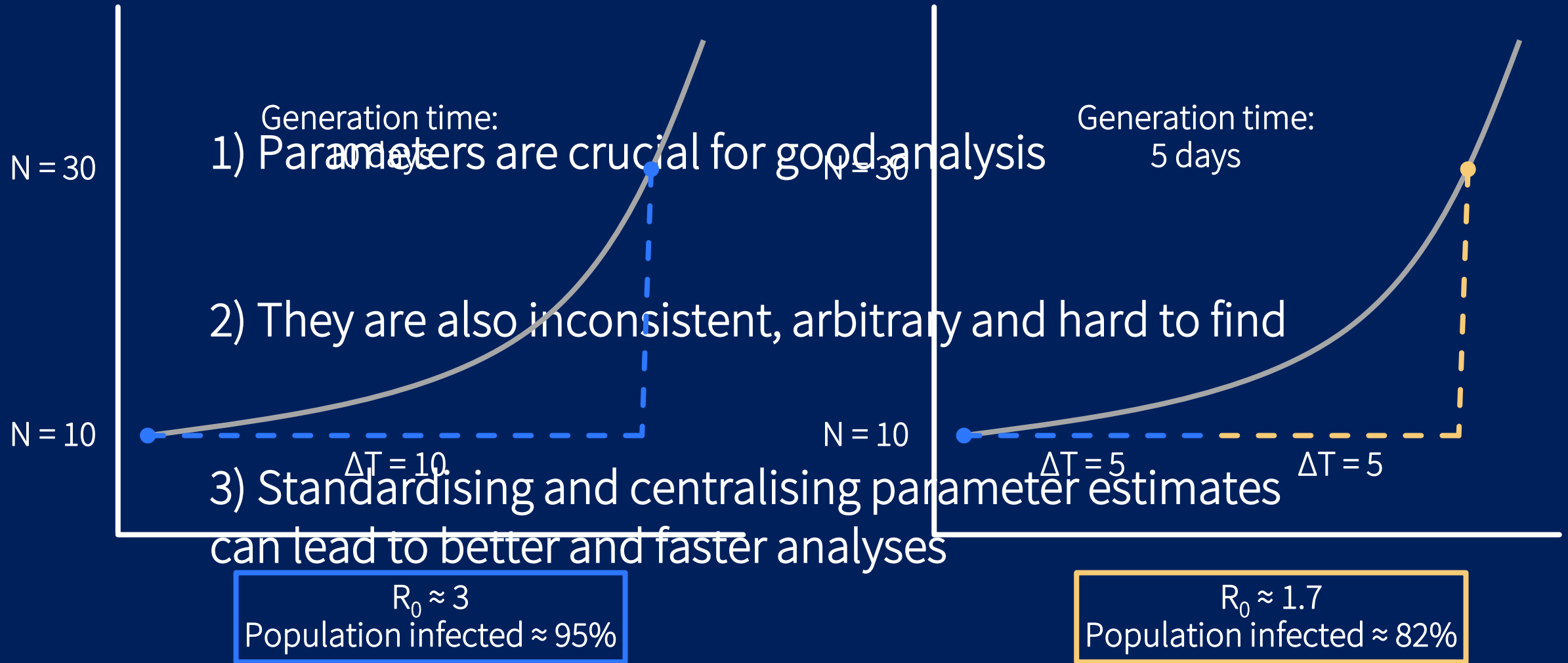




Introducing the GREP Database Schema

Motivation



Much work has been done already!

