TDM

Therapeutic Drugs Monitoring Scheme

Scheme Description

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Record of issue status and modifications

ISSUE	ISSUE DATE	DETAILS	AUTHORISED BY
4	August 2013	Additional AE3, AE4 and NC samples added. TD1 Carbamazepine+CBZ epoxide clarified.	K Morgan
5	October 2013	Restructure of TD1, TD2, TD3, Methotrexate and Clobazam/Norclobazam. Updates to concentration ranges covered on analytes in scheme.	K Morgan
6	December 2013	Clarification of traceability of Assigned Values, Clarification of Units for Methotrexate	K Morgan
7	August 2014	Introduction of Sulpiride as an analyte	K Morgan
8	Sept 2014	Sample TD1 named Therapeutic Drug Mixture. Inclusion of subcontracting information in 'Test Materials' section.	K Morgan
9	Sept 2015	Update of concentration ranges, addition of new sample for Chlorpromazine; Norchlorpromazine (PS31) and addition of molar report options. Removed Hard copy Report information.	K Morgan A.McCarthy
10	June 2016	Update of sample 31 SDPA to RobustSD	K Morgan
11	Sept 2016	Update to concentration ranges (Lamotrigine) and clarification of SDPA (Norquetiapine). Addition of Brivaracetam (AE5) and Analgesic mixture (AM1).	K Morgan
12	Dec 2016	Removed Antibiotics sample 4, 5 and 6	A.McCarthy
13	Sept 2017	Update of concentration ranges. Addition of new samples: PS32 Mianserin and PST1 Psychostimulants	K Morgan
14	Sept 2018	Update of concentration ranges. Removal of AE3 (Retigabine) from scheme.	K Morgan
15	Aug 2019	Removed 'Standards' from page one.	A.McCarthy
16	July 2020	Addition of new Antibiotic, Antifungal, PS and urine Antihypertensive screening samples.	K. Morgan
17	Oct 2020	Addition of paracetamol and salicylic acid to TD01.	K. Morgan
18	July 2021	Updated email address and UKAS logo Addition of new PSY samples, update to units. Update of Antibiotic range	A Collins R Forsyth K Morgan
19	October 2021	Removal of Antibiotic sample AT08	K Morgan

Notes:

Where this document has been translated, the English version shall remain the definitive version

Scheme Aims and Organisation

The primary aim of the Therapeutic Drugs Monitoring proficiency testing scheme (TDM) is to enable laboratories performing the analysis of therapeutic drugs to monitor their performance and compare it with that of their peers. The TDM scheme also aims to provide information to participants on technical issues and methodologies relating to Therapeutic Drug Monitoring.

The TDM scheme year operates from January to December. Further information about TDM, including test material availability, round despatch dates and reporting deadlines, are available on the current TDM application form.

The operation of all schemes is supported by an Advisory Group consisting of members of the professional bodies, scheme participants, and others experienced in the field of therapeutic drug monitoring. The scheme reports on the performance of U.K. participants to the National Quality Assurance Advisory Panels for Chemical Pathology and for Medical Microbiology.

Test Materials

Details of test materials available in TDM are given in Appendix A. The test parameters are continually reviewed to ensure they meet the needs of current laboratory testing and regulatory requirements.

Samples are prepared using pre-screened human serum and newborn calf serum (for the majority of the psychoactive drug samples).

The human serum is pooled and is obtained from donors who have verbally declared themselves drug free. The serum has been sterile-filtered, tested and found negative for:

- HEP B antigen
- HEP C antigen
- Combo HIV 1 and 2
- Syphilis
- Alanine transferase

Certificates of Analysis of the serum are retained at LGC.

The newborn calf serum of New Zealand origin is collected from calves less than 14 days old. The serum has been sterile-filtered. Certificates of Analysis of the serum are retained at LGC.

Note: All test materials provided are intended for use as proficiency testing materials only and are not to be used for any other purposes.

Some aspects of the scheme, such as test material production, homogeneity testing and stability assessment, can from time to time be subcontracted. When subcontracting occurs, it is placed with a competent subcontractor and LGC is responsible for this work. The planning of the scheme, the evaluation of performance and the authorisation of the final report will never be subcontracted.

Statistical Analysis

Information on the statistics used in TDM can be found in the General Protocol and in the Scheme Report. Methods for determining assigned values and the values for SDPA used for individual samples are given in Appendix A

Methods

Methods are listed in PORTAL. Please select the most appropriate method from the list. If none of the methods are appropriate, then please report your method as ‘Other’ and record a brief description in the Comments Section in PORTAL.

