

Global Provider of
Quality in Diagnostic
Medicine



WeQas

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EQA Programmes

- Laboratory EQA
- Point of Care EQA
- Reference Laboratory

Laboratory EQA

Clinical Chemistry Package

Serum Chemistry

Frequency: Monthly; Number of samples: 4

Analyte	Approx. Range Covered	
Sodium	100-165	mmol/L
Potassium	1.6-8.0	mmol/L
Chloride	73-123	mmol/L
Bicarbonate	7-28	mmol/L
Urea	1.5-25	mmol/L
Creatinine	25 – 600	µmol/L
e-GFR	<15 – 90	mls/min/1.73m ²
Glucose	1.4-25	mmol/L
Calcium	1.2-3.3	mmol/L
Adjusted Calcium	1.4-3.0	mmol/L
Phosphate	0.2-2.2	mmol/L
Total Protein	34-86	g/L
Albumin	20 – 53	g/L
Calculated Globulin	20-40	g/L
Magnesium	0.2 – 2.0	mmol/L
Urate	100 - 700	µmol/L
Lithium	0.05 – 2.0	mmol/L
Lipase	15 - 40	IU/L
Osmolality	190 – 390	mmol/Kg
AST	5 – 300	IU/L IFCC
ALT	5 - 500	IU/L IFCC
ALP	25 – 400	IU/L SCE
CK	20 – 1200	IU/L SCE
Gamma GT	10 – 400	IU/L SCE
Amylase	15 – 800	IU/L
Pancreatic Amylase	20-160	IU/L
LD	50 – 700	IU/L SCE
Iron	7 - 30	µmol/L
TIBC	28 - 82	µmol/L
Transferrin	1.5 – 3.5	g/L
Transferrin Saturation	22 – 30	%
Gentamicin	2 – 20	µg/mL
Serum Indices	Icteric, Lipaemic, Haemolysed and 'negative' samples distributed.	

Weqas EQA for Best Practice

Accuracy

Reliability

Commutability

Linearity

Uncertainty

Reference Values

Stability and integrity

Challenging samples:

- Pathological states
- Analytical levels [Low and High]
- Clinical Decision levels
- Cut-off levels

Lipid

Frequency: Monthly; Number of samples: 4

Analyte	Approx. Range Covered	
Triglyceride	0.3 – 7.0	mmol/L
Cholesterol	2.5 – 9.5	mmol/L
HDL cholesterol	0.6 – 2.5	mmol/L
LDL cholesterol	1.0-6.0	mmol/L
Apolipoprotein A1	0.8-2.4	g/L
Apolipoprotein B	0.3-2.0	g/L
Lipoprotein (a)	0.06 – 0.8	g/L

Bilirubin

Frequency: Monthly; Number of samples: 4

Analyte	Approx. Range Covered	
Total bilirubin	30 – 350	µmol/L
Conjugated bilirubin	10 - 100	µmol/L

ED Toxicology

Frequency: Monthly; Number of samples: 4

Analyte	Approx. Range Covered	
Salicylate	0 – 800	mg/L
Paracetamol	0 - 350	mg/L
Ethanol	0 - 4500	mg/L
*Ethylene Glycol	0 - 3000	mg/L
*Methanol	0 - 2500	mg/L
Whole Blood Ethanol	0 - 4500	mg/L

Urine Chemistry

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Sodium	13 -200	mmol/L
Potassium	10 -130	mmol/L
Chloride	13 -300	mmol/L
Urea	38 - 500	mmol/L
Creatinine	1.0-22	mmol/L
Glucose	0 - 40	mmol/L
+Calcium	0.5 - 7.0	mmol/L
+Phosphate	6-35	mmol/L
Protein	0 – 2	g/L
Urine Albumin	0-2000	mg/L
+Magnesium	0.5 - 8.5	mmol/L
Urate	0.5- 5.0	mmol/L
Osmolality	100 - 1000	mmol/kg
Amylase	0 - 400	IU/L
Albumin/Creatinine ratio	0 - 200	mg/mmol
Protein/Creatinine ratio	0 - 300	mg/mmol
+Separate acidified samples for Ca, Mg and Phosphate		

