto-Alhambra,**

Health Data Sciences Lead, NDORMS, University of  
Oxford

# Real World Evidence for Patient Safety Why and How?

Prof Dani Prieto-Alhambra

Health Data Sciences Lead, NDORMS, University of Oxford



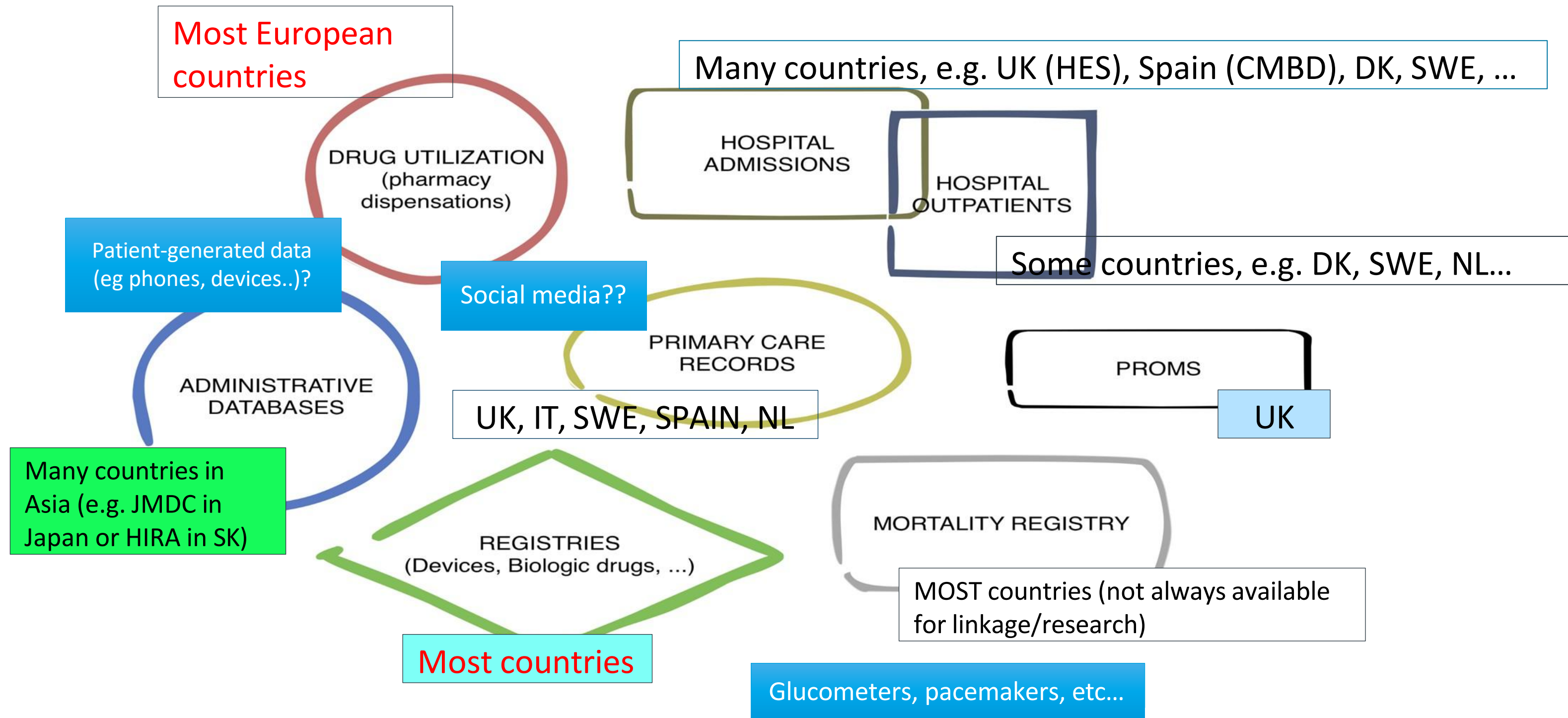
# CONTENTS

- Why RWE?
- The challenge: scale
- The opportunities
- Impactful examples

# CONTENTS

- **Why RWE?**
- The challenge: scale
- The opportunities
- Impactful examples

# What's Real World Data?



# Why RWD?

## 1. RCTs are not always possible ...

Hazard

Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials

Gordon C S Smith, Jill P Pell

*BMJ 2003*

### What this study adds

No randomised controlled trials of parachute use have been undertaken

The basis for parachute use is purely observational, and its apparent efficacy could potentially be explained by a “healthy cohort” effect

### The medicalisation of free fall

It is often said that doctors are interfering monsters obsessed with disease and power, who will not be satisfied until they control every aspect of our lives (*Journal*

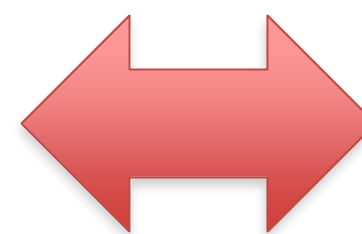
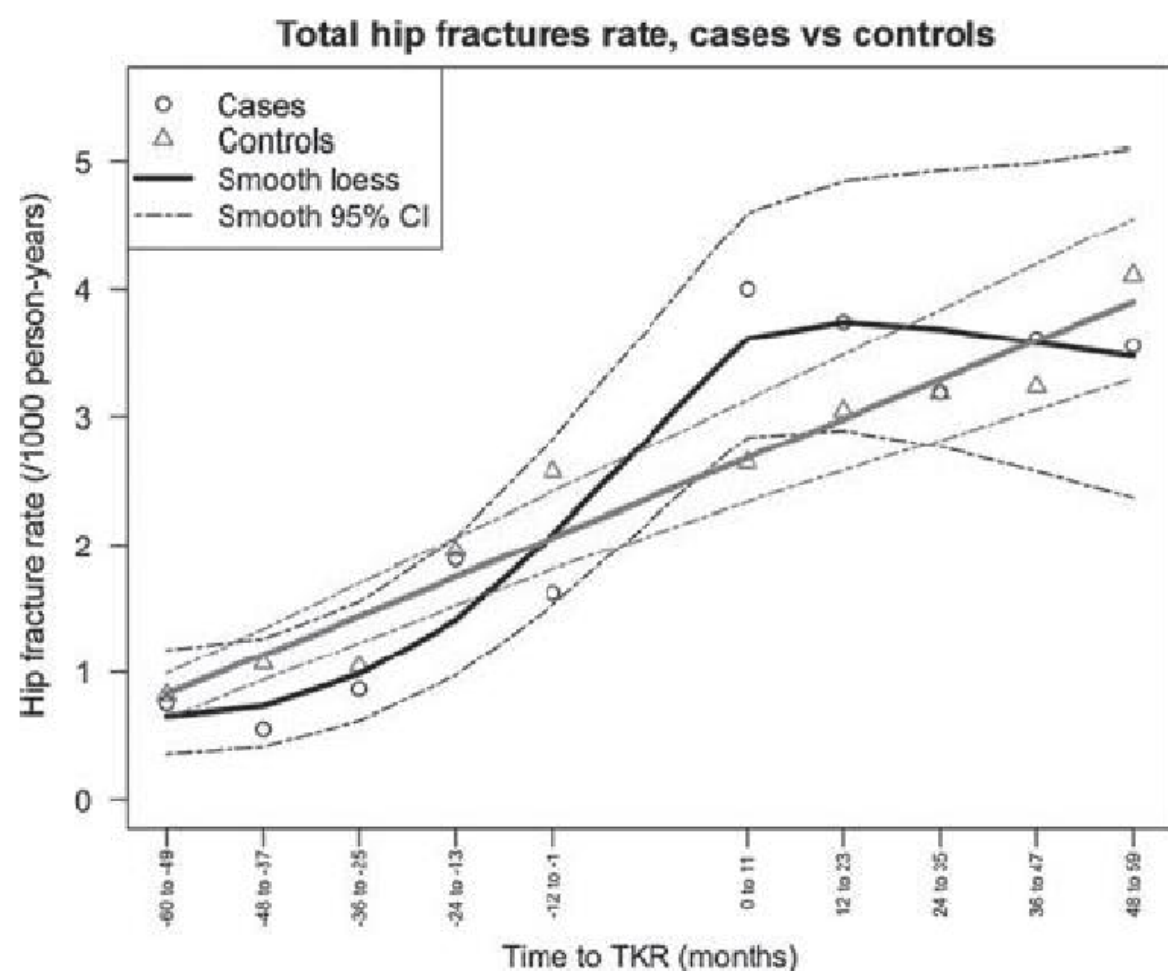
**# OF RCTs = 0**

# Why RWD?

## 2. The data is out there ... **and this enables rapid replication**

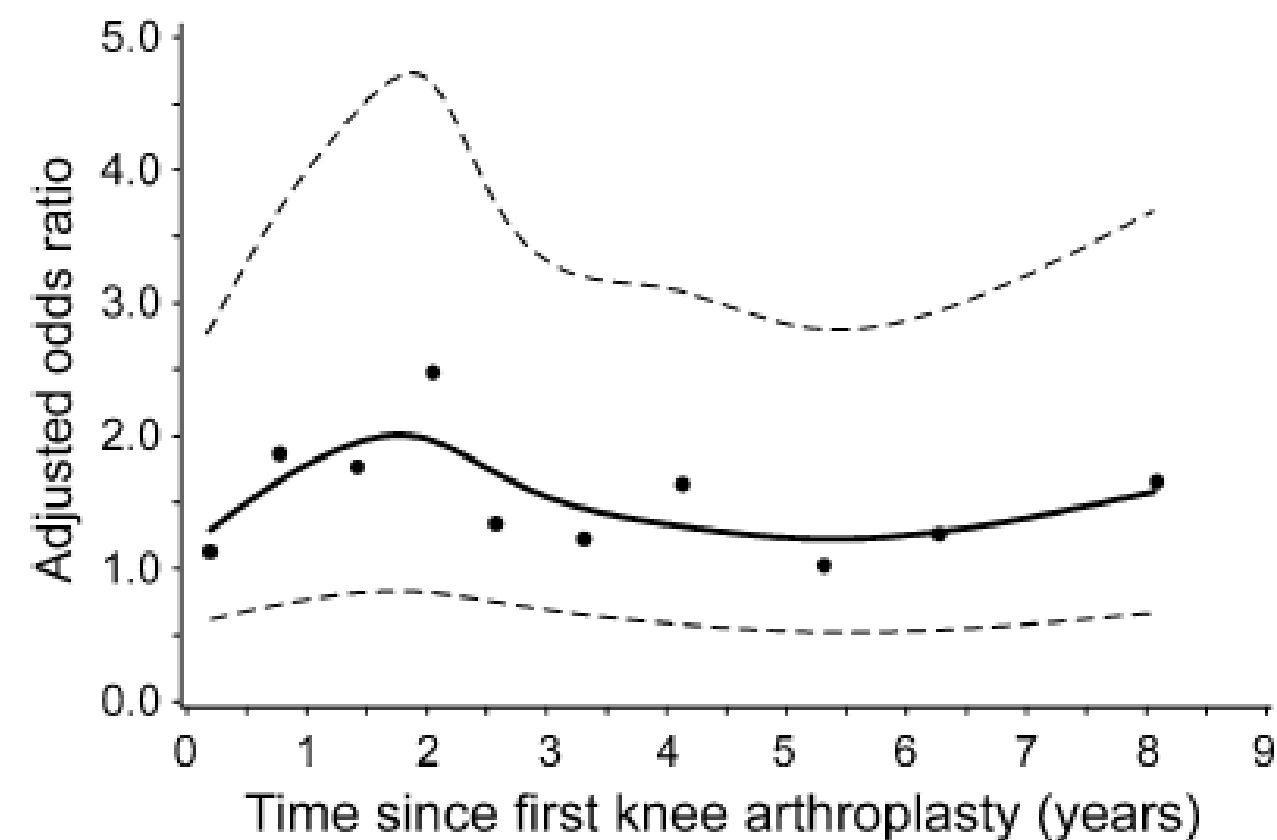
Changes in hip fracture rate before and after total knee replacement due to osteoarthritis: a population-based cohort study

Daniel Prieto-Alhambra,<sup>1-3</sup> M Kassim Javaid,<sup>1</sup> Joe Maskell,<sup>1,4</sup> Andrew Judge,<sup>1</sup> Michael Nevitt,<sup>5</sup> Cyrus Cooper,<sup>1,4</sup> Nigel K Arden<sup>1,4</sup>



**Knee Arthroplasty and Risk of Hip Fracture: A Population-Based, Case-Control Study**

Arief Lalmohamed · Frans Opdam · Nigel K. Arden · Daniel Prieto-Alhambra · Tjeerd van Staa · Hubertus G. M. Leufkens · Frank de Vries



# Why RWD?

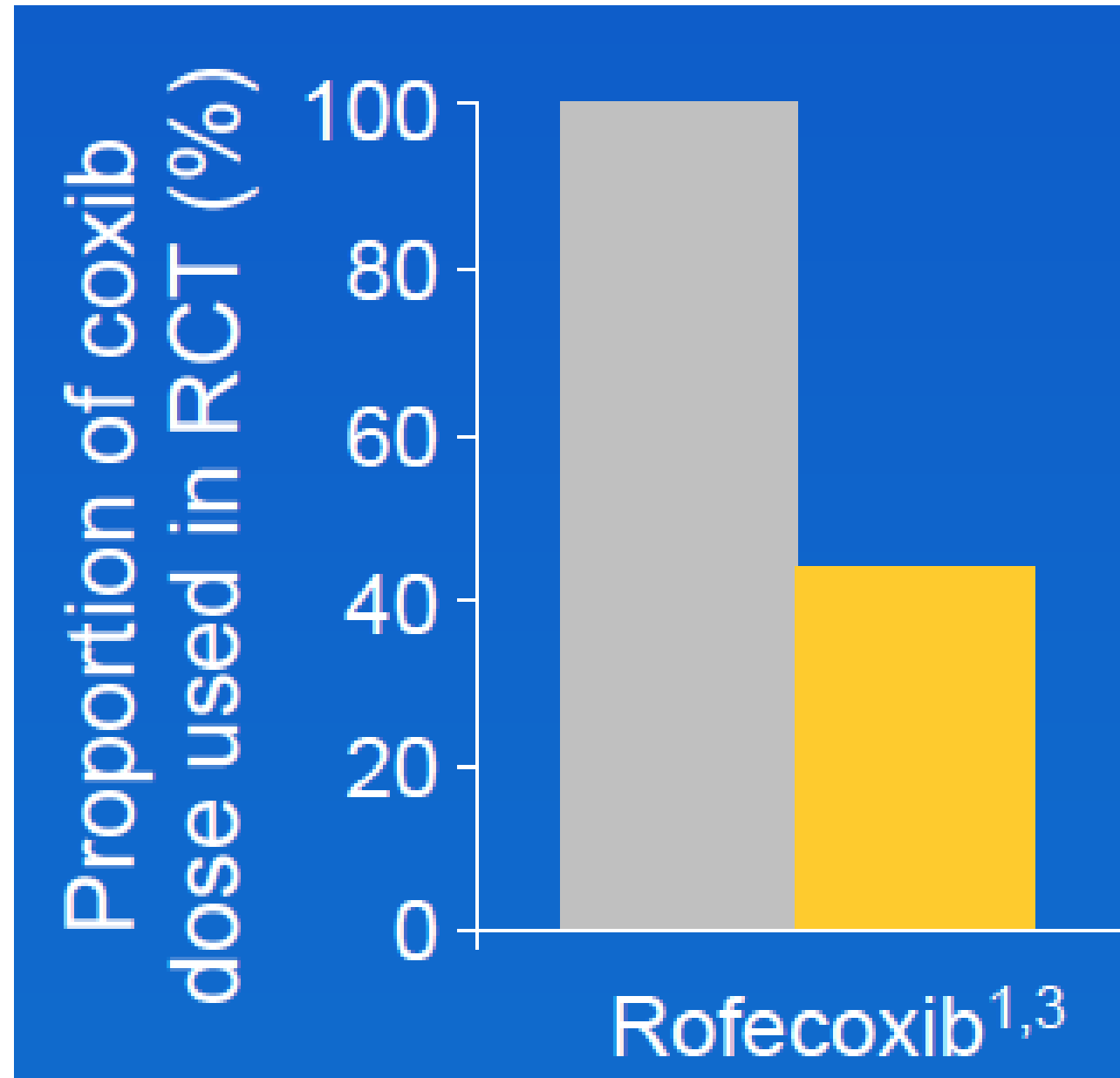
## 3. Generalizability

**Table 1** Comparison of the exclusion criteria in the FIT trial with the incident users of alendronate in the SIDIAP and DHR database