Results and Reports

TDM results are returned through our electronic reporting software, PORTAL, full instructions for which are provided by email.

TDM reports will be available on the website within 10 working days of round closure. Participants will be emailed a link to the report when it is available.

APPENDIX A - Description of abbreviations used

Assigned Value (AV)

The assigned value may be derived in the following ways:

- From the robust mean (RMean). This is the median of participant results after the removal of test results that are inappropriate for statistical evaluation, e.g. miscalculations, transpositions and other gross errors. Generally, the assigned value will be set using results from all methods, unless the measurement is considered method-dependant, in which case the assigned value will be set by method as illustrated in the report tables.
  For some analytes, where there is a recognised reference method for that type of measurement, this may be used as the assigned value for a particular analyte i.e. it would be applied to results obtained by any method.

  Traceability: Assigned values which are derived from the participant results, or a sub-set of the results are not traceable to an international measurement standard. The uncertainty of assigned values derived in this way is estimated from the participant results, according to ISO 13528.

- From a formulation value (Formulation). This denotes the use of an assigned value derived from sample preparation details, where known and exact quantities of analyte have been used to prepare the sample.

  Traceability: Assigned values calculated from the formulation of the test sample are traceable, via an unbroken metrological traceability chain, to an international measurement standard. The measurement uncertainty of the assigned value is calculated using the contributions from each calibration in the traceability chain.

- From a qualitative formulation (Qual Form). This applies to qualitative tests where the assigned value is simply based on the presence/absence of the analyte in the test material.

  Traceability: Assigned values calculated from the qualitative formulation of the test sample are traceable to a certified reference standard or a microbiological reference strain.

- From expert labs (Expert). The assigned value for the analyte is provided by an ‘expert’ laboratory.

  Traceability: Assigned values provided by an ‘expert’ laboratory may be traceable to an international measurement standard, according to the laboratory and the method used. The uncertainty of measurement for an assigned value produced in this way will be provided by the laboratory undertaking the analysis. Details of traceability and the associated uncertainty will be provided in the report for the scheme/round.

Range
This indicates the concentration range at which the analyte may be present in the test material.

SDPA
SDPA represents the ‘standard deviation for proficiency assessment’ which is used to assess participant performance for the measurement of each analyte. Wherever possible, the SDPA is based on a concentration dependent model derived from historic data. Otherwise the SDPA is based upon the RobustSD.

Units
This indicates the units used for the assessment of data. These are the units in which participants should report their results. For some analytes in some schemes participants may have a choice of which units to report their results, however, the units stipulated in this scheme description are the default units to which any results reported using allowable alternative results will be converted to.

DP
This indicates the number of decimal places to which participants should report their measurement results.

CDM
Concentration Dependent Model

Therapeutic Drugs

Sample PT-TM-TD1 **Therapeutic Drug Mixture**
Participants will receive: 3 x 5ml samples of lyophilised human serum (A, B, and C)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Carbamazepine	All	0 to 40	RMean	Fixed from CDM	mg/L , µmol/L	2
CBZ-epoxide	All	0 to 30	RMean	Fixed from CDM	mg/L, µmol/L	2
Carbamazepine + CBZ-epoxide	All	0 to 70	RMean	Fixed from CDM	mg/L, µmol/L	2
Clonazepam	All	0 to 100	RMean	Fixed from CDM	µg/L, nmol/L	2
Lamotrigine	All	0 to 50	RMean	Fixed from CDM	mg/L, µmol/L	2
Phenytoin	All	0 to 40	RMean	Fixed from CDM	mg/L, µmol/L	2
Ethosuximide	All	0 to 190	RMean	Fixed from CDM	mg/L, µmol/L	2
Phenobarbitone	All	0 to 60	RMean	Fixed from CDM	mg/L, µmol/L	2
Primidone	All	0 to 40	RMean	Fixed from CDM	mg/L, µmol/L	2
Valproate	All	0 to 300	RMean	Fixed from CDM	mg/L, µmol/L	2
Caffeine	All	0 to 150	RMean	Fixed from CDM	mg/L, µmol/L	2
Digoxin	All	0 to 5	RMean	Fixed from CDM	µg/L, nmol/L	2
Lithium	All	0 to 4 mmol/L	RMean	Fixed from CDM	mmol/L	2
Theophylline	All	0 to 55	RMean	Fixed from CDM	mg/L, µmol/L	2
Methotrexate	All	0 to 10 µmol/L	RMean	Fixed from CDM	µmol/L	2
Paracetamol (Acetaminophen)	All	0 to 500	RMean	Fixed from CDM	mg/L, µmol/L	1
Salicylic Acid	All	0 to 1000	RMean	Fixed from CDM	mg/L, µmol/L	1
TD-Amikacin	All	0 to 60	RMean	Fixed from RSD	mg/L, µmol/L	2
TD-Gentamicin	All	0 to 16	RMean	Fixed from CDM	mg/L, µmol/L	2
TD-Tobramycin	All	0 to 15	RMean	Fixed from RSD	mg/L, µmol/L	2
TD-Vancomycin	All	0 to 47	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-TM-CN1 **Clobazam and Norclobazam**
Participants will receive: 2 x 2ml samples of lyophilised human serum (A and B)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Clobazam	All	0 to 1000	RMean	Fixed from CDM	µg/L, nmol/L	2
Norclobazam	All	0 to 6000	RMean	Fixed from CDM	µg/L, nmol/L	2