Immunoassay Package

Endocrine

Frequency: Monthly, Number of samples: 5
**includes macroprolactin samples

Analyte	Approx. Range Covered	
Cortisol	60 – 1400	nmol/L
Progesterone	1.0 – 100	nmol/L
Oestradiol	37 – 1300	pmol/L
Testosterone	0.1 – 40	nmol/L
T4	64 – 280	nmol/L
T3	1.5 – 12	nmol/L
FT4	8 – 50	pmol/L
FT3	3.0 – 40	pmol/L
TSH	0.1 – 21	mIU/L
FSH	0.8 – 100	IU/L
LH	2 – 80	IU/L
Prolactin**	48 – 800	mIU/L

Haematinics

Frequency: Monthly, Number of samples: 4, plus 1 toxic iron sample distributed quarterly

Analyte	Approx. Range Covered	
Ferritin	5 – 3500	µg/L
B12	120 – 850	ng/L
Folate	1.2 – 24	µg/L
Iron	4 – 160	µmol/L
TIBC	27 – 90	µmol/L
Transferrin	1.6 – 4	g/L
Transferrin Saturation	10 - 90	%

Cardiac Marker

Frequency: Monthly, Number of samples: 4
Separate samples for Plasma and Serum Cardiac Markers

Analyte	Approx. Range Covered	
Troponin T	0 – 1000	ng/L
Troponin I	0 – 1000	ng/L
CK MB (mass)	0 – 120	µg/L
CK MB (activity)	0 – 180	IU/L
Myoglobin	20 – 500	µg/L

BNP

Frequency: Bi-monthly; Number of samples: 3
Separate samples for NT-proBNP and POCT plasma BNP

Analyte	Approx. Range Covered	
BNP32	20 – 3000	ng/L
BNP Triage	20 – 1000	ng/L
NT-pro BNP	20 – 4000	ng/L

CRP

Frequency: Bi-monthly; Number of samples: 4

Analyte	Approx. Range Covered	
hs CRP	0 -10	mg/L
CRP	10 – 45	mg/L

Blood Gas Package

Blood Gas

Frequency: Monthly, Number of samples: 3
Fresh Tonometered whole blood distributed annually

Analyte	Approx. Range Covered	
pH	7.0 – 7.8	
H ⁺	13 – 100	nmol/L
pCO ₂	1 –10	kPa
pO ₂	2 – 32	kPa
Std Bicarb	10 – 30	mmol/L
Lithium	0 – 5	mmol/L
Na ⁺	105 – 168	mmol/L
K ⁺	1.6 – 8.0	mmol/L
Ca ⁺⁺	0.26 – 1.9	mmol/L
Cl	72 – 130	mmol/L
Magnesium	0.2 – 1.4	mmol/L
Glucose	1.4 – 27.0	mmol/L
Lactate	0.3 – 6.3	mmol/L
Urea	3.0 – 37	mmol/L
Creatinine	40 – 700	µmol/L
Haematocrit	0 – 70	%PCV

Haematocrit for i-Stat : sent twice yearly
Fresh whole blood also includes the Secondary parameters SBC, BE and %sO₂
Bilirubin EQA scheme samples are suitable for Bilirubinometer & Blood Gas analysers.

Co-oximetry

Frequency: Monthly, Number of samples: 3
Lyophilised bovine haemolysate samples

Analyte	Approx. Range Covered	
Total Haemoglobin	100 – 200	g/L
Carboxyhaemoglobin	0 – 27	%
Methaemoglobin	3 – 34	%
Oxyhaemoglobin	40 – 90	%

Haemoglobin A1c

Frequency: Monthly, Number of samples: 2 / 3
Three lyophilised samples are sent out every two months with two fresh patient samples sent out on alternate months. ++ IFCC Reference Targets.

