The CIRCLE Trial is investigating the clinical and cost-effectiveness of a contingency management programme for the reduction of cannabis use and relapse in those with first episode psychosis accessing Early Intervention Services (EIS).

Overwhelming conclusion from UK reviews have indicated that all treatments assessed to date have proved no better than treatment as usual (Bamett et al., 2006; Barnett et al. 2007; Ciezy, 2008a). However, these studies have exhibited evidence of poor methodology and small sample sizes. Larger randomised controlled trials (RCTs) of combined Cognitive Behavioural Therapy + Motivational Interviewing versus treatment as usual have found NO differences between groups on outcomes (MDAS Trial; Barrowclough et al., 2009).

NICE Guidelines now include Contingency Management (CM) in recommended treatment list for first episode psychosis with co-morbid substance misuse issues. CM is an innovative new behaviour change approach derived from Learning Theory (B.F. Skinner) that provides systematic rewards-based reinforcement for abstinence from cannabis use in order to change and maintain the target behaviour. The active ingredients for CM include (Stranger & Budney, 2010):

- **Immediate Reward**
  - Magnitude: the larger the reward, the better the outcome; incremental increases (curvilinear function)
  - Choice of Target Behaviour: Link reward to the target behaviour - Cannabis Abstinence & Engagement initially.
- **Type of Consequence:** Positive Reinforcement (rather than punishment) generally works best
- **Schedule:** Immediate Reward
- **Monitoring:** Systematic application of the consequence Link reward to behaviour that is variable & consistently implemented

A US trial (Bellok, 2006) that compared Behavioural Programme (incl. CM) vs. Supportive Treatment for addiction recovery resulted in improved outcomes for Behavioural Treatment. More negative urine samples resulted in improved engagement. No trials, however, have examined using CM to assist to reduce cannabis use in an Early Psychosis Population.

**Objectives**

A multicentre pilot RCT of a specific intervention based on contingency management for cannabis use in early psychosis has been conducted, in order to acquire evidence for feasibility and acceptability of the intervention in an Early Intervention Service context for a full RCT.

**Outcomes measured:**
- Primary: Time to relapse
- Secondary: Proportion of urines that are cannabis positive during intervention; Cannabis Free days (time line follow back); Positive symptoms (PANSS); Engagement in work or study; quality-adjusted life year (QALy) for use in cost effectiveness analysis

**Qualitative:** Interviews & Focus groups with participants, carers and clinicians

**Methods**

**2 randomised arms stratified by clinical site and severity of cannabis use:**

**Control:** Computer based Optimised Psycho-education (OPE)

**Treatment:** OPE + Contingency management

**Intervention lasts 12 weeks following randomisation**

**Treatment**

CM arm involved a voucher rewards scheme to reinforce abstinence from cannabis use. Immediate provision of rewards were given for attending sessions & providing urine samples. Variable reward schedule to enhance engagement & commitment was utilised for maximum adherence. (2005)

**PLUS OPE** (see control)

**Control**

OPE package is a package that is delivered by interactive computer based media and facilitated by a nominated EIS staff member. Designed to enhance retention of information in the client group. Delivered over 6 - 12 sessions. Topics include:

- Session 1: Introduction to substance use and addiction
- Session 2: Impact of cannabis on health; information about the link between cannabis and mental health; personal experiences of others.
- Session 3: Impact of cannabis on all areas of life (the good and the bad) including physical and mental health; family, friends, finances, work, and future developments for using incentives to encourage behaviour change across key health areas.

**Conclusions**

The challenges and helpful aspects to this treatment approach illustrated will inform the upcoming RCT, integration of research with real world health services, and future development for using incentives to encourage behaviour change across key health areas.

**Results**

**Recruitment for pilot phase:**
- 12 EIS teams included 42 recruited
- Initial meeting with researcher (n = 110)
- Brief OPE (n = 36)
- Baseline measures assessed (n = 37)
- Randomised (n = 40)
- Consented (n = 27) Baseline measures assessed (n = 37)
- Randomised (n = 40)
- Assessment of full stage trial feasibility after pilot study completed (3 months recruitment & 3 months follow-up)

* A randomised control trial of the clinical and cost-effectiveness of a contingency management intervention for reduction of cannabis use and relapse in psychosis is a NHS-funded research project.