ISRCTN71305621 https://doi.org/10.1186/ISRCTN71305621

# Optimising individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA) 2: clinical pilot study of antipsychotic drug level monitoring

**Submission date**
10/09/2010

**Recruitment status**
No longer recruiting

**Registration date**
04/11/2010

**Overall study status**
Completed

**Last Edited**
07/08/2020

**Condition category**
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

**Plain English summary of protocol**
Not provided at time of registration

## Contact information

**Type(s)**
Scientific

**Contact name**
Dr Maxine Patel

**Contact details**
Institute of Psychiatry, King's College London
Box 68
16 De Crespigny Park
London
United Kingdom
SE5 8AF

## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

NIHR/CS/009/010

# Study information

### Scientific Title
Optimising Individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA) 2: Clinical pilot study of antipsychotic drug level monitoring - a pilot multicentre open-label single-arm clinical trial

### Acronym
OptIMA 2

### Study objectives
The aim is to refine the method of using plasma level therapeutic drug monitoring (TDM) for olanzapine/risperidone for individual patient antipsychotic dose management in routine acute inpatient settings. This will include confirmation of logistics, methods and refinement of guidance on interpretation of the plasma level results. This includes method for sending samples from various hospital sites to the laboratory, laboratory assay request forms for study participants, clinician understanding and use of algorithm, and speed of rapid feedback of online TDM results to clinicians.

This will be a pilot clinical trial study which is small scale in design for 30 inpatients with acute psychosis prescribed olanzapine or risperidone, with 6-week follow-up data capture. The intervention is assessment of antipsychotic blood levels (plasma concentrations) and this will be conducted for all participants.

This is the second of three studies in the project entitled 'Optimising Individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA)'.

### Ethics approval required
Old ethics approval format

### Ethics approval(s)
South East Research Ethics Committee (REC), ref: 10/H1102/59

### Study design
Small-scale multicentre open pilot clinical trial

### Primary study design
Interventional

### Secondary study design
Randomised controlled trial

### Study setting(s)
Other

### Study type(s)
Treatment

## Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

## Health condition(s) or problem(s) studied
Schizophrenia, schizoaffective disorder

## Interventions
Medication decisions will be made by the participant's own clinician.

The intervention is TDM with rapid results feedback and a clinician guidance algorithm. A plasma level blood sample, 12 hours post-dose, will be collected 7 - 14 days after drug initiation. The sample will be sent with a trial-specific lab analysis request form to the laboratory. The lab results will be available via a secure online system within a target of 3 working days.

The drug concentration method of analysis at this lab will be high performance liquid chromatography with mass spectrometry. The assay is fully validated to FDA GLP standards. Sample requirement is 2 ml plasma (4 ml whole blood required).

Repeat TDM with feedback will be allowed (up to two further times) until a drug plasma level in the olanzapine 20 - 40 ng/mL target range (or risperidone 20 - 60 ng/mL) is reached or up to the point of discharge from the inpatient unit, whichever is earlier.

The newly created clinician guidance algorithm will enable the participant's clinicians to optimise prescribing for individuals based on an objective measure and will facilitate lowest effective dose prescribing. It will also enable clinicians to identify patients with drug levels above the therapeutic window who are at risk of toxicity. It will inform prescribing with plasma levels not as the sole determinant of dosage, but importantly in conjunction with the clinician's and patient s assessment of symptom change, side effects, and medication adherence.

Participant decision optional extra:
A saliva test for olanzapine or risperidone saliva levels will be offered to the participant. This will be at same time as the primary intervention and will be in addition to the blood test (and not instead of the blood test). The purpose for doing this extra saliva test is to seek evidence of equivalence in accuracy between blood samples and saliva samples for antipsychotic drug level measurements. Although saliva sample testing technology exists, its accuracy and equivalence has not yet been confirmed in comparison to blood sample testing.

## Intervention Type
Other

## Phase
Not Applicable

## Primary outcome measure
1. Total daily prescribed dose, measured at 6 weeks follow-up
2. Drug discontinuation, measured at 6 weeks follow-up

Outcome measures will be based on a review of case notes and further participant direct contact will not be required.

### Secondary outcome measures
Measured at 6 weeks follow-up:
1. Documented evidence of clinician checking the test results, changes to medication regimen (including dose titration)
2. Duration of in-patient stay (and also days in psychiatric intensive care)
3. Use of short-acting intramuscular medication (benzodiazepines, etc.)
4. Rehospitalisation
5. Legal detention status
6. Accuracy and equivalence of saliva antipsychotic level testing in comparison to blood sample testing

### Overall study start date
01/10/2010

### Completion date
30/09/2011

## Eligibility

### Key inclusion criteria
1. Aged 18 - 65 years, either sex
2. Schizophrenia/schizoaffective disorder (clinician International Classification of Disease [ICD-10] diagnosis)
3. Symptoms of acute psychosis
4. Admitted in past two weeks to participating inpatient acute wards
5. Routine clinician initiation (including switch/new initiation/recommencement) of regularly daily prescribed olanzapine as antipsychotic monotherapy, i.e., only one daily antipsychotic drug
6. Legally detained participants will be permitted if they have capacity to consent to the study

### Participant type(s)
Patient

### Age group
Adult

### Lower age limit
18 Years

### Sex
Both

### Target number of participants
Recruitment of 30 patients

### Total final enrolment
32

### Key exclusion criteria
1. Use of clozapine in past 12 months (i.e. whose illness has been classified as 'treatment resistant') but who are now prescribed olanzapine. This is because they would not be expected

to benefit from changes in olanzapine dosage.
2. Use of another simultaneous regularly prescribed daily antipsychotic (other than p.r.n) at study onset

### Date of first enrolment
01/10/2010

### Date of final enrolment
30/09/2011

## Locations

### Countries of recruitment
England

United Kingdom

### Study participating centre
**Institute of Psychiatry, King's College London**
London
United Kingdom
SE5 8AF

## Sponsor information

### Organisation
Institute of Psychiatry, Kings College London (UK)

### Sponsor details
c/o Ms Jennifer Liebscher
16 De Crespigny Park
London
England
United Kingdom
SE5 8AF

### Sponsor type
University/education

### Website
http://www.iop.kcl.ac.uk/

### ROR
https://ror.org/0220mzb33

# Funder(s)

### Funder type
Government

### Funder Name
National Institute for Health Research (NIHR) (UK) - Clinician Scientist Fellowship Award (ref: NIHR/CS/009/010)

# Results and Publications

### Publication and dissemination plan
Not provided at time of registration

### Intention to publish date

### Individual participant data (IPD) sharing plan

### IPD sharing plan summary
Not provided at time of registration

### Study outputs

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| Results article | results | 01/08/2015 | 07/08/2020 | Yes | No |