

**Project title :**

**Economic Analysis of Sequential, Multiple Assignment, Randomized Trials (SMARTs)**

**Institution :**

**University of Limerick (UL)**

**Project details :**

**Dynamic treatment regimes, involving a sequence of decision rules for choosing alternative treatments, can be assessed using randomized controlled trial designs. Treatment regime “switching” is likely to become a characteristic and possibly desirable feature of precision or personalized medicine where treatment is adapted or tailored to improve the effectiveness of care.**

**Although some aspects of the statistical modelling of switching designs which take account of the timing of repeated measures in sequential, multiple assignment, randomized trials (SMARTs) have been addressed, the methods used for integrating an economic evaluation within a SMART design are poorly understood and rarely applied in practice.**

**The aim of this project is to consider how economic analysis can be used to assess cost effectiveness of dynamic treatment regimes. A particular focus will be on how economic models embedded within SMARTs can be used to address the heterogeneity of treatment effects or variation in the incremental effects of treatment.**

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