FIT exclusion criteria <sup>a</sup>	Operational definition/ICD-10 Codes	Incident users of Alendronate <sup>d</sup>	
		SIDIAP <i>N</i> = 14,316 (%)	DHR <i>N</i> = 21,214 (%)
Men	Sex according to administrative data	3818 (26.7 %)	3885 (18.3 %)
Age <55 years old	Age at first ALD dispensation	1844 (12.9 %)	1654 (7.8 %)
Age >80 years old	Age at first ALD dispensation	2347 (16.4 %)	5275 (24.9 %)

# Why RWD?

## 4. Efficacy vs Effectiveness ...



**Adherence in RCT (Vigor study) vs “real life”**

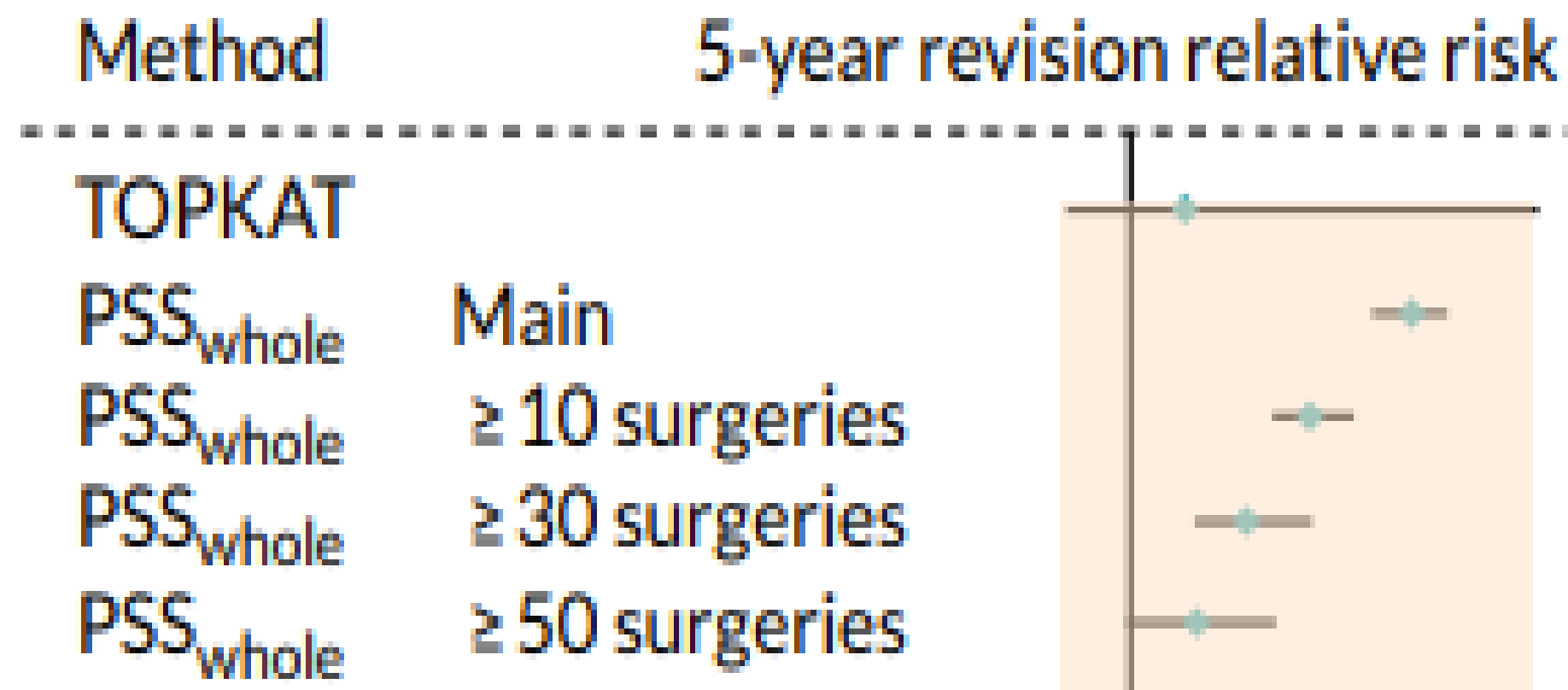
**Rofecoxib users in CPRD**

*[TV Staa PLoS One '09]*

# Why RWD?

## 5.Safety

- **TOPKAT RCT** gives us the potential **efficacy**: best performance in the hands of the most experienced surgeons
- **RWE** gives us the actual **effectiveness**: what is the real-life performance in the hands of the *average* surgeons/physicians



D Beard et al. Lancet 2019

A Prats-Urbe et al. NIHR HTA Journal 2020

**Trials and RWE complement each other**

# CONTENTS

- Why RWE?
- The challenge: scale
- The opportunities
- Impactful examples

# Data live in silos: not only in the UK

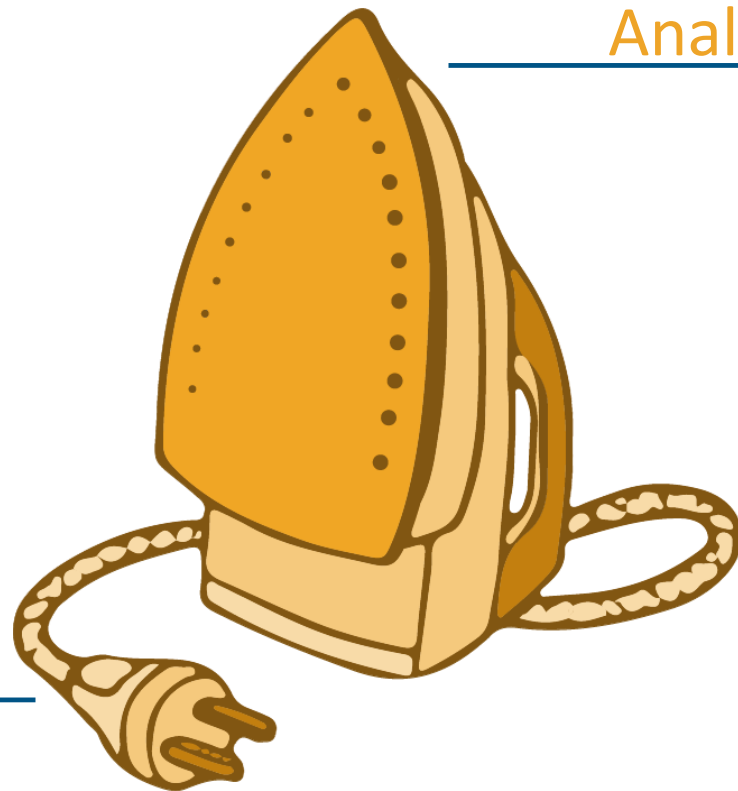
Many/most European countries have ‘devolved’ healthcare and/or data collection / EHR systems:

- **Heterogeneous data**
- **Disjointed data ‘lakes’**



# Even when similar in content... Data look different

Analytical method



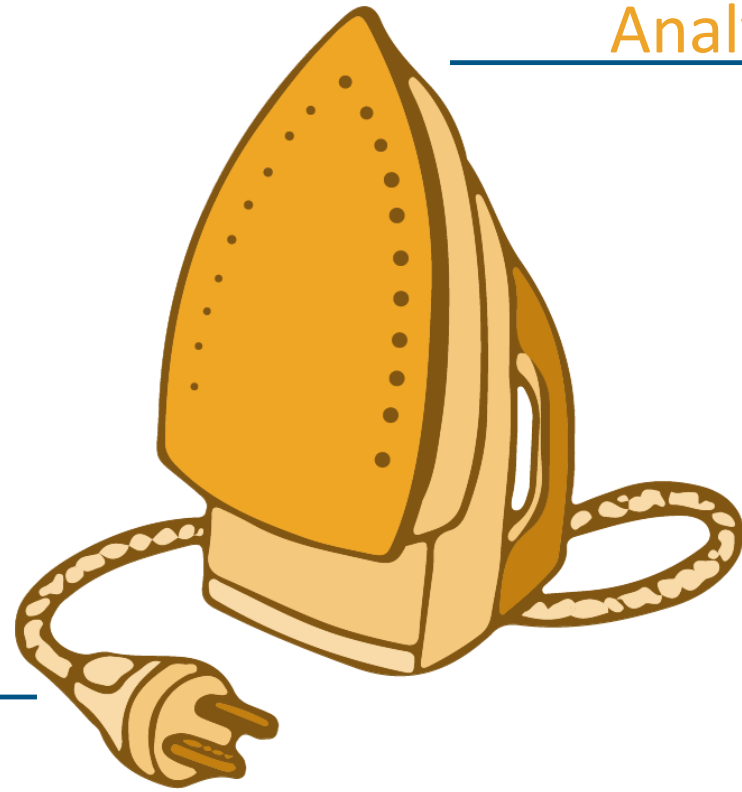
Link to data

Health data



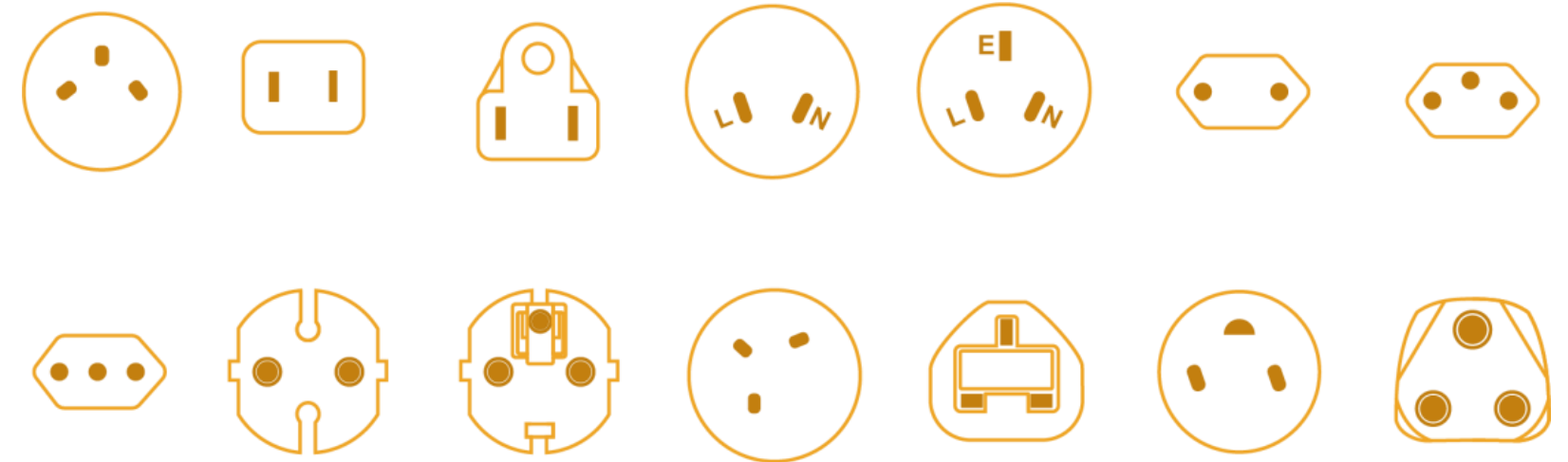
# But what if we could convert to one format?

