

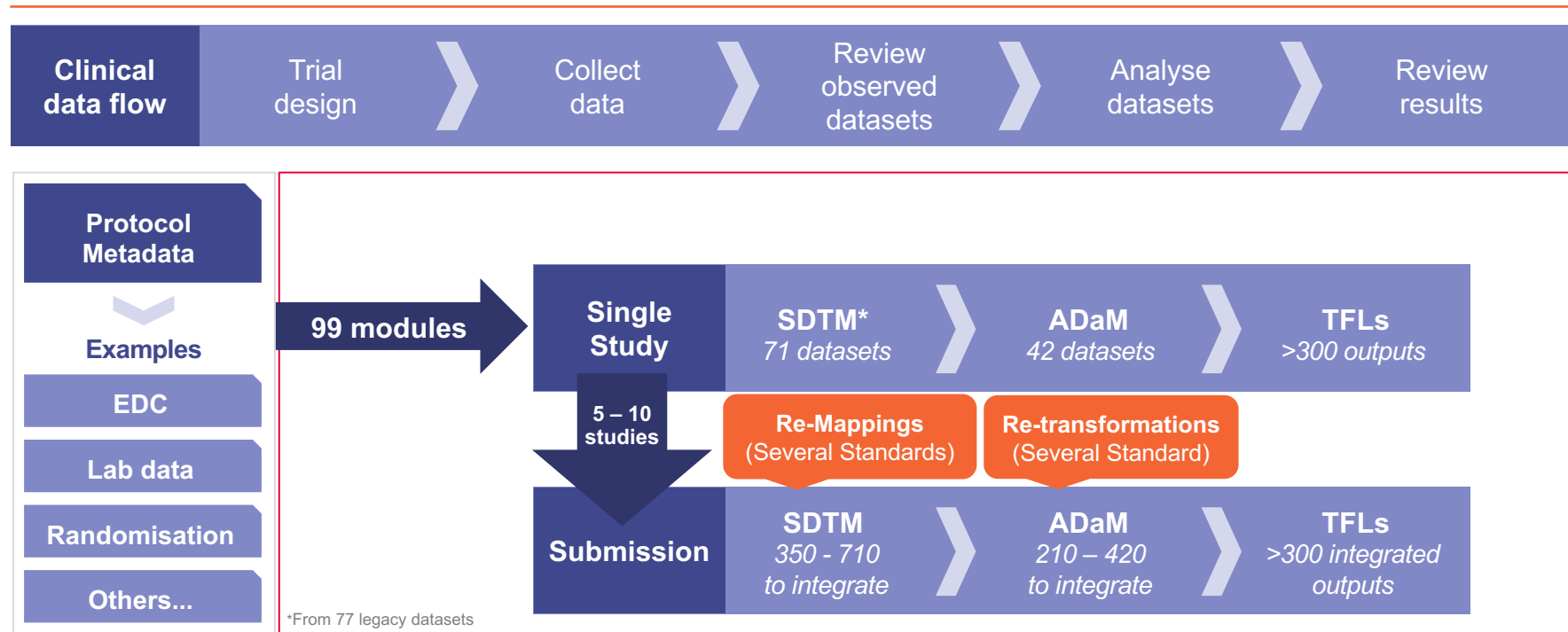
How will knowledge graphs improve clinical reporting workflows?

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Our Problem Statement



Tremendous Resource, Multiple Handoffs, Numerous Transformations



Imagine a world where anything is possible...



