## Module | Module Description
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### INTRODUCTION
3:15-3:20PM (5 min)  | Course Outline, Structure, and Introductions

### MODULE 1
3:20-3:45PM (25 min)  | What are Adaptive Treatment Strategies?
- What are adaptive treatment strategies (ATS)?
- Give examples of ATS.
- Discuss why ATSs are needed and how they inform clinical practice.
- Compare simple ATSs versus more deeply tailored ATSs.

### Q&A
3:45-4:00PM (15 min)  | Question, Answer, Discussion & Practice Exercise
Participants may pass up questions on an index card to be supplied by presenters.  
*Exercise: Write down 3-4 simple ATSs to address a chronic disorder in your field.*

### MODULE 2
4:00-04:25PM (25 min)  | What are Sequential Multiple Assignment Randomized Trials (SMARTs)?
- What are SMARTs? Why do we need SMARTs?
- Compare SMARTs to using a multiple-RCT approach for building ATSs.
- Discuss SMART design principles.
- What are typical primary and secondary aims?
- Address misconception that SMARTs necessarily require large sample sizes.
- Give examples of funded SMART designs.

### Q&A and Break
4:25-4:40PM (15 min)  | Question, Answer, Discussion, Practice Exercise & Break
Participants may pass up questions on an index card to be supplied by presenters.  
*Exercise: Using the 3-4 simple ATSs written above, construct a simple SMART design.*

### MODULE 3
4:40-5:05PM (25 min)  | Primary Data Analytic Methods using Data Arising from a SMART
- Review the SMART study: Adaptive Interventions for Children with ADHD Study
- Discuss the two most common primary research questions in a SMART.
- Present SAS code and a worked example using simulated/fake data.

### Q&A
5:05-5:20PM (15 min)  | Question, Answer, Discussion & Practice Exercise
Participants may pass up questions on an index card to be supplied by presenters.  
*Exercise: Write down the primary research aim for your SMART. Do you need a weighting approach or a simple comparison in means to address this primary aim?*

### MODULE 4
05:20-05:45pm (25 min)  | Secondary Data Analytic Methods using Data Arising from a SMART
- Discuss the three common secondary research questions in a SMART.
- Present SAS code and a worked example using simulated/fake data.
- Time-permitting, discuss the novel Q-learning Regression approach for developing an optimal, more deeply tailored ATS using data arising from a SMART.

### Q&A
5:45-6:00PM (15 min)  | Question, Answer, Discussion & Practice Exercise
Participants may pass up questions on an index card to be supplied by presenters.  
*Exercise: Write down a secondary research question examining whether an outcome to first-line treatment could be used to tailor subsequent treatment? What might the regression model look like? Who is included in this regression?*