Analytical method



[Link to data](#)

The data... before

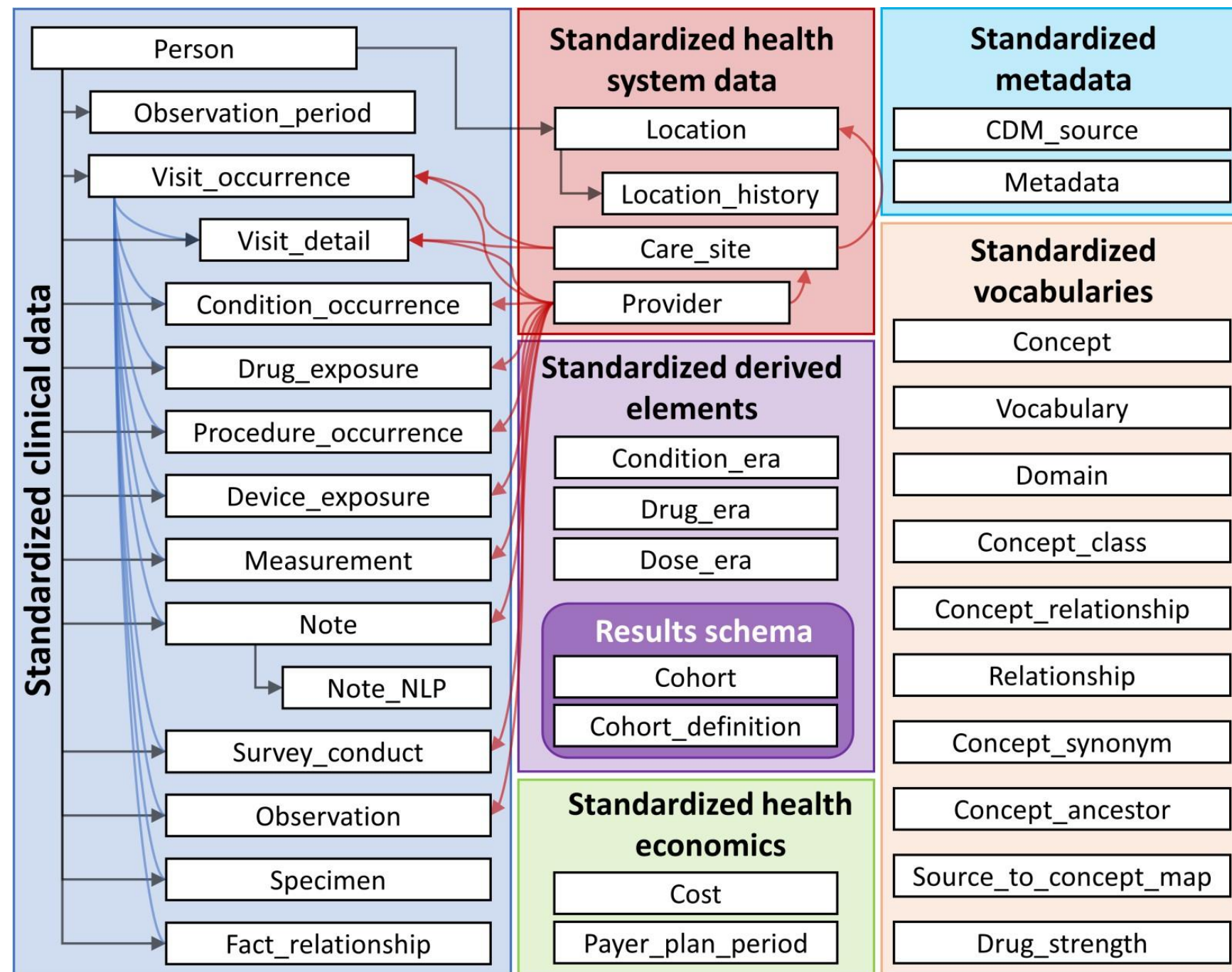


..... **After OMOP mapping ..** .....





# Please meet OMOP



- Patient-centric, Tabular, Extendable, Relational design

- **Built for analytics**

## Advantages over competitor CDMs

- Open source, open science
- Long-established, multiple tools for ETL and analysis readily available
- Source data/codes preserving

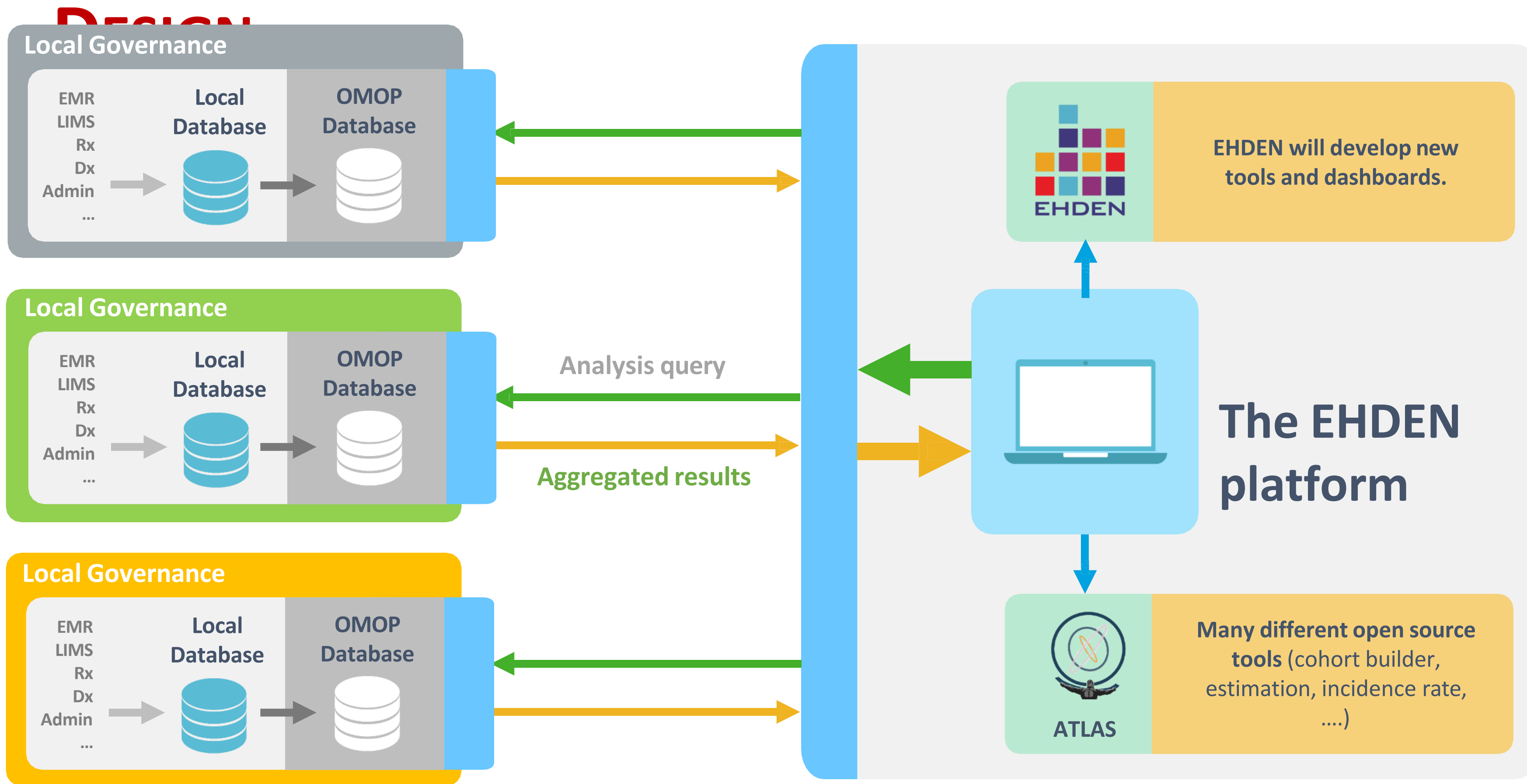


OMOP: Two reasons to ...

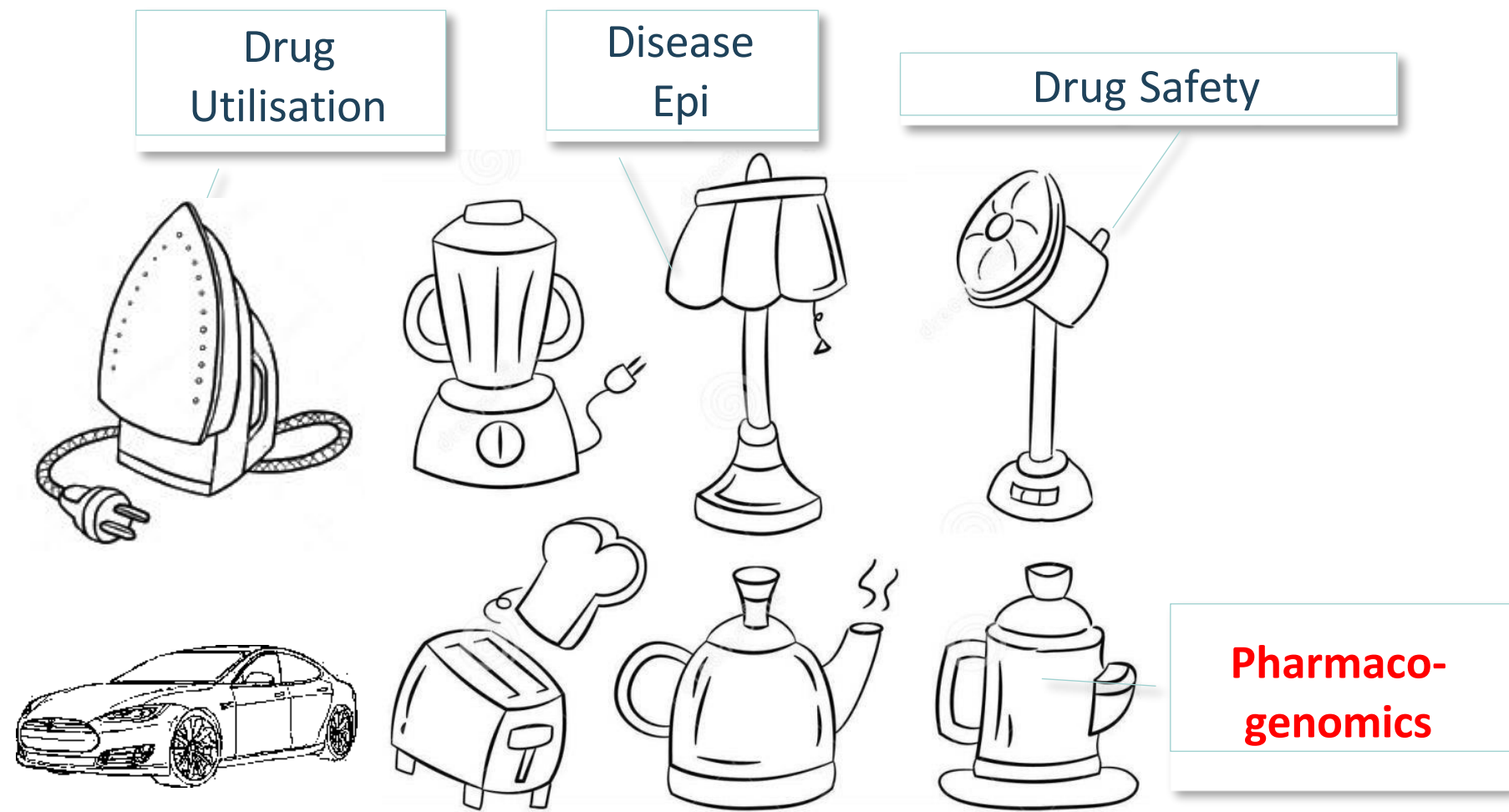




# 1.- PRIVACY BY DESIGN



# 2. STANDARDISATION = SPEED + SCALABILITY



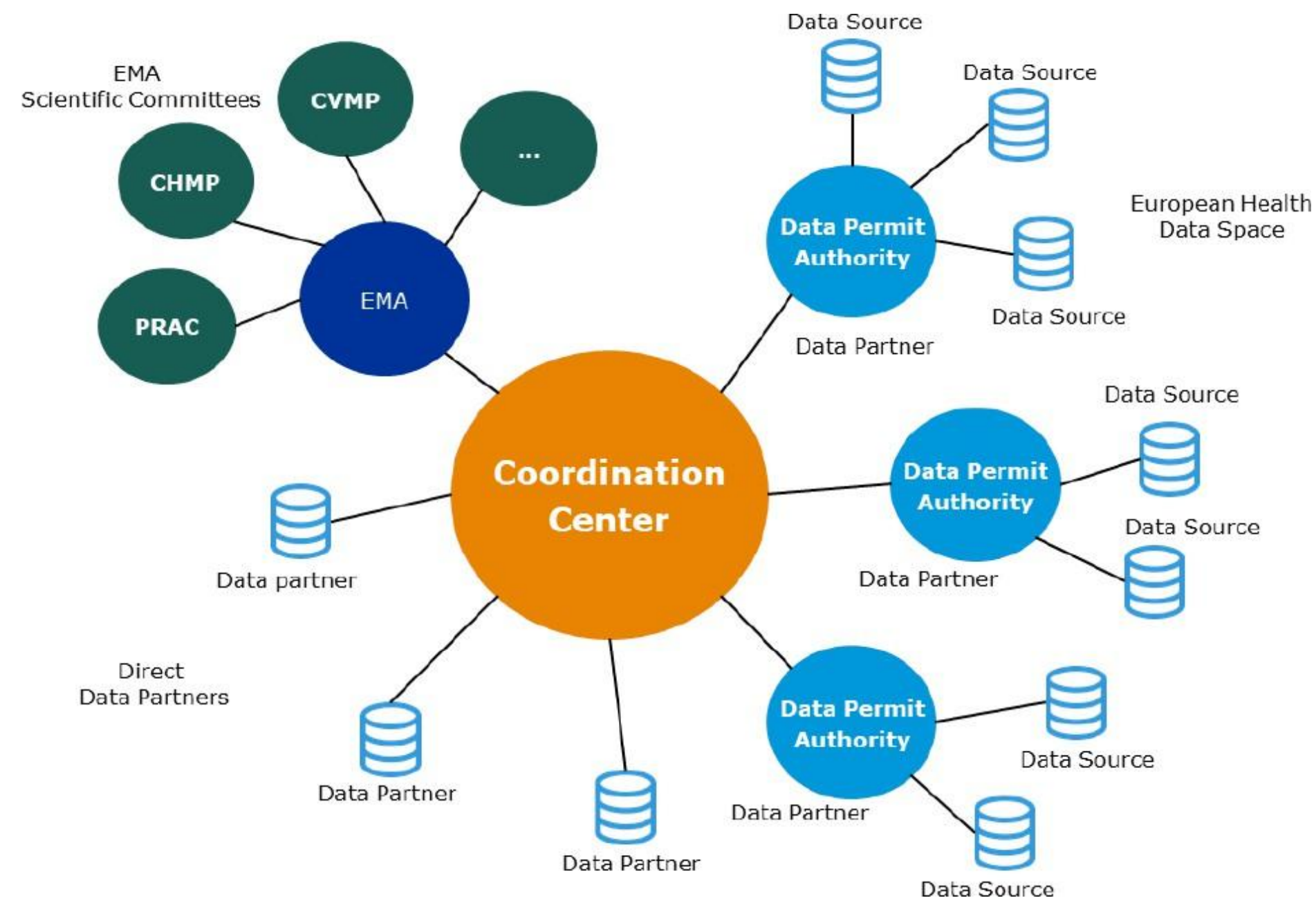
Standardized analytics

Standard data



# RWE for Regulatory Decisions: The ultimate SCALABILITY challenge...

DARWIN EU® uses OMOP and standard analytics to generate rapid, reproducible, and impactful regulatory RWE



