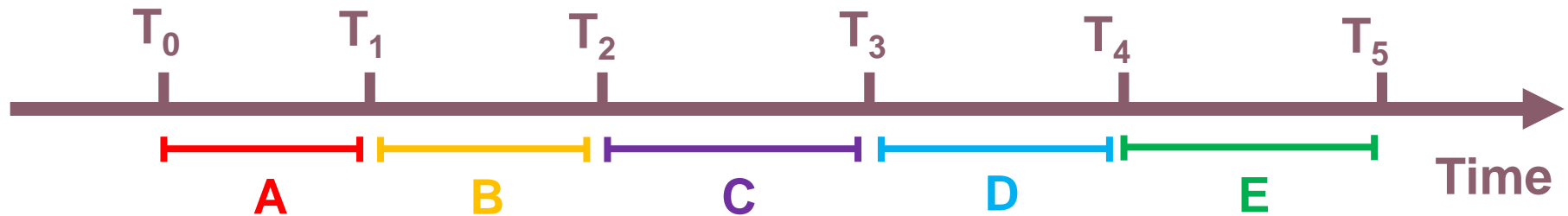


# **What are the quantitative approaches and challenges to rapid evaluation?**

**Prof. Steve Morris**  
**University College London**

# Timelines for quantitative analyses



- Key time periods:
  - When innovation is employed and ‘bedded in’ ( $T_0$ )
  - **Time for sufficient numbers of patients to be exposed to innovation ( $A = T_1 - T_0$ )**
  - **Time from exposure to innovation to outcome measure ( $B = T_2 - T_1$ )**
  - **Time for data owners to collect and curate data ( $C = T_3 - T_2$ )**
  - **Time for researchers to request and receive correct data ( $D = T_4 - T_3$ )**
  - **Time for researchers to analyse the data and produce findings in a useful format ( $E = T_5 - T_4$ )**
- Retrospective versus prospective evaluation

# How to shorten the timeline?

- Make sure the innovation is employed on schedule (plus need to bear in mind 'bedding in' time)?
- Be parsimonious in terms of:
  - The analyses required to meet the aims of the evaluation
  - The aims of the evaluation to meet stakeholder/funder/client needs
- Be able to deploy research resources ASAP
- Focus on intermediate outcome measures, with modelling using pre-existing data if required to extrapolate long-term costs and benefits?
- Use secondary administrative data sources and pre-existing data as much as possible rather than primary data collection
- Protocolise the analysis and write as much code as possible in advance

# Rapid evaluation and uncertainty

- Doing quantitative evaluations rapidly may increase variability and uncertainty in the findings
- This should be explored and quantified as much as possible, e.g., statistical inference to address sampling variation, deterministic and probabilistic sensitivity analysis to investigate parameter uncertainty
- BUT it is not clear how well we are able to account for variation and uncertainty in decision-making

