### UNIVERSITY OF BIRMINGHAM

### **DOCTORAL THESIS**

# Developments to established dose-finding methodologies for application in trials with complex and innovative design

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A thesis submitted in fulfillment of the requirements for the degree of Doctor of Philosophy

Institute of Cancer and Genomic Sciences College of Medical and Dental Sciences University of Birmingham July 14, 2020 "This is where the fun begins."

Anakin Skywalker

### Abstract

Developments to established dose-finding methodologies for application in trials with complex and innovative design

by Amit Patel

Insert abstract here...

## Acknowledgements

Acknowledge people here ...

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### Chapter 1

# Implementing the TITE-CRM in the Presence of Partial Orders into the ADePT-DDR Trial

### 1.1 Draft Structure

- Introduction
  - Basic biological background
  - Main objective of the trial
  - Introduce the new TD notation link to previous trial designs
  - Paragraph on traditional dose finding trial designs 3+3, CRM etc.
  - Methodological issues which arise due to investigating combination of drugs/varying parameters (new concept by Piers)
  - Necessity of time-to-event components for DLTs which may occur later
  - Other possible methodologies in this area which may be of use to solve this problem
  - Mini literature search will do a citation search for both methodology papers (potentially use a table/figure to summarise)
  - Detail whats to come in the chapter
- The PO-TITE-CRM Design
- PO-TITE-CRM in ADePT-DDR

### 1.2 Introduction

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#### 1.2.1 Subsection 1

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### 1.3 Main Section 2

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### Appendix A

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