## FEDERATED NETWORK PRINCIPLES

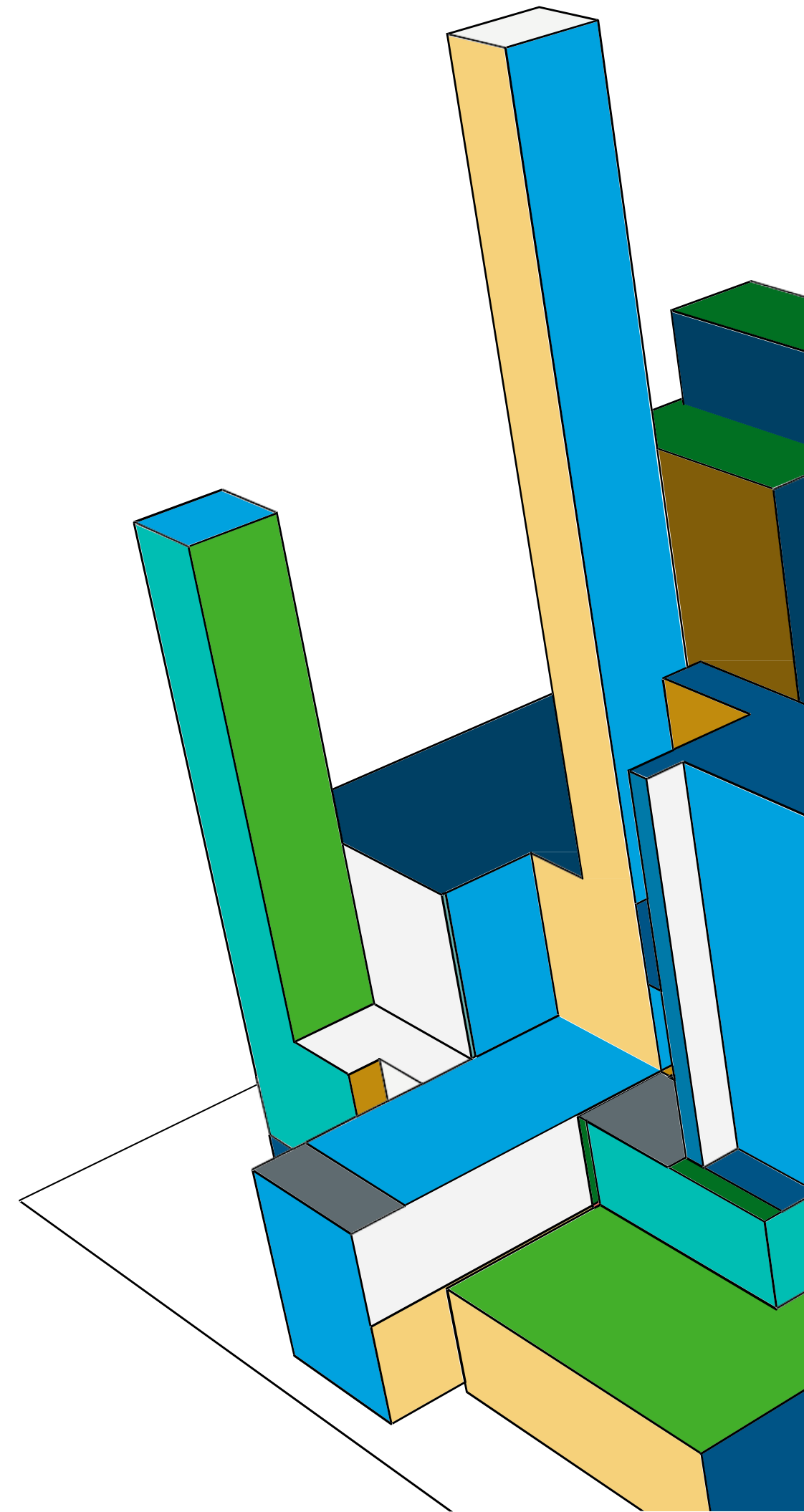
- Data stays **local**
- **Use of Common Data Model** to perform studies in a timely manner and increase consistency of results

<https://darwin-eu.org/>

# CONTENTS

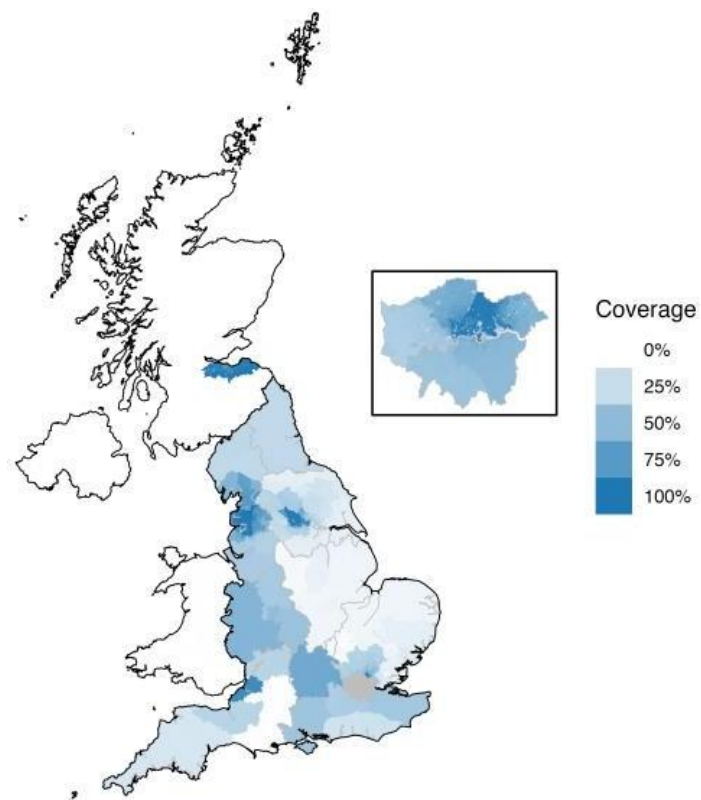
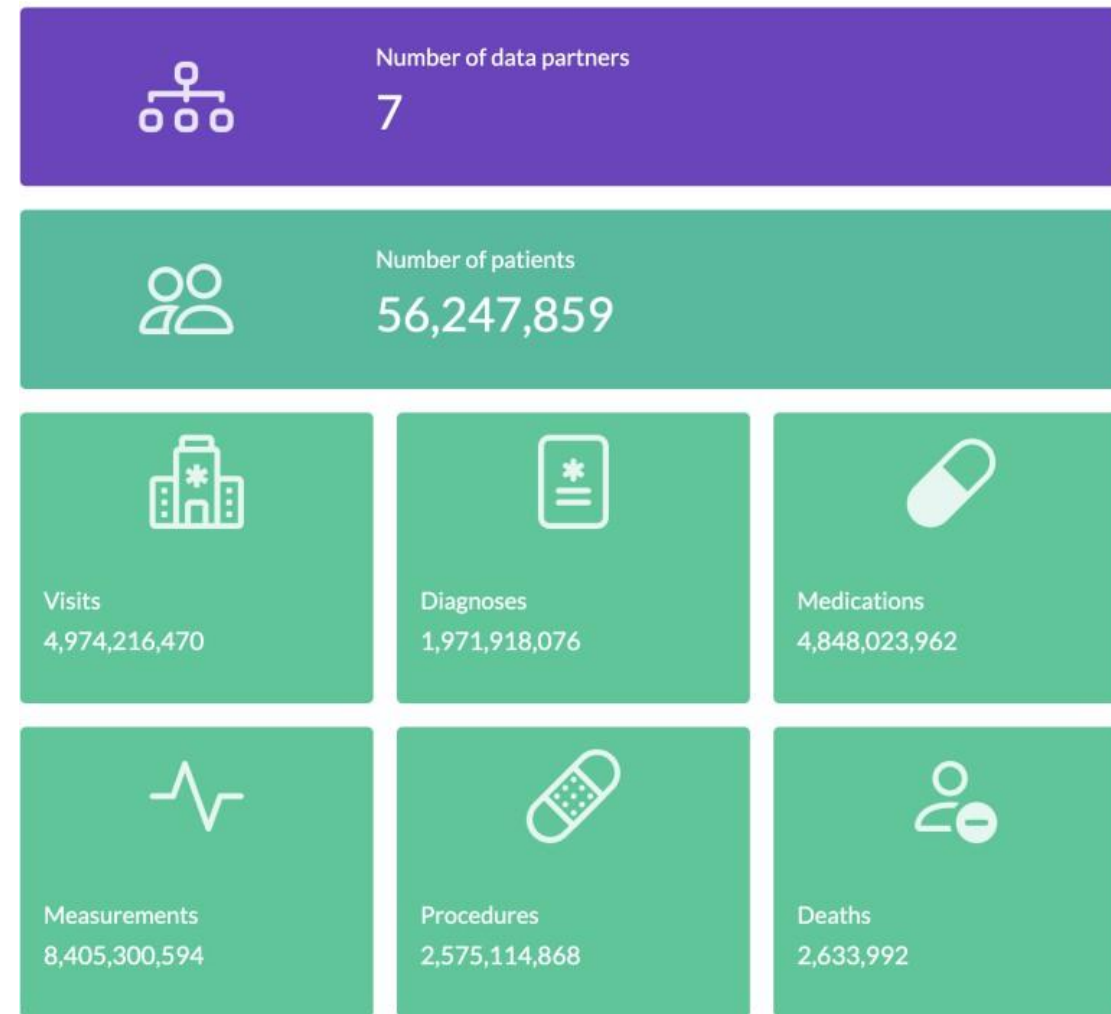
- Why RWE?
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# National collaborations: HERON-UK



# HERON-UK Data NETWORK

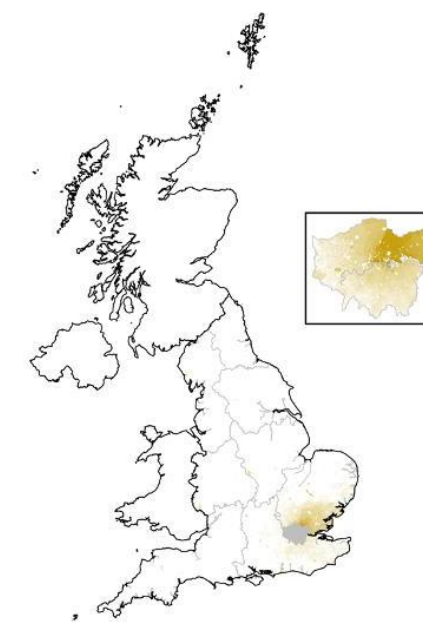
## Data capture in HERON-UK



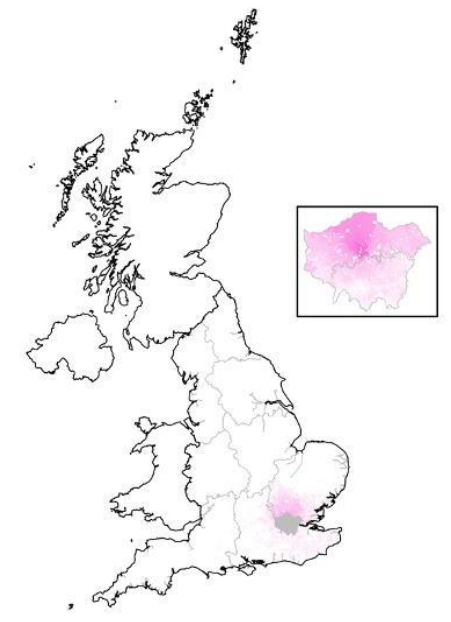
Leeds



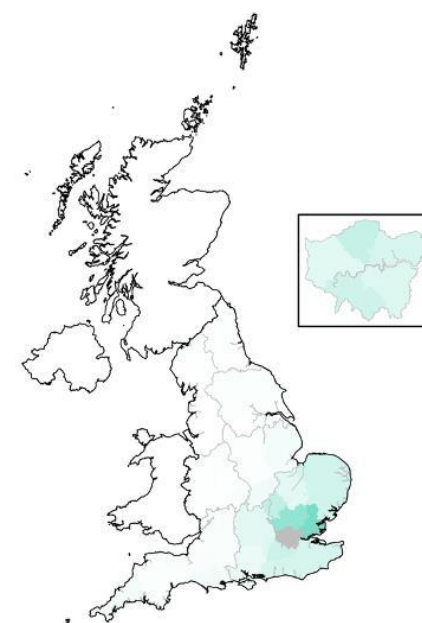
Barts



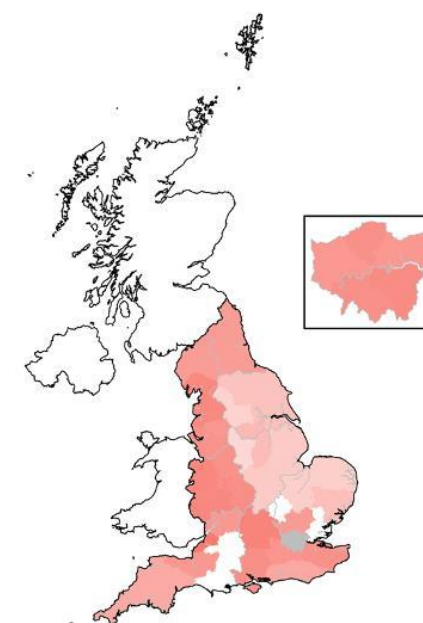
UCLH



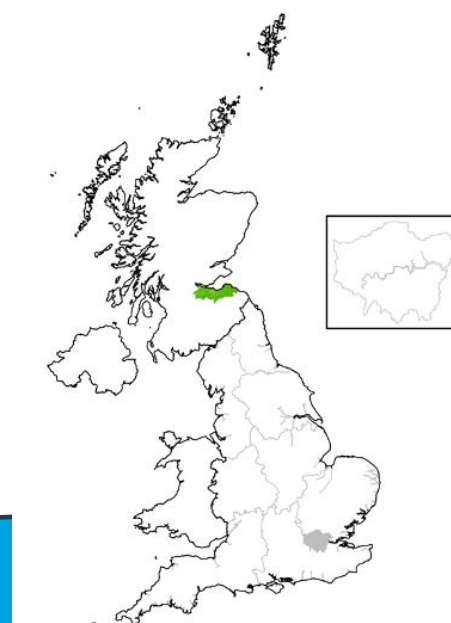
GOSH



CPRD AURUM



DataLoch



# More information ...

HERON-UK About ▾ Data network ▾ Joining the network ▾ Data conventions ▾ Network activities ▾

## HERON-UK

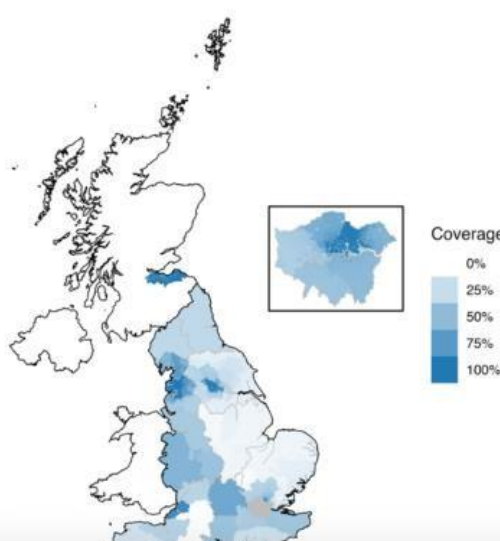
**HDRUK** UK Health Data Research Alliance

The HEalth data Research UK OMOP Network (HERON-UK) contains routinely-collected health care data from across the United Kingdom. Our network of 7 data partners contains more than 20 billion clinical records from over 50 million patients. Transparency and reproducibility is a core feature of the network, with all study code made freely available on [GitHub](#), while data privacy is preserved with patient records analysed in situ with only aggregated results shared by data partners to ensure privacy of patient data. The network has been established through funding from [HDR UK](#).