Analyte	Approx. Range Covered	
++HbA1c	32 – 85	mmol/mol Hb

+ = Programmes not accredited – pilot, * = Analyte not accredited - Pilot study ongoing, Violet = Reference Method accredited to ISO 17025 &15195. Blue = Reference Values provided, Reference method not accredited.

Special Chemistry Package

Porphyryn

Frequency: Quarterly; Number of samples: 3
Participants can submit qualitative and quantitative results.
Reference Values provided by Cardiff Porphyria Service

Analyte	Approx. Range Covered	
Porphobilinogen	0 - 170	mmol/L
PBG Creatinine Ratio	0 – >30	mmol/mmol
Total Urine Porphyrin	0 - 4000	nmol/L
Quant TUP / Creat Ratio	0 - >500	nmol /mmol
Plasma porphyrin	8-200	nmol/L
Faecal porphyrin	35 – 700	nmol/g

Bile Acids

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Bile Acids	5 – 100	µmol/L

Ammonia

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Ammonia	25 – 800	µmol/L

Homocysteine

Frequency: Bimonthly; Number of samples: 3

Analyte	Approx. Range Covered	
Homocysteine	5 – 140	µmol/L

Serum ACE

Frequency: Bimonthly; Number of samples: 3

Analyte	Approx. Range	
Serum ACE	20 – 110	IU/L

Urine Oxalate & Citrate

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Oxalate	0.1 – 1.8	mmol/L
Citrate	0.1 – 10	mmol/L

Pregnancy Testing

Frequency: Bi-monthly; Number of samples: 3
Separate samples for serum hCG

Analyte	Approx. Range Covered	
Urine hCG	0 – 100 000	IU/L
Serum hCG	5 – 120 000	IU/L

FOB / FIT

Frequency: Bi-weekly; Number of samples: 2

Analyte	Approx. Range Covered	
FOB/FIT*	0 – >2	mg/g

Toxicology Package

TDM (plus whole blood Immuno-suppressant)

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Amikacin	0-35	mg/L
Carbamazapine	0-20	mg/L
Digoxin	0-6	µg/L
Gentamicin	0-20	mg/L
*Lamotrigine	0-30	mg/L
Lithium	0-2.5	mmol/L
Methotrexate	0-1.5	µmol/L
Phenobarbital	0-65	mg/L
Phenytoin	0-30	mg/L
*Teicoplanin	0-70	mg/L
Theophylline	0-30	mg/L
Tobramycin	0-15	mg/L
Valproic acid	0-175	mg/L
Vancomycin	0-50	mg/L
Whole Blood		
*Ciclosporin	0-400	µg/L
*Sirolimus	0-20	µg/L
*Tacrolimus	0-15	µg/L

+Urine Drugs of Abuse EQA

Frequency: Monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Amphetamine	0 - 3000	µg/L
Benzodiazepine	0 - 1000	µg/L
Barbiturate	0 - 1000	µg/L
Buprenorphine	0 - 50	µg/L
Cocaine	0 - 1000	µg/L
Cannabis	0 - 150	µg/L
Dextropropoxyphene	0 - 300	µg/L
Heroin	0 - 50	µg/L
Ketamine	0 - 3000	µg/L
Methadone	0 - 1000	µg/L
EDDP	0 - 1000	µg/L
Methamphetamine (mAMP)	0 - 3000	µg/L
Opiate	0 - 3000	µg/L
Phencyclidine (PCP)	0 - 100	µg/L
Tricyclic antidepressants (TCA)	0 - 3000	µg/L
MDMA	0 - 3000	µg/L

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POCT

POCT Glucose and Ketones

Frequency: Flexible; Number of samples: 1

Analyte	Approx. Range Covered	
Glucose	2.0-30	mmol/L
Ketones	0.6-6	mmol/L

POCT Urinalysis

Frequency: Bi-monthly; Number of samples:1

Analyte	Approx. Range Covered	
Glucose	0-60	mmol/L
Ketones	0-20	mmol/L
Protein	0-5	g/L
Haemoglobin	0-7500	µg/L
Specific Gravity	1.005-1.020	
pH	6 – 8	
Bilirubin	0-50	µmol/L
Urobilinogen	0 - 200	µmol/L
Leucocytes	0-500	µl esterase/L
Nitrites	0-40	µmol/L
Urine Albumin	0-1000	mg/L
Albumin/Creat	<3.4 - >34	mg/mmol