Scoping exercise:

- ICL PERG (*epireview*)
 - Systematic review protocol
 - Database schema
 - Synthesizing results
- Epiverse-TRACE (*epiparameter*)
 - Tooling and interoperability
- Universidad Javeriana
 - Systematic review protocol
 - Database schema
- PHAC
- And others

What is missing:

- Centralised database
- Consensus database schema
- Mechanism for public submissions
- Maintenance
- Quality assurance
- Community

Features of a useful database schema

1) Flexibility

To accept range of inputs

2) Structure

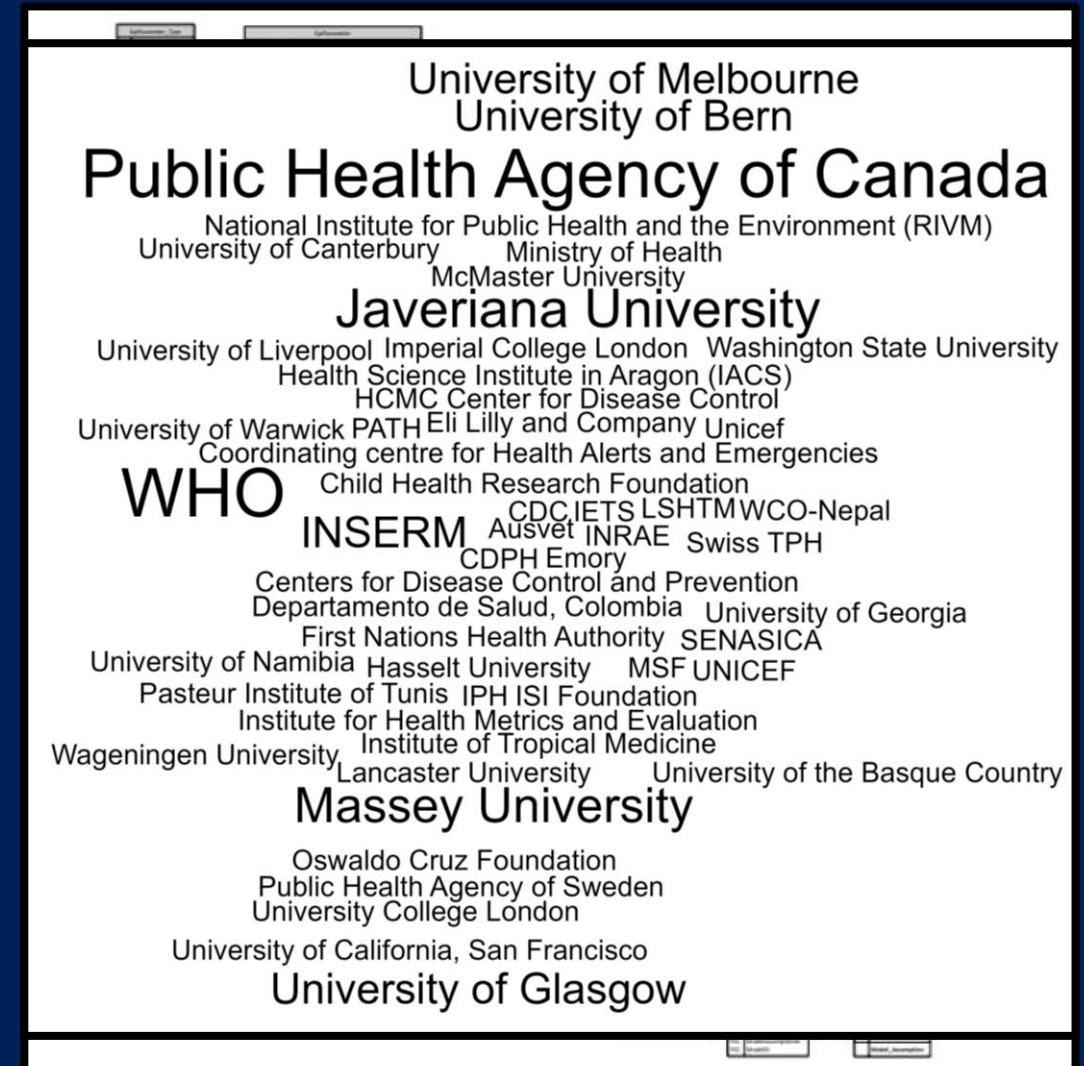
To allow synthesis, comparison, discovery