### Data capture in HERON-UK

Overall Barts CPRD AURUM DataLoch GOSH Lincs  
Leeds UCLH

#### Geographic coverage



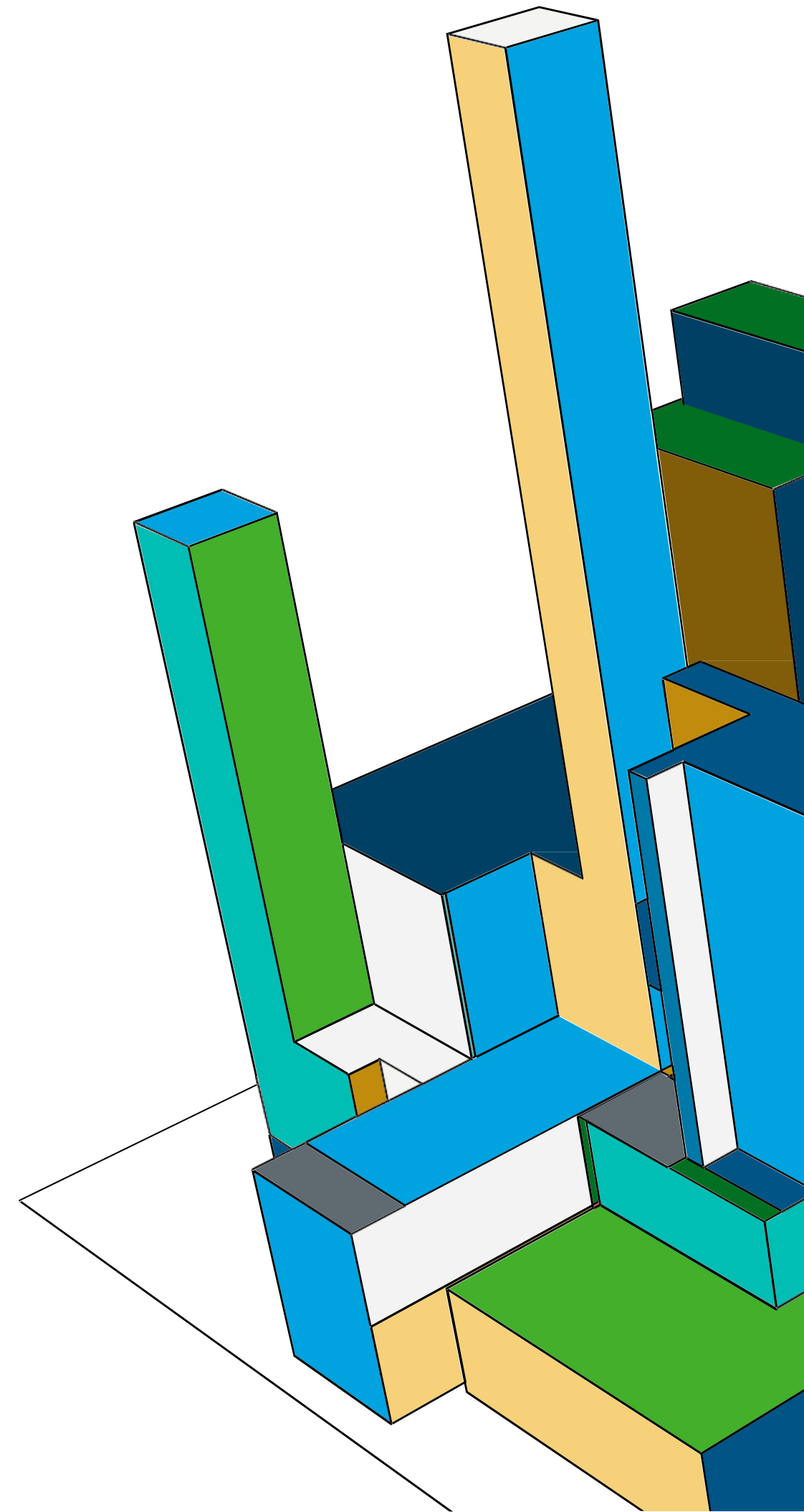
Coverage

- 0%
- 25%
- 50%
- 75%
- 100%

[heron-uk.github.io/heron-uk](https://heron-uk.github.io/heron-uk)



# International opportunities



# INNOVATIVE HEALTH INITIATIVE PPPs



	Oncology & Haematology	Inflammation	Cardiovascular	Neurology	Rare disease	Agnostic or Multiple Areas
<b>Data Platform</b>						
<b>Federated analytics</b>	 					 
<b>Common Data Model (OMOP)</b>	 					 
<b>Common Data Model (Other)</b>						
<b>Methods</b>				 		 
<b>Endpoint/ PGHD/ Biomarkers</b>			 	 		 
<b>Regulatory Policy (Medicines)</b>						 
<b>Regulatory Policy (Medical devices)</b>						 
<b>Other Regulatory</b>	 		  	 	 	 
<b>HTA/HEOR Policy</b>					 	 
<b>Training</b>						 

## EHDEN Foundation



### Vision

The EHDEN Foundation aspires to be the trusted key actor in Europe to facilitate and accelerate the generation of high-quality real-world evidence to improve healthcare of patients.



### Mission

Our mission is to operationalise a new paradigm for the discovery and analysis of health data, building on a large-scale federated network of data sources standardised to the OMOP CDM.



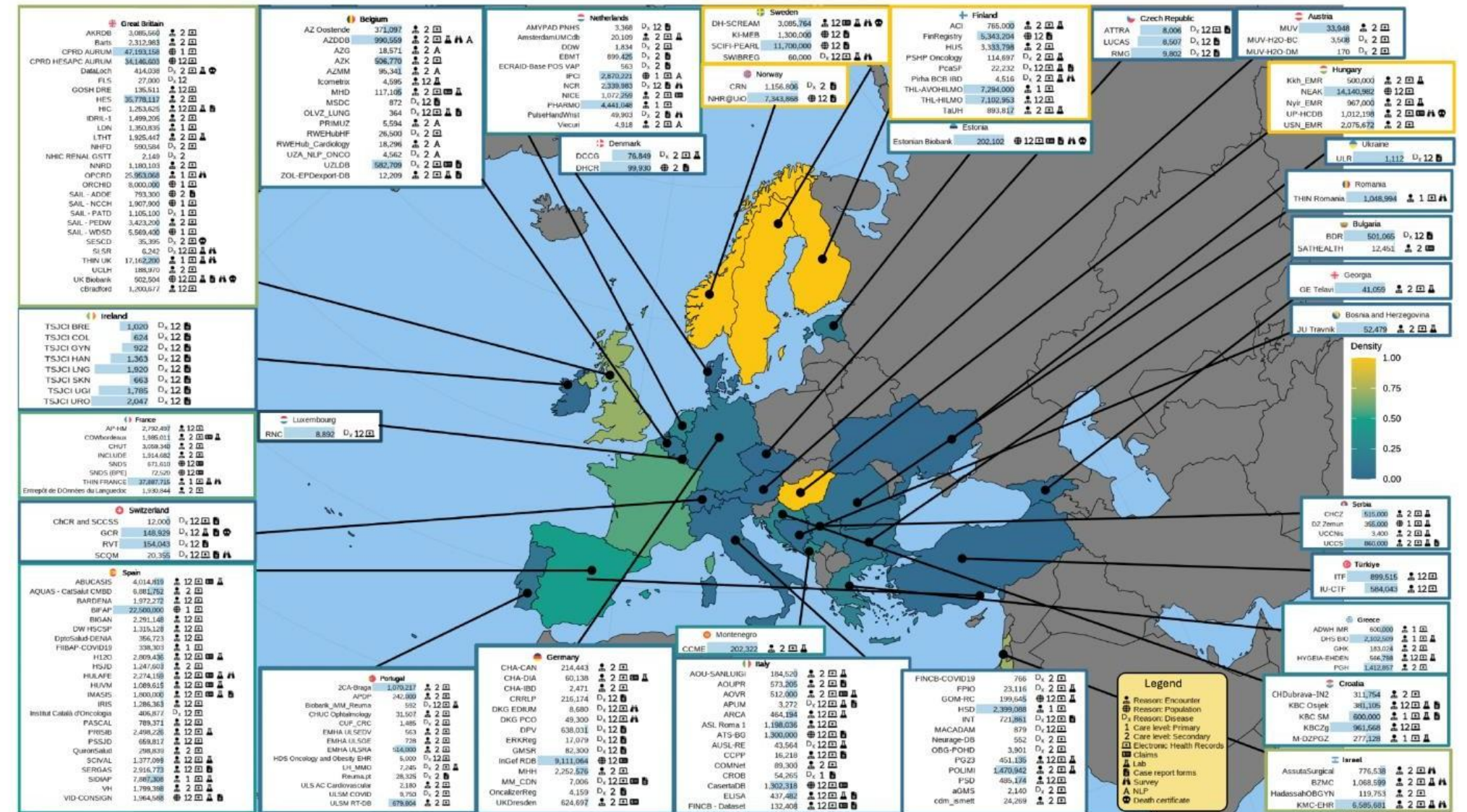
# The EHDEN Network

- EHDEN converted 202 databases

- Multiple data types and domains ... all over Europe

- EHDEN-F wants to maintain the network by using it

**Figure 2.** Geographic distribution and characteristics of data sources included in the European Health Data & Evidence Network as of September 1, 2024. The map displays country-level data density based on the number of data sources relative to national population size. Overlaid symbols represent key metadata for each source, including total person count, care setting (primary, secondary, or mixed), data capture methods (eg, electronic health records, laboratory, or claims), and the reason for person inclusion (eg, encounter-based, disease-specific, or population-based).

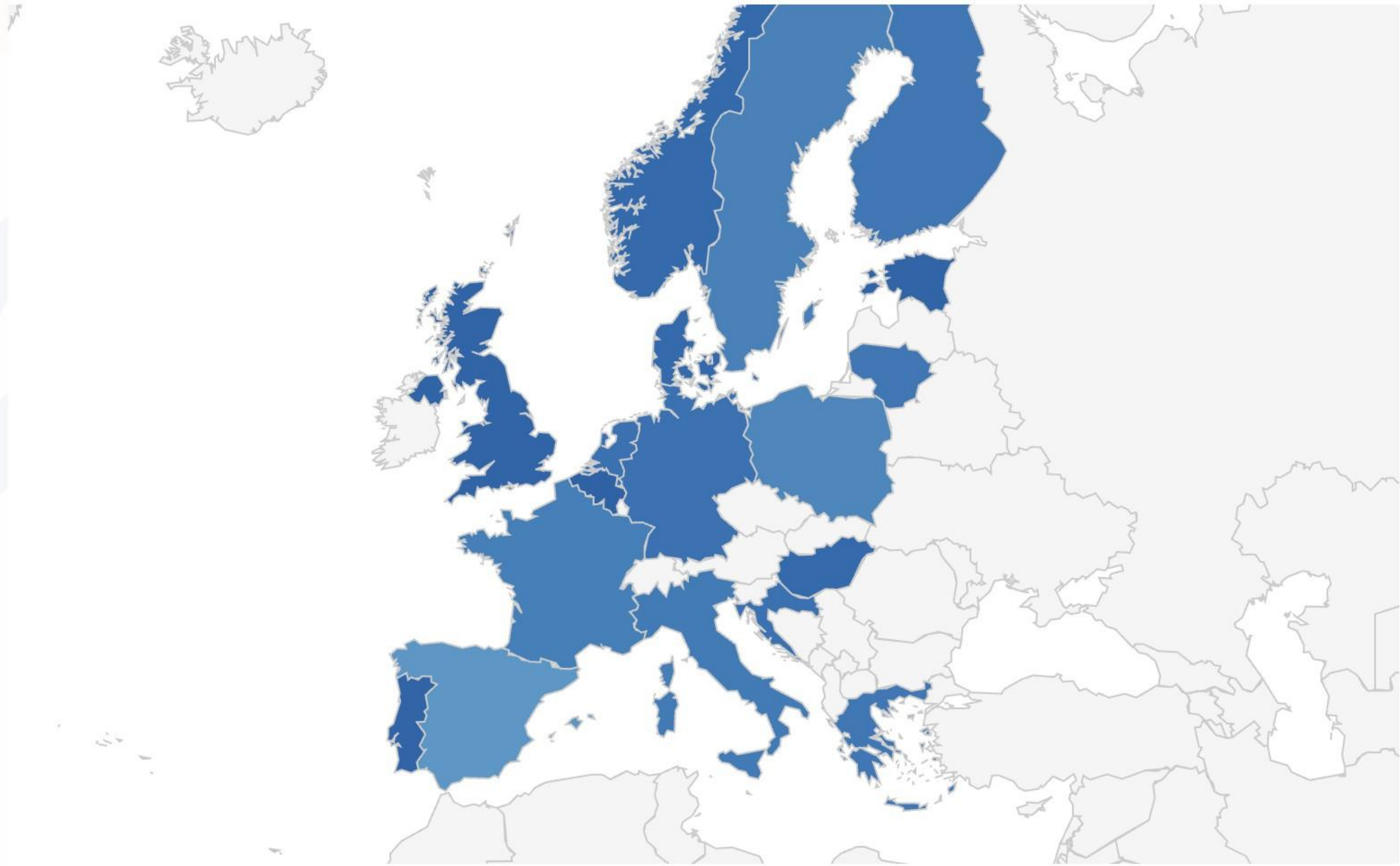


# The DARWIN EU® Network

<https://darwin-eu.org/index.php/data/data-network>

Data Partners	Data Sources	Countries	Persons	European	US
40	52	19	477,325,000	248,621,000	228,704,000

LAST UPDATED: 06 MARCH 2026



## Belgium

### BCR

- **Name:** Belgian Cancer Registry
- **Type:** Registry
- **Total number of persons:** 211,000
- **Coverage start:** 2014
- **Last updated:** 2023
- [HMA-EMA Catalogues of RWD](#) ↗
- [More information](#) ↗

### IQVIA LPD Belgium

- **Name:** IQVIA Longitudinal Patient Database Belgium
- **Type:** Outpatient General Practitioner Care
- **Total number of persons:** 1,060,500
- **Coverage start:** 2015
- **Last updated:** 2025
- [HMA-EMA Catalogues of RWD](#) ↗
- [More information](#) ↗