Pregnancy Testing

Frequency: Bi-monthly; Number of samples: 3

Separate samples for serum hCG

Analyte	Approx. Range Covered	
Urine hCG	0 – 100 000	IU/L
Serum hCG	5 – 120 000	IU/L

Blood Gas/Co-oximetry

Frequency: Monthly; Number of samples: 3

Blood Gas Analytes	Approx. Range Covered	
pH	7.0 - 7.8	
H ⁺	20 - 100	nmol/L
pCO ₂	2 -12	kPa
pO ₂	4 - 40	kPa
Na ⁺	112 - 164	mmol/L
K ⁺	1.7 - 7.9	mmol/L
Ca ⁺⁺	0.5 - 1.9	mmol/L
Cl	72 - 121	mmol/L
Magnesium	0.4 - 1.8	mmol/L
Glucose	2.6 - 19.2	mmol/L
Lactate	0.4 – 6.0	mmol/L
Urea	1.0 - 35	mmol/L
Creatinine	5.0 - 700	µmol/L
Haematocrit	0 - 70	%PCV
Std Bicarb	10 - 30	mmol/L
Lithium	0 - 5	mmol/L
Co-oximetry Analytes	Approx. Range Covered	
Total Haemoglobin	80 - 200	g/L
Carboxyhaemoglobin	1.7 - 17	%
Methaemoglobin	4 - 37	%
Oxyhaemoglobin	40 - 90	%

Bilirubin EQA scheme samples are suitable for Bilirubinometer & Blood Gas analysers.

POCT International Normalised Ratio (INR)

Frequency: Bi-monthly; Number of samples: 1

No reconstitution required

Analyte	Approx. Range Covered	
INR	2 - 6.5	Units

POCT Haemoglobin

Frequency: Bi-monthly; Number of samples: 2

Analyte	Approx. Range Covered	
Haemoglobin	38 -200	g/L

POCT Lipids (Healthcheck)

Frequency: Bi-monthly; Number of samples: 1

Analyte	Approx. Range Covered	
Cholesterol	3.0 - 8.0	mmol/L
Triglycerides	0.8 - 2.5	mmol/L
HDL	0.6 - 3.0	mmol/L
Glucose	5 - 20	mmol/L

Haemoglobin A1c

Frequency: Bi-monthly, Number of samples: 2

Matrix: Fresh patient samples ⁺⁺ IFCC Reference

Target values provided

Analyte	Approx. Range Covered	
⁺⁺ HbA1c	32-85	mmol/mol Hb

POCT HIV

Frequency: Bi-monthly; Number of samples: 3

Analyte	Approx. Range Covered
P24 Antigen	Positive/Negative
HIV-1 Antibody	Positive/Negative
HIV-2 Antibody	Positive/Negative

POCT Plasma Cardiac Marker

Frequency: Monthly, Number of samples: 3

Analyte	Approx. Range Covered	
Troponin I	0 – 3000	ng/L
CK MB (mass)	0 – 80	µg/L
Myoglobin	14 - 500	µg/L

+ POCT Creatinine

Frequency: Bi-monthly; Number of samples: 3

Analyte	Approx. Range Covered	
Creatinine	70 - 600	µmol/L
e-GFR	<15 – 90	mls/min/1.73m ²

Pre-term Labour Markers

Frequency: Bi-monthly; Number of samples: 2

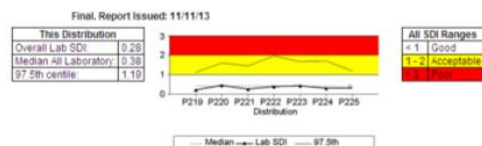
Analyte	Approx. Range Covered	
fFn	0 - 320	ng/ml
*phiGFBP-1	0 - 250	µg/L