Other Therapeutic Drugs

Sample PT-TM-AE1 **Anti-epileptic drugs mixture**
Participants will receive: 1 x 4ml sample of lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
OH-oxcarbazepine	All	0 to 45	RMean	Fixed from CDM	mg/L, µmol/L	2
Gabapentin	All	0 to 100	RMean	Fixed from CDM	mg/L, µmol/L	2
Tiagabine	All	0 to 300	RMean	Fixed from CDM	µg/L, nmol/L	2
Levetiracetam	All	0 to 125	RMean	Fixed from CDM	mg/L, µmol/L	2
Pregabalin	All	0 to 100	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-TM-AE2 **Anti-epileptic drugs mixture**
Participants will receive: 1 x 4ml sample of lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Topiramate	All	0 to 45	RMean	Fixed from CDM	mg/L, µmol/L	2
Vigabatrin	All	0 to 65	RMean	Fixed from CDM	mg/L, µmol/L	2
Felbamate	All	0 to 155	RMean	Fixed from CDM	mg/L, µmol/L	2
Zonisamide	All	0 to 55	RMean	Fixed from CDM	mg/L, µmol/L	2
Rufinamide	All	0 to 105	RMean	Fixed from CDM	mg/L, µmol/L	2
Lacosamide	All	0 to 30	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-TM-AE4* **Perampanel**
Participants will receive: 1 x 2ml lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Perampanel	All	0-1000	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-AE5* **Brivaracetam**
Participants will receive: 1 x 2ml lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Brivaracetam	All	0-20	RMean	RobustSD	mg/L, µmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-CRD **Cardiac mixture**
Participants will receive: 1 x 2ml lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Amiodarone	All	0 to 4000	RMean	Fixed from CDM	µg/L, nmol/L	2
Desethylamiodarone	All	0 to 4000	RMean	Fixed from CDM	µg/L, nmol/L	2
Flecainide	All	0 to 1500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-AM1* **Analgesic mixture**

Participants will receive: 2 x 5ml lyophilised human serum (A and B)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Ibuprofen	All	0 to 50	RMean	RobustSD	mg/L, µmol/L	2
Diclofenac	All	0 to 4	RMean	Robust SD	mg/L, µmol/L	2
Tramadol	All	0 to 1000	RMean	RobustSD	µg/L, µmol/L	2

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Drugs used for the Treatment of substance related disorders

Sample PT-TM-SA01 **Buprenorphine and Norbuprenorphine**

Participants will receive: 2 x 2ml lyophilised human serum (A and B)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Buprenorphine	All	0 to 20 µg/L	RMean	RobustSD	µg/L, nmol/L	2
Norbuprenorphine	All	0 to 20 µg/L	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-SA02 **Methadone and EDDP**

Participants will receive: 2 x 2ml lyophilised human serum (A and B)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Methadone	All	0 to 1500 µg/L	RMean	RobustSD	µg/L, nmol/L	2
EDDP	All	0 to 1500 µg/L	RMean	RobustSD	µg/L, nmol/L	2