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**Q+A**

**Chris Boulton**

**Professor Daniel Prieto-Alhambra**

#CAAW26



**EXCELLENCE IN CLINICAL  
AUDIT AWARDS**

*Shining a Light on Data-Driven  
Healthcare Improvement*

**Use of National Clinical Audit and  
Patient Outcomes Programme Data  
*Commendation Winner 2026***

**CLINICAL AUDIT AWARENESS WEEK 2026**  
*Improving lives with healthcare data*

 **HQIP** Healthcare Quality  
Improvement Partnership

#CAAW26



**EXCELLENCE IN CLINICAL  
AUDIT AWARDS**

*Shining a Light on Data-Driven  
Healthcare Improvement*

**AND THE WINNER IS...**

**CLINICAL AUDIT AWARENESS WEEK 2026**

*Improving lives with healthcare data*



**HQIP**

Healthcare Quality  
Improvement Partnership

# Use of National Clinical Audit Data Commendation – Joint Winner

**End of Life Care Leadership team, East Lancashire Hospitals  
NHS Trust**

*Using National Audit of Care at the End of Life (NACEL) Data  
to Drive Sustained Improvements in End of Life and  
Bereavement Care*





East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust

# Using National Audit of Care at the End of Life (NACEL) Data to Drive Sustained Improvements in End of Life and Bereavement Care

Wednesday 24<sup>th</sup> June 2026

Safe | Personal | Effective

ELHT. *Because that's who we are*

# End of Life Care Leadership Team

## Dr Alison Thorpe

Palliative Medicine Consultant, Clinical Lead  
for End of Life Care

## Joanne Gaskell

Lead Nurse for End of Life Care and  
Bereavement



# The Improvement Journey

Our ambition: to provide outstanding end of life and bereavement care



East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust



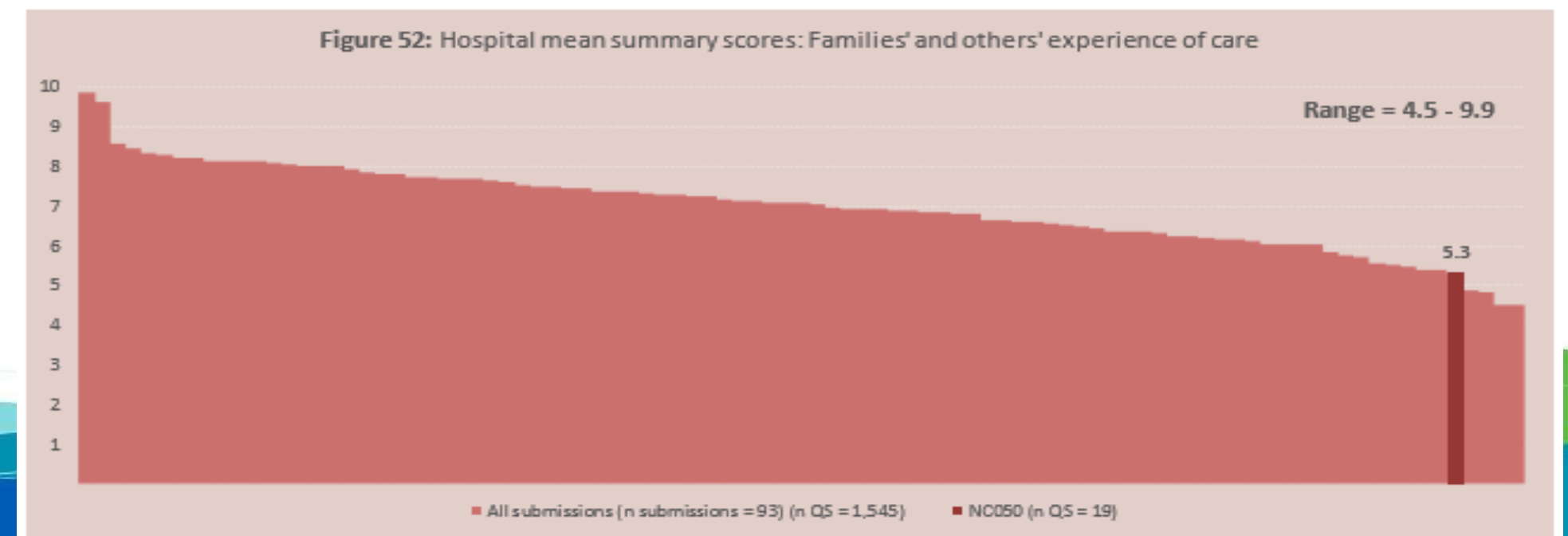
# 2019 - Why Change was Needed

- Below national average in *all* NACEL domains
- Among **lowest** performing Trusts nationally
- **Key gaps:**
  - Individualised care plans
  - Communication with families
  - Patient and family experience of care
  - Spiritual/cultural assessment

## Individualised Plan of Care



## Families' Experience of Care



# Building Momentum

- Strong governance foundations established
- Engaged Executive Lead
- Regular Trust Board oversight shaping direction and accountability
- NACEL rankings provided a clear catalyst for change
- Performance gaps openly recognised, unlocking senior support
- Programme launched - March 2020



**East Lancashire Hospitals**  
NHS Trust  
A University Teaching Trust

# Moving Insight into Action

**Safe | Personal | Effective**

**ELHT.** *Because that's who we are*

# Focusing on What Matters Most



## With clear measurable goals:

- Top 50% for 4 key measures by 2024
- Above National average for all key indicators by 2025

# End of Life and Bereavement Team



- **7-day dedicated Team**
- **A distinct service, delivered in alignment with Specialist Palliative Care**
- **Key Functions:**
  - Direct patient/family care
  - Ward-based improvement C role modelling
  - Staff education and support

# Key Achievements



East Lancashire Hospitals  
NHS Trust  
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## Patient focused

Individualised EPR care plan designed and implemented  
Symptom observation chart introduced

## Workforce

Training provision expanded to be delivered 3 times each month  
Mandatory induction training in place to build consistency  
Visible role modelling on wards to embed high quality care

## Family Support

Dedicated Bereavement Suite to provide a supportive environment  
Clear, accessible information for families at every stage  
Proactive pre-bereavement support to prepare and guide



## ELHT CARE MODEL

(Communicate, Ask, Respond, Engage)



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# Understanding the Impact

**Safe | Personal | Effective**

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# Results – NACEL Improvements 2019 - 2025

**At ELHT we exceeded *all* NACEL key indicators in 2025**

Highlighted Measures	ELHT 201G	ELHT 2025	National average 2025
Individualised plan of care	45%	96%	85%
Hydration discussions	5%	77%	62%
Spiritual needs assessment	29%	72%	49%

# Patient and Family Experience

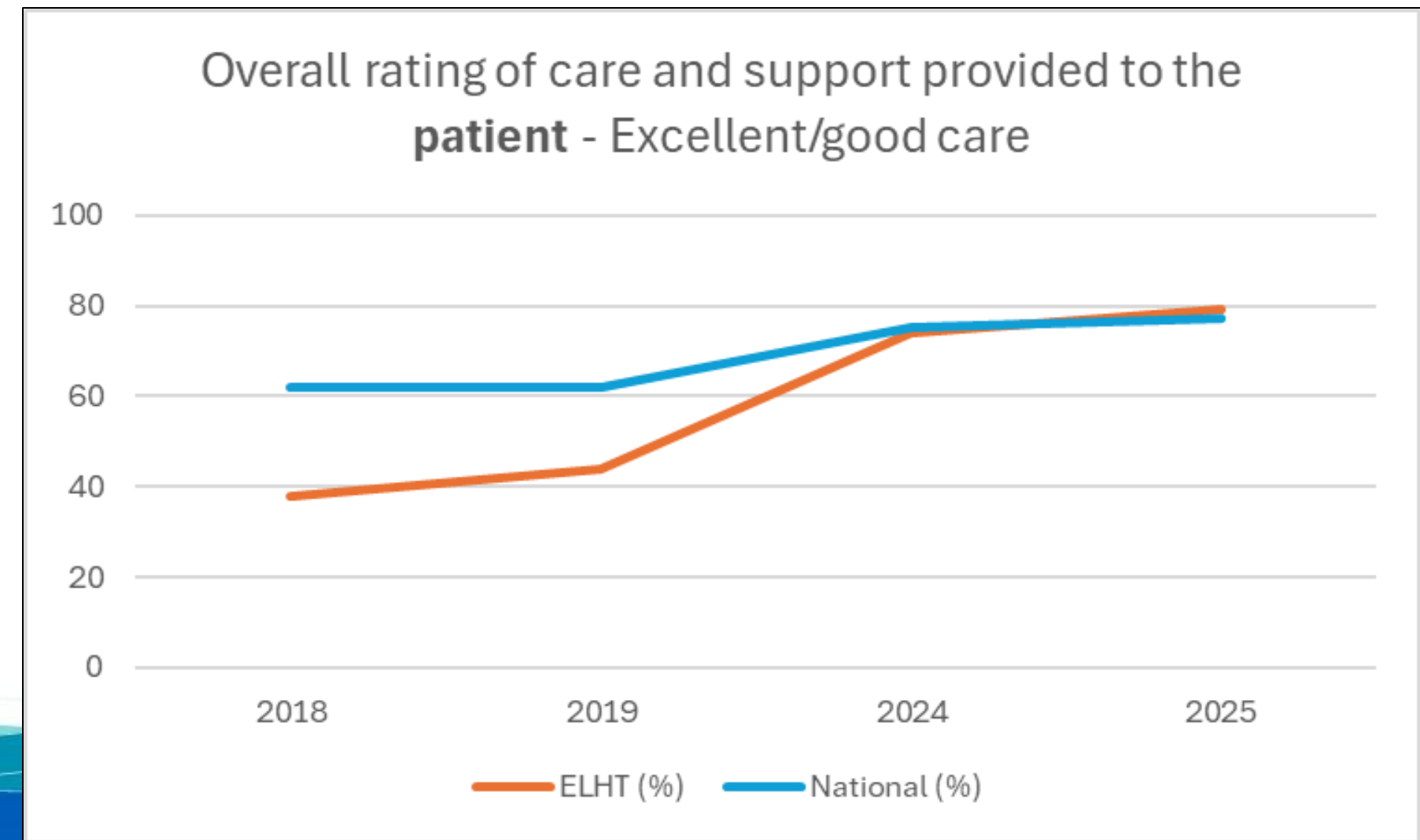
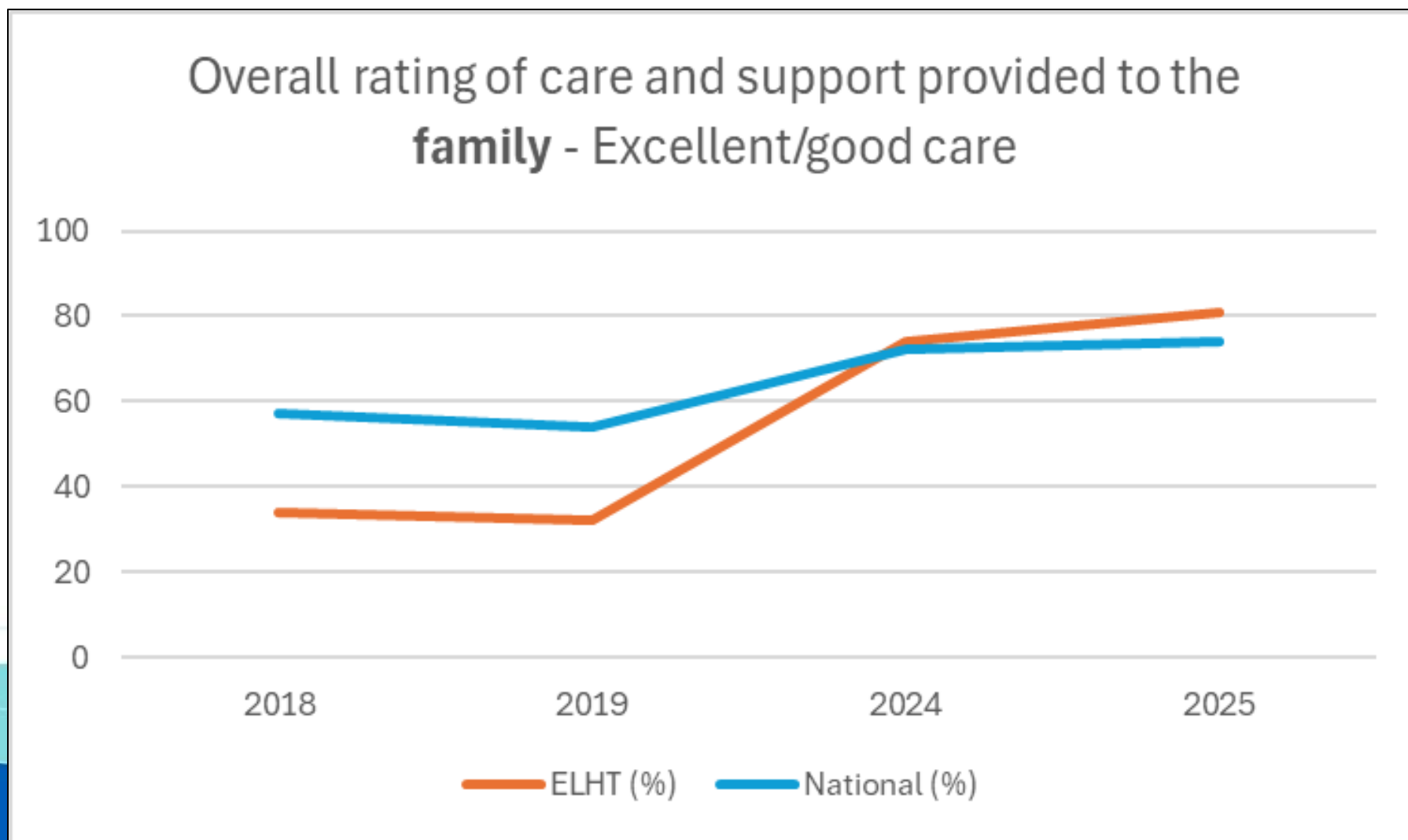


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Bereavement survey response 2025: **10% vs 2% national**

Overall care to the family rated excellent/good: **32% → 81%** (74% national)

Overall care to the patient rated excellent/good: **44% → 79%** (77% national)



# What has Worked

- **Dedicated** end of life and bereavement team in place
- **Culture** shift driven through visible role modelling
- **Improving** care for patients and those closest to them
- **Data evidencing** impact and supporting long-term sustainability

**Audit data used strategically through a continuous year on year cycle**

**NACEL embedded in:**

- End of Life Care Strategy group
- Mortality governance
- Visible governance C board engagement



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# Continuing to Improve

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# The Difference NACEL has Made

- NACEL clearly **highlighted** the need for change
- Enabled benchmarking to **identify priority areas** for improvement
- Audit data used to **drive service redesign**
- Clear **improvements demonstrated** in care for patients and families
- Provides a **foundation** for ongoing, future improvement