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New Schemes 2015

Performance Management Report

Laboratory EQA Report



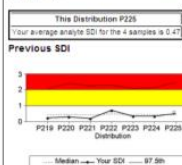
Section SDI scores for this distribution

Section	Blood Gas
Overall	0.28
pH	0.05
[H+]	0.05
pCO2	0.32
pO2	0.47
Sodium	0.25
Potassium	0.04
Ionized Calcium	0.21
Glucose	0.69
Lactate	0.22

Scheme: Blood Gas, Distribution Code: P225. Final Report Issued: 11/11/13					
pO2 (kPa)	1	2	3	4	Analyte SDI
Reported Result	20.3	9.72	17.3		
Method Corrected Result	20.30	9.72	17.30		
SDI Score Series					
Mean	21.41	9.55	17.97		
SD	0.62	0.45	0.40		
Number	261	149	249		
Uncert	0.033	0.024	0.021		
ABL800 series					
Mean	21.40	9.55	17.12		
SD	0.62	0.39	0.39		
Number	277	174	270		
Uncert	0.037	0.023	0.023		
Overall					
Mean	21.42	9.50	17.13	12.95	
SD	0.93	1.84	0.77	0.50	
Number	1795	1770	1784	14	
Uncert	0.022	0.044	0.018	0.152	
Reference Values					
Ref. Value Uncertainty					
Non-scoring Reference Values					
VerGas SD	1.11	0.97	0.95	0.92	
SDI	-1.06	0.18	0.24	0.47	

Total Error

SDI is a measurement of your total error and will include both imprecision and imprecision.

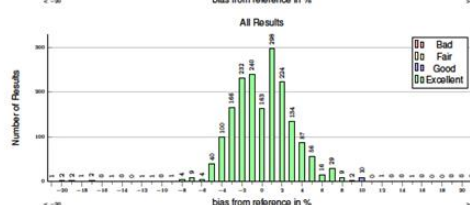
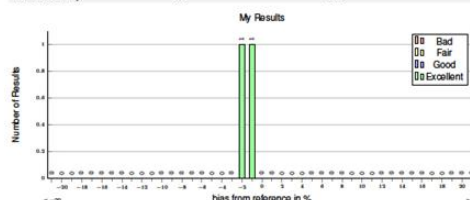


Standard Report Format

Point of Care EQA Report

Standard Report per Instrument Type

Report Settings		
Sample	2081203	2081203
Lot	2081203	Glucose
Analyte	Value	
Field type	Accu-Check Inform II + Inform II strip	
Instrument type	plasma	
Calibration		
Unit	mmol/L	
Reference method	Median	
Reference value	10.2 mmol/L	
Glucose		
	My Results	All Results
n	2	1837
minimum	10.0	8.0
maximum	10.1	11.7
average	10.1	10.2
Robust Median	10.1	10.2
Robust SD	0.1	0.3
CV	0.7%	3.2%
Est. Uncertainty	0.04	0.01



2012-11-30

CusStat ONLINE - BETA

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Reference Laboratory Services

- Accredited for Medical Reference Laboratories against ISO 15195 in combination with ISO/IEC 17025:2005
- Provision of reference methods for the targeting of EQA material, QC's and Standards
- QCRM targeted material for panels of samples

Reference Material / Method	Analytes	Reference Method
Electrolyte Panel	Na, K, Ca, Mg, Li	Flame photometry / atomic absorption
Enzyme Panel	GGT, LDH, AST, ALT	IFCC method
Metabolite Panel	Glucose, Uric Acid, Creatinine	ID-GCMS
Lipid Panel	Cholesterol, Triglyceride	ID-GCMS
Steroid	Cortisol, Testosterone, Progesterone	ID-GCMS
Bile Acids (not fully validated as a reference method)	Cholic acid, Deoxycholic acid, Chenodeoxycholic acid	ID-GCMS

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