Psychoactive Drugs

Sample PT-TM-PS01 **Amitriptyline and Nortriptyline**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Amitriptyline	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2
Nortriptyline	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS02 **Imipramine and Desipramine**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Imipramine	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2
Desipramine	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS03 **Clomipramine and Norclomipramine**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Clomipramine	All	0 to 550	RMean	Fixed from CDM	µg/L, nmol/L	2
Norclomipramine	All	0 to 550	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS04 **Clozapine and Norclozapine**
Participants will receive: 1 x 5ml lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Clozapine	All	0 to 2500	RMean	Fixed from CDM	µg/L, nmol/L	2
Norclozapine	All	0 to 2500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS05 **Doxepin and Nordoxepin**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Doxepin	All	0 to 450	RMean	Fixed from CDM	µg/L, nmol/L	2
Nordoxepin	All	0 to 450	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS06 **Fluoxetine and Norfluoxetine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Fluoxetine	All	0 to 600	RMean	Fixed from CDM	µg/L, nmol/L	2
Norfluoxetine	All	0 to 600	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS07 **Fluphenazine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Fluphenazine	All	0 to 25	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS08 **Sertraline and Norsertraline**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Sertraline	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2
Norsertraline	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS09 **Trimipramine and Nortrimipramine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Trimipramine	All	0 to 600	RMean	Fixed from CDM	µg/L, nmol/L	2
Nortrimipramine	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS10 **Risperidone and HO-risperidone**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Risperidone	All	0 to 140	RMean	Fixed from CDM	µg/L, nmol/L	2
HO-risperidone	All	0 to 350	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS11 **Mirtazapine and Normirtazapine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Mirtazapine	All	0 to 300	RMean	Fixed from CDM	µg/L, nmol/L	2
Normirtazapine	All	0 to 300	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS12 **Maprotiline and Normaprotiline**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Maprotiline	All	0 to 450	RMean	Fixed from CDM	µg/L, nmol/L	2
Normaprotiline	All	0 to 300	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS13 **Thioridazine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Thioridazine	All	0 to 2000	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS14 **Haloperidol**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Haloperidol	All	0 to 70	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS15 **Olanzapine**

Participants will receive: 1 x 5ml lyophilised human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Olanzapine	All	0 to 150	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS16 **Perphenazine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Perphenazine	All	0 to 25	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS17 **Quetiapine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Quetiapine	All	0 to 1000	RMean	Fixed from CDM	µg/L, nmol/L	2
Norquetiapine (N-desalkylquetiapine)	All	0 to 500	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS18 **Citalopram and Norcitalopram**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Citalopram	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2
Norcitalopram	All	0 to 250	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS19 **Dothiepin and Northiaden**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Dosulepin (Dothiepin)	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2
Northiaden	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS20 **Venlafaxine and Norvenlafaxine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Venlafaxine	All	0 to 450	RMean	Fixed from CDM	µg/L, nmol/L	2
Norvenlafaxine (O-Desmethylvenlafaxine)	All	0 to 550	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS21 **Paroxetine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Paroxetine	All	0 to 525	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS22 **Fluvoxamine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Fluvoxamine	All	0 to 1000	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS23 **Zuclopenthixol**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Zuclopenthixol (zuclopentixol)	All	0 to 125	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS24 **Amisulpride**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Amisulpride	All	0 to 650	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS25 **Aripiprazole and Dehydroaripiprazole**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Aripiprazole	All	0 to 1000	RMean	Fixed from CDM	µg/L, nmol/L	2
Dehydroaripiprazole	All	0 to 500	RMean	Fixed from CDM	µg/L, nmol/L	2

Sample PT-TM-PS26 **Ziprasidone**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Ziprasidone	All	0 to 500	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS27 **Duloxetine**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Duloxetine	All	0 to 400	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS28 **Escitalopram**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Escitalopram	All	0 to 350	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS29 **Trazodone**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Trazodone	All	0 to 1500	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS30 **Sulpiride**
Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Sulpiride	All	0 to 2000	RMean	RobustSD	µg/L, nmol/L	2

Sample PT-TM-PS31* **Chlorpromazine and Norchlorpromazine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Chlorpromazine	All	0 to 1000	RMean	RobustSD	µg/L, nmol/L	2
Norchlorpromazine	All	0 to 1000	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS32* **Mianserin**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Mianserin	All	0 to 1000	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS33* **Brexpiprazole**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Brexpiprazole	All	0 to 400	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS34* **Lurasidone**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Lurasidone	All	0 to 200	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS35* **Sertindole**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Sertindole	All	0 to 500	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS36* **Iloperidone**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Iloperidone	All	0 to 50	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS37* **Vortioxetine**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Vortioxetine	All	0 to 120	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Sample PT-TM-PS38* **Meclobemide**