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**Thank you for your time.  
We would welcome your  
questions or reflections.**

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# Shaping Innovation through Clinical Audit: Evidencing MedTech Implementation and Patient Impact

**Sarah Chessell**

Head of Research and Innovation, NHS Dorset;  
Lead, Dorset Innovation Hub

# Shaping innovation through clinical audit: evidencing MedTech implementation and patient impact

Clinical Audit Awareness Week  
Shaping the Future

Wednesday 24<sup>th</sup> June 2026



# Our Dorset

NHS Dorset  
Dorset HealthCare University  
Dorset County Hospital  
University Hospitals Dorset

BCP Council  
Dorset Council  
Dorset Police

NHS

  
Innovation Hub

Local authorities

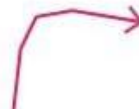
**Wider partners**  
Health Innovation Wessex  
Wessex Health Partners  
NIHR ARC Wessex  
SWC Research Delivery Network

Bournemouth University  
Arts University Bournemouth  
Health Sciences University

Higher education

Local organisations

Voluntary and Community Sector Assembly  
Business Growth Dorset



# Today we were invited to...

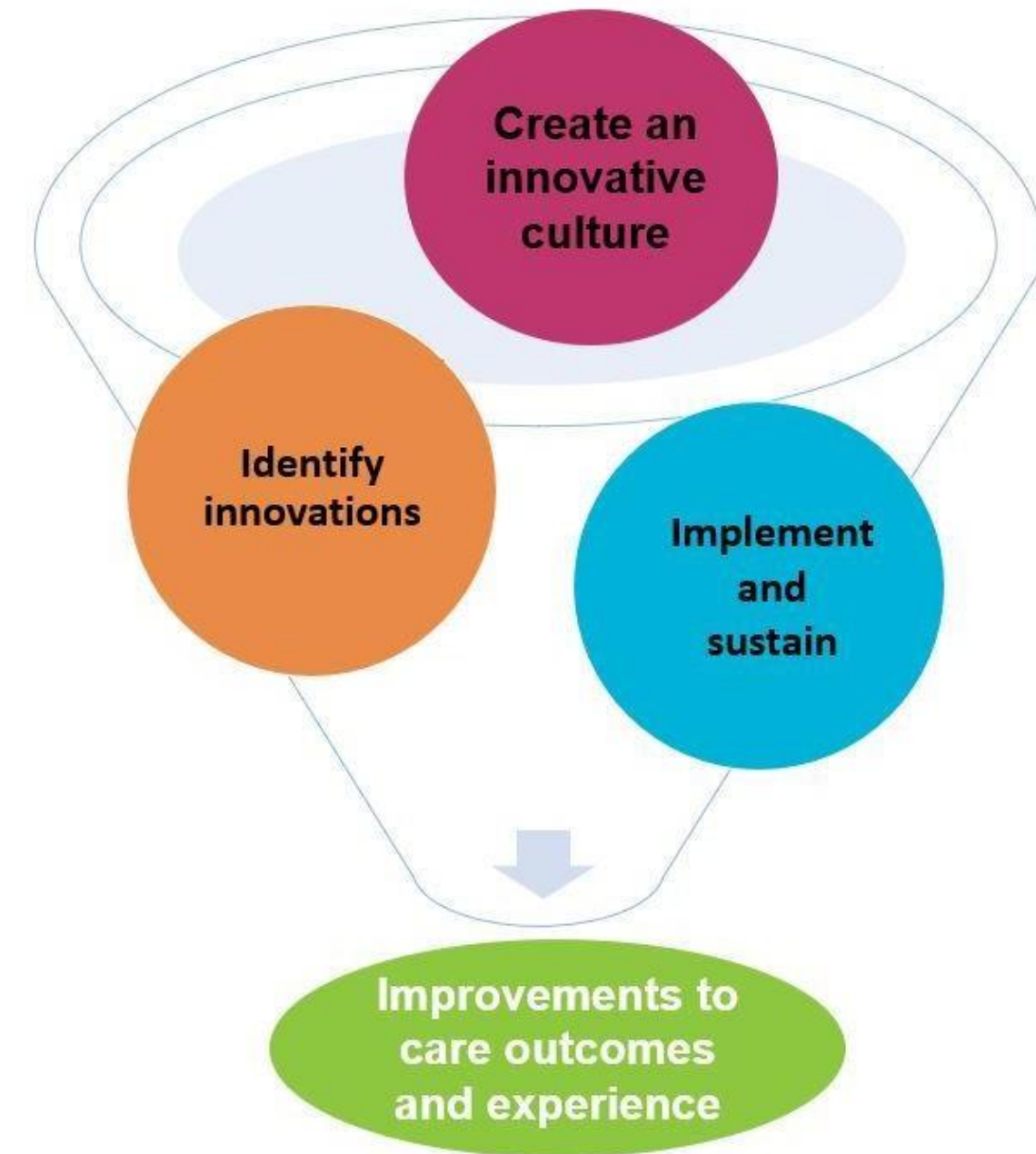


- Emphasise the vital role of clinical audit in ensuring safety and monitoring patient outcomes when implementing evidence-based medtech innovation
- Example - Cluster headaches and gammaCore™:
  - Implementation in Dorset
  - Methodology
  - Results and actions
- And a request...



# Innovation and the role of clinical audit

- Innovation adoption – its not just about the rate of use or the spread and adoption
- It's about the use in alignment with evidence
- Importance of measuring use against evidence-based guidelines, e.g. NICE guidance
- **Right approach, people, tool and time**
- Value, and vital role of clinical audit in innovation adoption and monitoring patient outcomes



## Example - Cluster headaches and gammaCore™



- Cluster headache - highly debilitating primary headache disorder widely described as the most painful condition a person can experience
- Treatment often takes trial-and-error approach with pharmacological options associated with side effects
- gammaCore™ non-invasive vagus nerve stimulator offering a non-pharmacological treatment option



## Implementation in Dorset

- Dorset Headache Service (based at University Hospitals Dorset (UHD) – Poole site) provides neurology assessment and treatment for patients across Dorset
- Adopted use gammaCore™ in 2021
- NICE (HTG533) recommended treatment option for cluster headaches
- Implementation led by UHD clinical team and supported by NHS Dorset via NHS England's Med Tech Funding Mandate Policy
- Benefits realisation – process (clinical audit) and outcomes - patient reported benefits (survey) and drug use (survey and clinical audit).

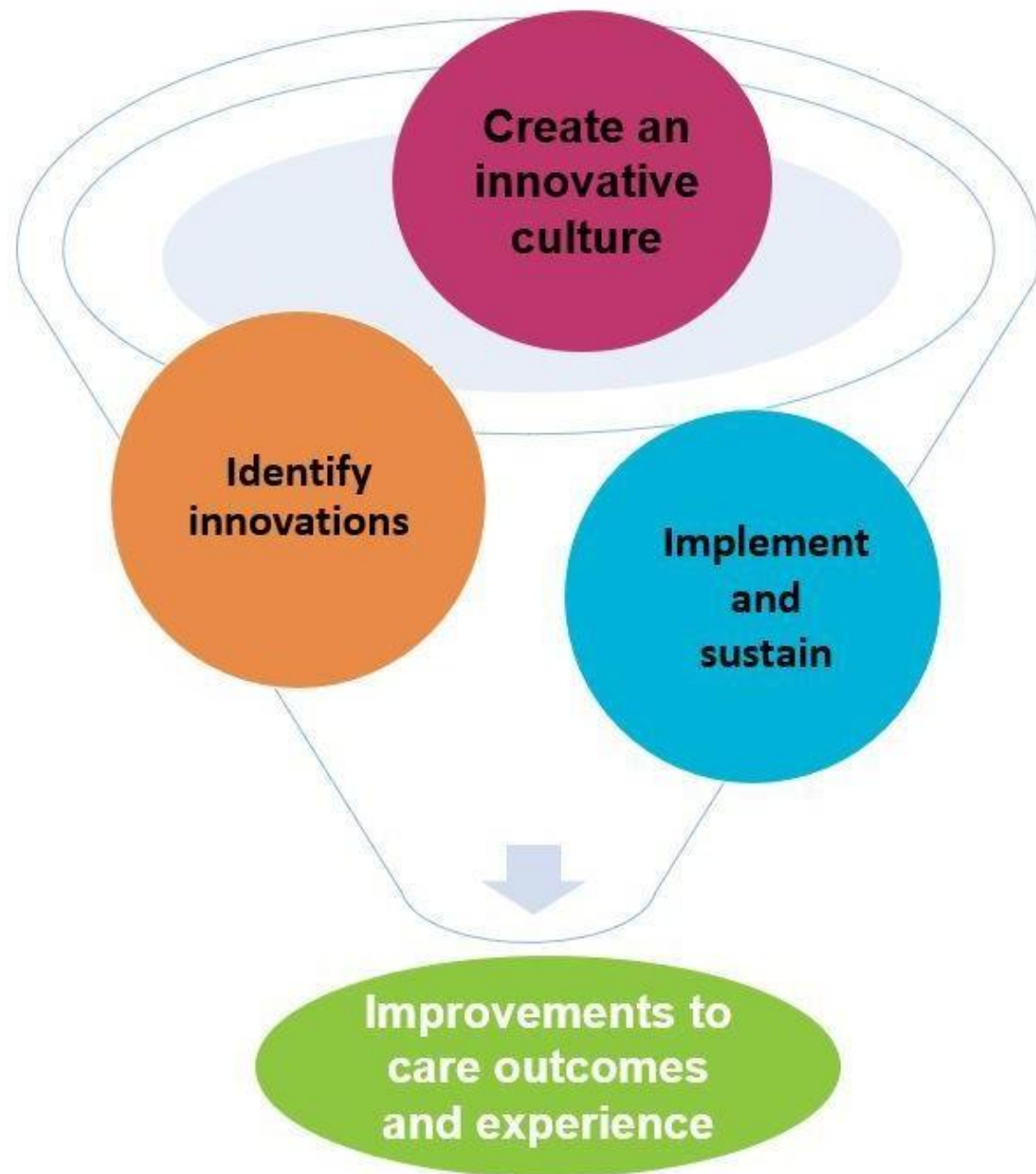


# Results – Clinical audit

Patients prescribed gammaCore will have a confirmed diagnosis of cluster headaches	<b>100%</b>
Patients should not be prescribed gammaCore if they have a known contra-indication	<b>100%</b>
Patients prescribed gammaCore will have evidence of informed consent documented	<b>100%</b>
Patients prescribed gammaCore will have already started on standard care	<b>100%</b>
Patients prescribed gammaCore will be reviewed at 3 months by a doctor	<b>0%</b>
Patients continuing with the use of gammaCore after the 3-month review, should be reviewed again by a doctor at 12 months of treatment commencement	<b>33%</b>
After the initial 12-month review, patients should have an annual review by a doctor	<b>-</b>



# Results – Clinical Audit



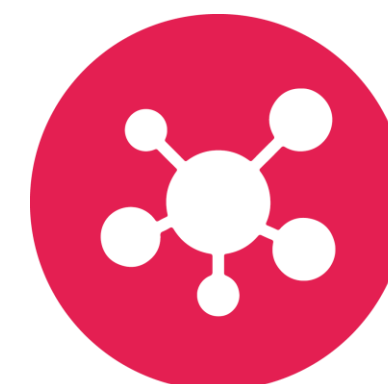
- Response rate is as expected
- Patient numbers treated to date small, but impactful
- Where patients respond wider societal benefits as well as the immediate treatment/prevention of cluster headache.
- Cost savings realised in the wider system e.g. primary care (modelling based on continuation of free trial period)
- Impact from the patient perspective shown by use of clinical audit and patient experience survey



## Results – Patient experience questionnaire

	No. of medications used		No. of cluster headaches (CH) a day during an attack		Frequency CH limit ability to do usual daily activities	
	Before using gammaCore	After using gammaCore	Before using gammaCore	After using gammaCore	Before using gammaCore	After using gammaCore
Patient 1	5	0	6+ a day	< 1 a day	Always	Never
Patient 2	2	2	6+ a day	< 1 a day	Always	Sometimes
Patient 3	4	1	6+ a day	< 1 a day	Always	Never
Patient 4	3	3	6+ a day	< 1 a day	Always	Sometimes

*“I have been liberated from the purgatory that is cluster headaches by the use of the gamma core device. This should be the primary treatment for this disease. I am now free to go to work, take holidays and participate in life again!”*



# Actions as a result of clinical audit

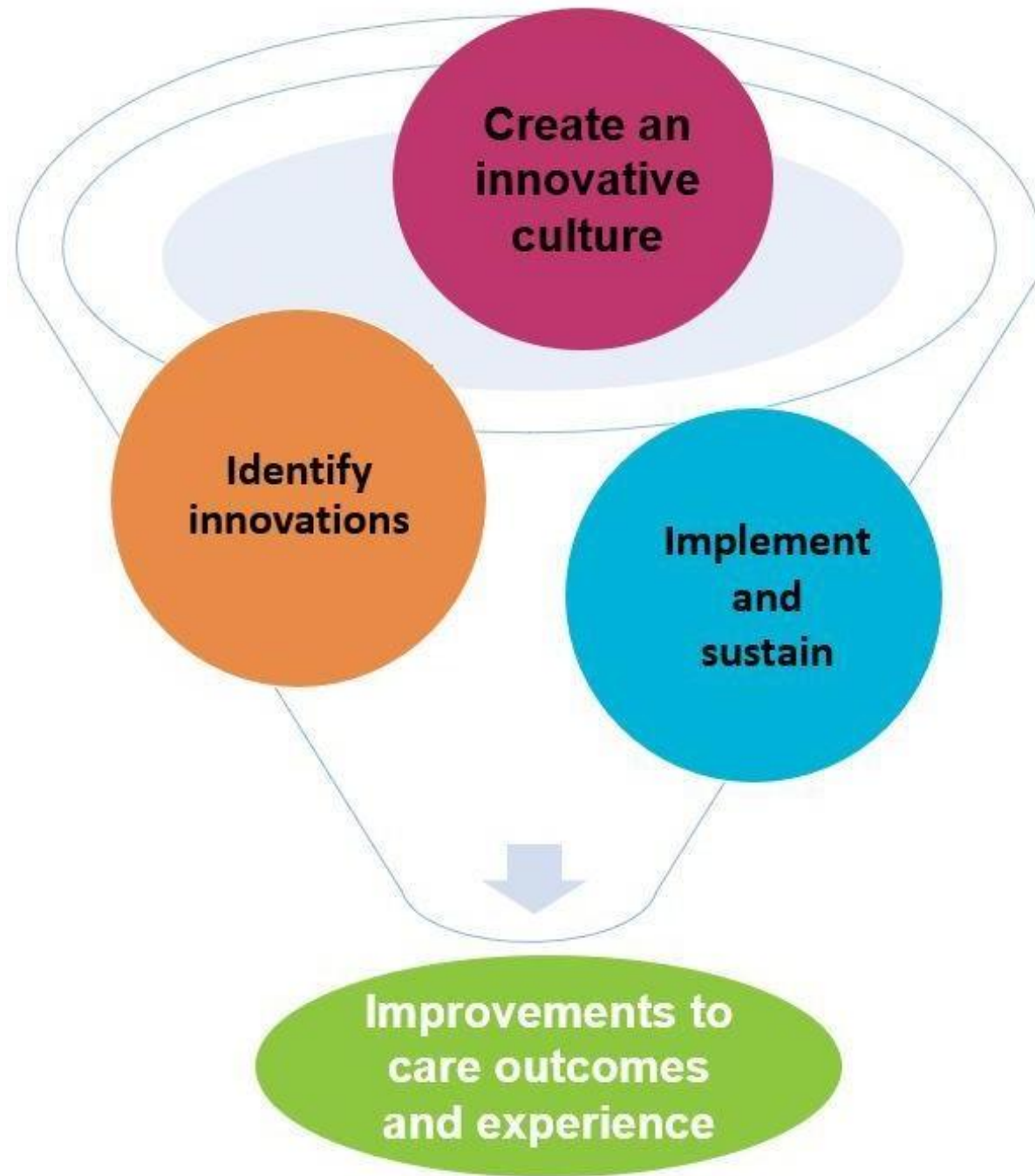


- Dorset Headache Service:
  - formalised annual review process for patients continuing to use gammaCore
  - linking in with primary care to raise awareness of gammaCore as a treatment option for cluster headaches
  - preparing to move gammaCore to BAU to support continuation once MTFM implementation funding ends
- Sharing learning and practice - wider dissemination inc. case study for website