True automation of
standard analyses



Ad-hoc requests
delivered on demand



Data visualisations
available in-stream



(Blinded) Analysis
results reviewed in
real-time



Manual effort of
results validation
virtually eliminated

GDPR and patient
consent



Risk-based
monitoring is
proactive



Google-like Q&A
system for our
trial data



Clinical
application of
preclinical AI
algorithms



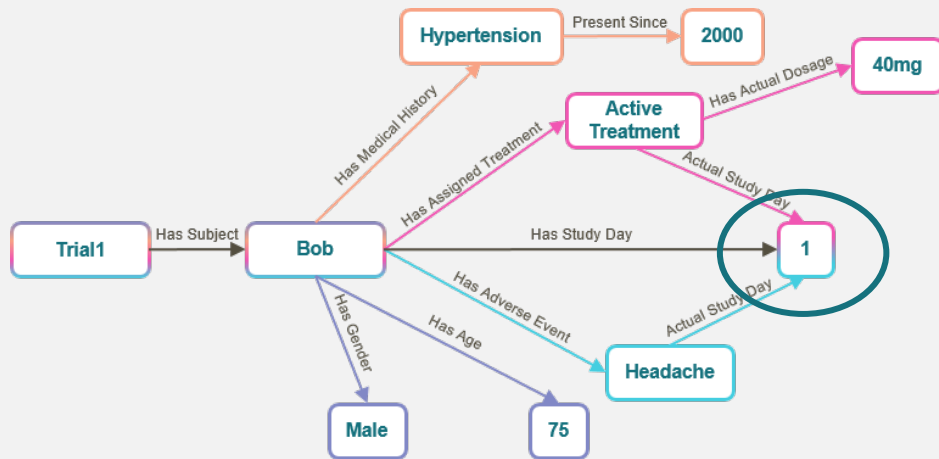
From Imagination to Reality

Clinical Knowledge Graph



Let's ...to ONE contextualised Clinical Knowledge Graph

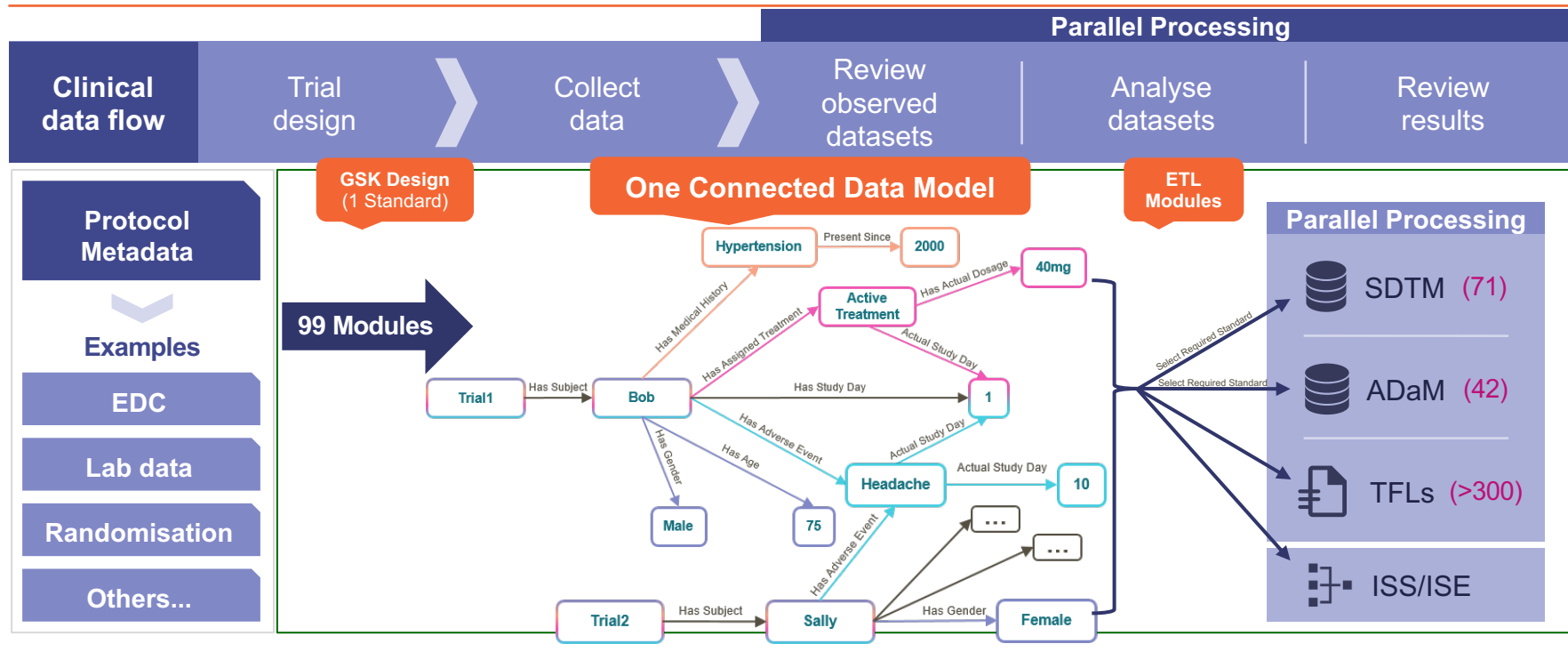
Clinical Knowledge Graph



Our Idea



...the Google Translate for our clinical data –
helping us translate our complex data landscape from one data standard to another



**Accelerated
decision making**



**Decoupling
vertical data
pipeline**



**Greater control
over data privacy**



**Modern graph
analytics &
visualisation**



Knowledge Graph

The Process: Approach taken to learn



Hypothesis 1 conducted in an agile framework to test our idea

1st Hypothesis

Use study **protocols and CRFs** to create **graph data model** and automatically **generate the standard dataset structures**¹

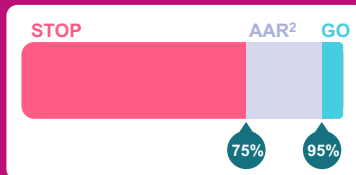


Domain-focused agile sprints:

1. **Demography**
2. **Exposure & Disposition**
3. **Adverse events**
4. **Vital signs**

Success Metric

Percentage of variables in dataset structures created in our experiment with an **exact match** to the those created by the trial analyses



Secondary metric:

Number of ETL³ queries required to create each dataset structure per trial and per required standard

Partnership



GSK SMEs
Vendors



Result



100% Match!

¹ SDTM v3.1.3 & v3.2 and ADaM v1.0 & v1.1, ²After Action Review, ³Extract, Transform, Load

Reflection



Agile requires laser focus & ruthless prioritisation



Focused innovation challenge can **greatly** help test **disruptive ideas**



Understand **pain points** & test ideas to **drive informed innovation**



Prioritise 1 idea, test it, refine it, test it, refine it...

Pre-defined success criteria critical in quick decision making



Timeboxed **focused sprints** are great to **inform the path ahead**



Demo



Next, we will show you a demo of a lightweight prototype we developed

Demo