3) Compatibility

To accommodate existing databases

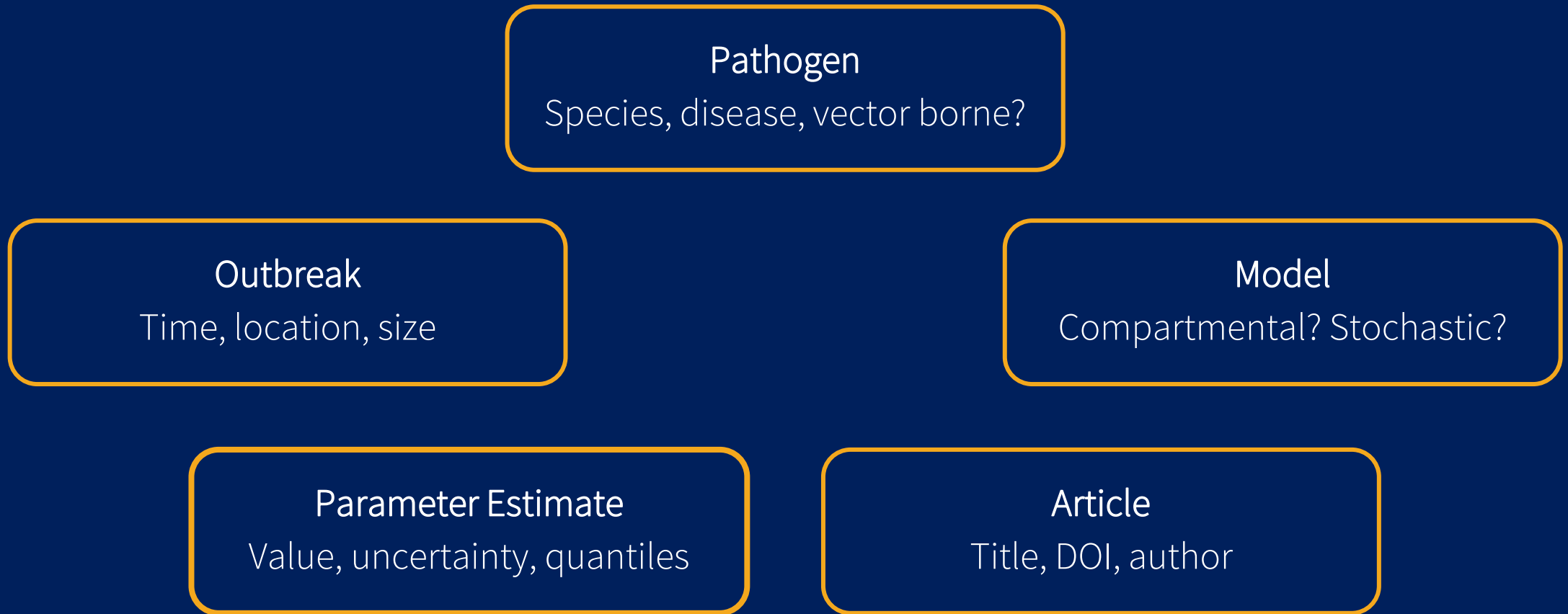
Collaboratory efforts

1. Develop crude schema by synthesizing existing databases
2. Consultation with community: TWG workshop
3. Importing existing databases into GREP to test compatibility
4. Launched EpiParameter Collaboratory forum



Current schema

Relational schema adopted from ICL PERG Database:



Types of “parameter estimates”

Some estimates characterise a
central value

- “Central” can be mean, median, etc.
- Uncertainty relates to the estimation process of that central value

$$\hat{w} = 5.2 \pm 0.7$$

Some estimates characterise a
distribution of values

- Parametric distributions describe variation analytically using linked parameters

$$w \sim \text{Gamma}(\alpha, \beta)$$

Uncertainty relates to each parameter

$$\alpha = 0.9 \pm 0.2$$

$$\beta = 10.2 \pm 1.3$$

- Quantiles define a range of values

$$IQR(w) = 3.6 - 9.1$$

Today's workshop

Aim: refine schema by reference to concrete, epidemiological use cases

- How do you use parameters in your epidemiological tasks?
- Does access to parameter estimates constitute a significant bottleneck?
- What would an ideal solution look like to you?

Join the Collaboratory EpiParameter Community
collab-forum.who.int