Participants will receive: 1 x 5ml lyophilised newborn calf serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Meclobemide	All	0 to 2000	RMean	RobustSD	µg/L, nmol/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Psychostimulants

Sample PT-TM-PST1* **Atomoxetine, Methylphenidate and Ritalinic acid**

Participants will receive: 2 x 5 ml lyophilised human serum (A and B), 4 rounds per year

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Atomoxetine	All	0 to 2500	RMean	RobustSD	µg/L	2
Methylphenidate	All	0 to 100	RMean	RobustSD	µg/L	2
Ritalinic acid	All	0 to 500	RMean	RobustSD	µg/L	2

*not currently included in LGC's UKAS Scope of Accreditation

Smoking Related Drugs

Sample PT-TM-NC01* **Nicotine and Cotinine in Urine**

Participants will receive: 2 x 5 ml lyophilised human urine (A and B)

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Nicotine	All	0 to 5	RMean	RobustSD	mg/L, µg/L	3
Cotinine	All	0 to 3	RMean	RobustSD	mg/L, µg/L	3

*not currently included in LGC's UKAS Scope of Accreditation

Anti-Hypertensive Drug Screen

Sample PT-TM-AH01* **Anti-Hypertensive in Urine**

Participants will receive: 2 x 5 ml lyophilised human urine (A and B)

Analyte	Method	Range	AV	SDPA	Units	DP
Drug identification	All	All	Qual Form	N/A	N/A	N/A

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Up to four drugs may be present in the sample from the following classes of drugs and examples of those included:

ACE-Inhibitors	Ang-II Antagonists	B-Blockers	Calcium Channel Blockers
Enalapril	Candesartan	Atenolol	Amlodipine
Lisinopril	Irbesartan	Metoprolol	Felodipine
Perindopril	Valsartan	Propranolol	Lercanidipine
Ramipril	Losartan	Labetalol	Lacidipine
Quinapril	Telmisartan	Bisoprolol	Diltiazem
Trandolapril	Olmesartan	Nebivolol	Verapamil
			Nifedipine
Thiazide Diuretics	**Loop Diuretics**	**Aldosterone Antagonists**	**Potassium Sparing Diuretic**
Bendroflumethiazide	Bumetanide	Eplerenone	Amiloride
Chlorothiazide	Furosemide	Spironolactone	
Hydrochlorothiazide			
Indapamide			
Chlorthalidone			
Vasodilator	**Alpha Blocker**	**Renin Inhibitor**	**Centrally Acting**
Hydralazine	Doxazosin	Aliskiren	Moxonidine
	Prazosin		Methyldopa

Antibiotic and Antifungal Drugs

Sample PT-AT-01 **Gentamicin and Vancomycin**

Participants will receive: 1 x 1ml human serum

Analyte	Method	Range	AV	SDPA	Units	DP
Gentamicin	All	0 to 16	RMean	Fixed from CDM	mg/L, µmol/L	2
Vancomycin	All	0 to 50	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-AT-02 **Tobramycin**

Participants will receive: 1 x 1ml human serum

Analyte	Method	Range	AV	SDPA	Units	DP
Tobramycin	All	0 to 15	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-AT-03 **Amikacin**

Participants will receive: 1 x 1ml human serum

Analyte	Method	Range	AV	SDPA	Units	DP
Amikacin	All	0 to 60	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-AT-07 **Teicoplanin**

Participants will receive: 1 x 1ml human serum

Analyte	Method	Range	AV	SDPA	Units	DP
Teicoplanin	All	0 to 100	RMean	Fixed from CDM	mg/L, µmol/L	2

Sample PT-AT-AF01 * **Antifungals**

Participants will receive: 1 x 1.7 ml human serum

Analyte	Method	Range (mass)	AV	SDPA	Units	DP
Posaconazole	All	0 to 8	RMean	RobustSD	mg/L	2
Voriconazole	All	0 to 6	RMean	RobustSD	mg/L	2
Itraconazole	All	0 to 4	RMean	RobustSD	mg/L	2
OH-Itraconazole	All	0 to 4	RMean	RobustSD	mg/L	2
Fluconazole	All	0 to 40	RMean	RobustSD	mg/L	2
Isavuconazole	All	0 to 12	RMean	RobustSD	mg/L	2

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