[GammaCore for Cluster Headaches – Innovation](#)



# Final thoughts -



- gammaCore - impact from the patient perspective shown by use of clinical audit and patient experience survey
- Importance of making necessary improvements or changes in practice
- Importance of right approach, people, tool and time
- Innovation adoption: Not just about rate of use or spread and adoption – it's about use in alignment with evidence
- Clinical audit plays a vital role in innovation adoption and in reviewing and monitoring benefits realisation inc. patient experience and outcomes



## A request and further info...

**Spread the word** – please consider and reflect on this example and how you can use clinical audit as a vital part of successful innovation implementation within your organisation...

For further information on the Dorset innovation Hub inc. training, events, case studies, newsletters go to: [Innovation – Our Dorset ICS Innovation](#)

Project definitions inc. research, innovation, transformation, clinical audit: [Project Definitions](#)

Contact us via:  
[dorsetinnovationhub@nhsdorset.nhs.uk](mailto:dorsetinnovationhub@nhsdorset.nhs.uk)



#DorsetInnovationHub #systemlearning #teamwork #improvingpatientexperienceandoutcomes



# Using the National Emergency Laparotomy Audit (NELA) Exponentially Weighted Moving Average (EWMA) Charts to Detect Outlier Mortality

**Aiman Al-Eryani**

Senior Data Analyst, Royal College of Anaesthetists

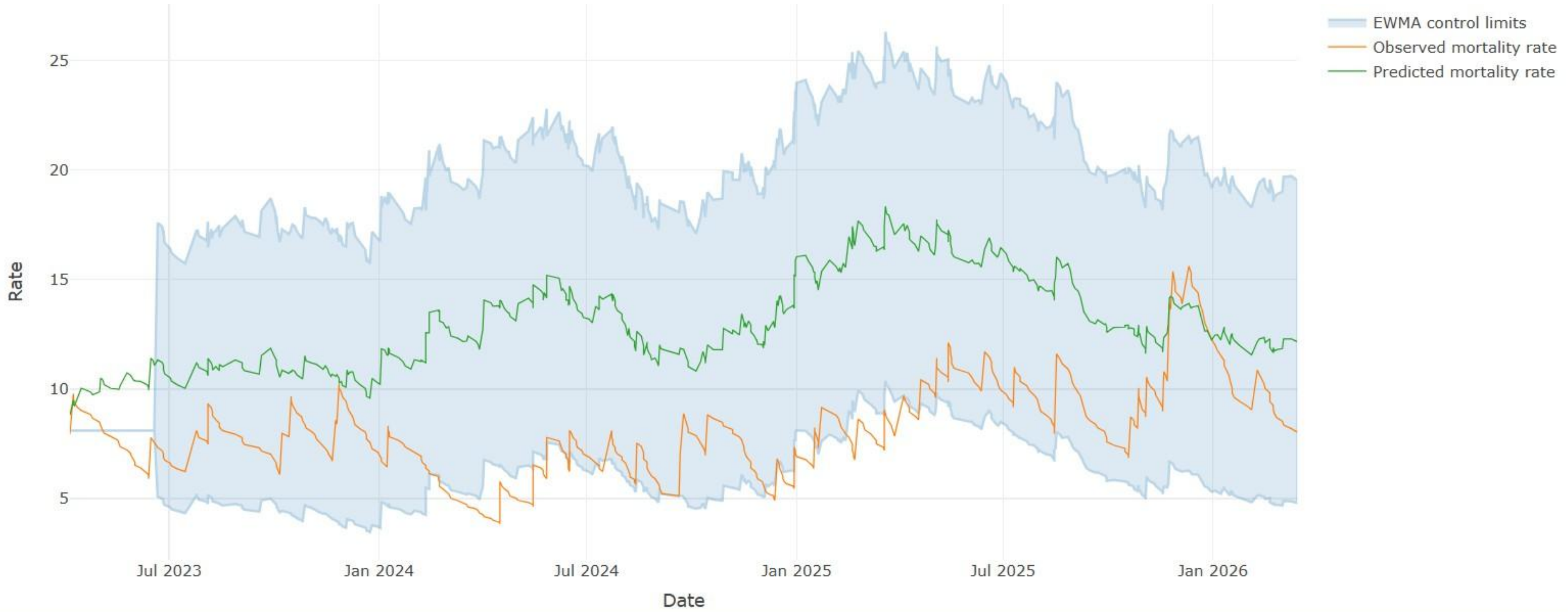
# Using the NELA EWMA charts to detect outlier mortality

# What is a EWMA chart?

- Monitoring outcomes of patients within a single hospital
- Risk-adjusted based on the hospital's casemix
- Early warning system of problematic performance
- Updated on a monthly basis
- Based on a paper by Cook et al. (2011), with the NELA application by Dr. Peter Martin

# The EWMA chart compares three things:

- the **national average** mortality rate in the previous year
- the **observed mortality** rate in a hospital
- the **predicted mortality** rate given a hospital's casemix

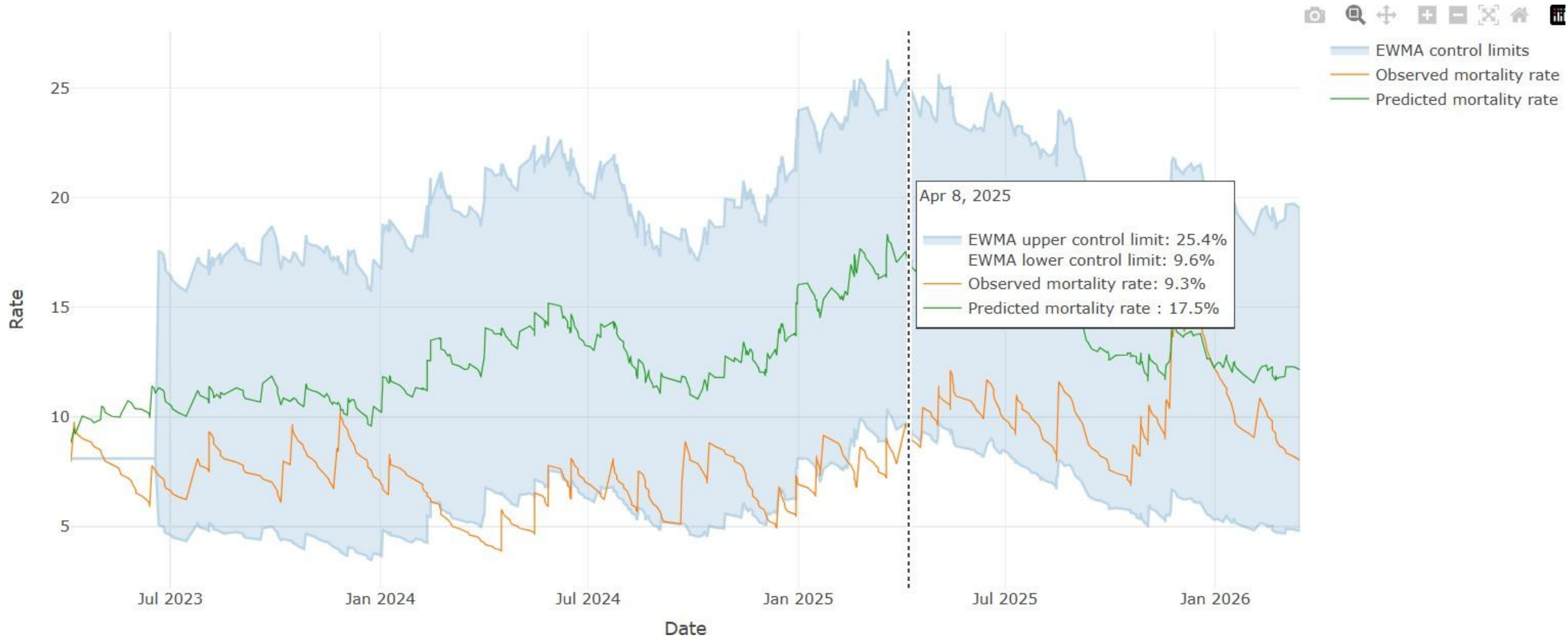


# Which patients are included?

- Patients with a date of surgery, date of discharge, and status at discharge
- 30-day mortality

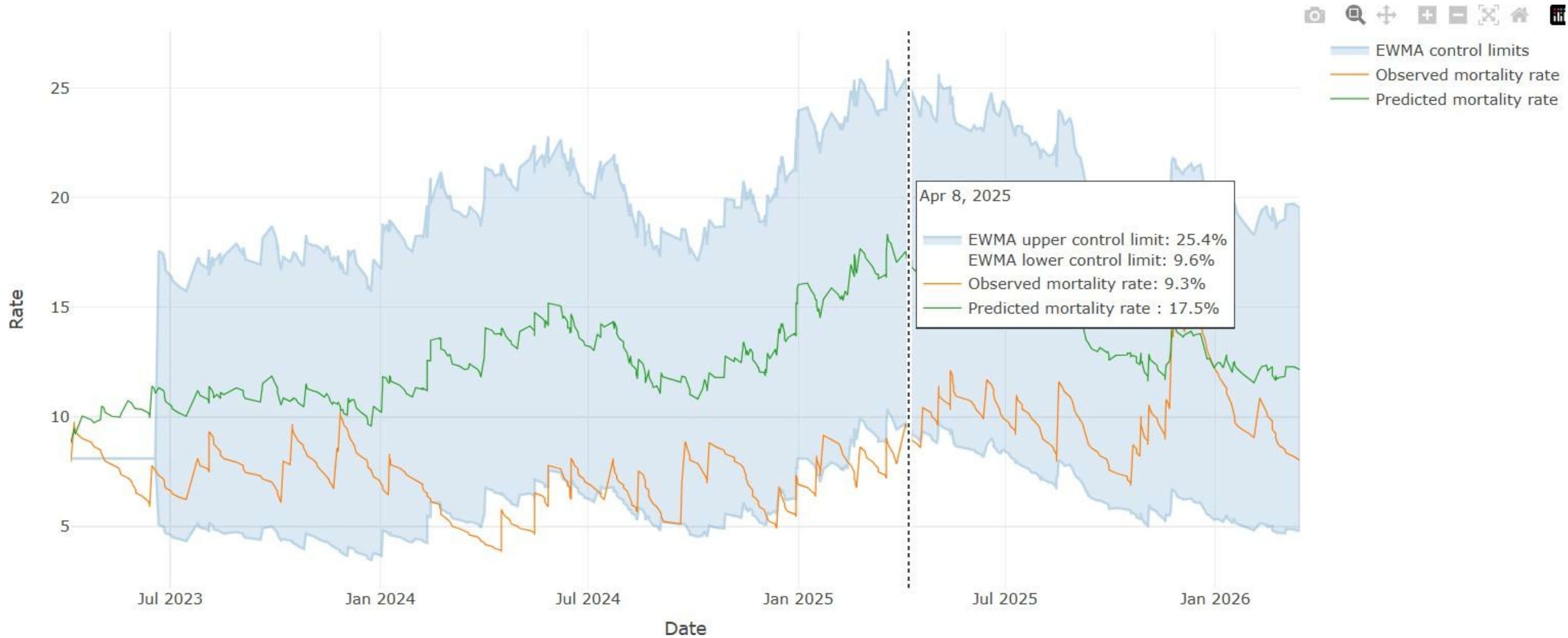
# Why is it called “EWMA”?

- EWMA stands for “**e**xponentially **w**eighted **m**oving **a**verage”
- Observed vs. predicted mortality
- Average of all patients in the data covered
- More recent patients given stronger weight



# How do I interpret a EWMA chart?

- Predicted and observed mortality rates
- Predicted and the national average mortality rates
- Small differences are probably not meaningful!
- But large differences need to be investigated



# If observed mortality is above the control limit, is my hospital performing poorly?

- Random variation
- Inaccuracies or gaps in the data
- NELA risk prediction model
- Hospital performance

# View your EWMA Chart!

- <https://rcoa.shinyapps.io/ewma/>
- <https://www.nela.org.uk/>

RCOA

Royal College of Anaesthetists

CR&I

Centre for Research and Improvement

**Q+A**

**Sarah Chessell**

**Aiman Al-Eryani**

# Upcoming Clinical Audit Awareness Week Webinars

## Daily themed webinars:

- Thu 10.30am-12pm:

Patient Safety: Using Data to Reduce Harm

- Fri 10am-12pm C 1-3pm

Data-Informed Improvement: From Insight to Impact

## Daily Excellence in Clinical Audit Awards announcements:

- Wed 12.45-1.30pm: Innovation Award

- Thu 12.45-1.30pm: Patient Safety Award

- Fri, during the 1-3pm webinar: Evidence in Practice Award



Find out more and register here  
- or scan the QR code:

[www.hqip.org.uk/caaw26](http://www.hqip.org.uk/caaw26)

Find lots more on this topic on HQIP's website:

[www.hqip.org.uk/impact-of-data](http://www.hqip.org.uk/impact-of-data)

# THANK YOU!



Please share your feedback:

Go to [www.hqip.org.uk/caaw26-feedback](http://www.hqip.org.uk/caaw26-feedback)

Or scan the QR code

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