Newborn Screening Quality Assurance Program
Biochemical Proficiency Testing Program Report
2021 Quarter 1 Report

Provided by the Newborn Screening and Molecular Biology Branch
Centers for Disease Control and Prevention
4770 Buford Highway NE, S110-3
Atlanta, GA 30341 – 3724
Email: NSQAPDMT@cdc.gov

Issued: April 16, 2021 Volume 2, No 1

REPORT AUTHORIZATION
This report has been reviewed and authorized by Dr. Joanne Mei, Laboratory Chief, Newborn Screening Quality Assurance Program.

CONFIDENTIALITY STATEMENT
NSQAP participant information and evaluations are strictly confidential and shared only with individual participants, unless written authorization for release is received.

Event Summary

This report summarizes Proficiency Testing (PT) data received during the 2021 Quarter 1 Newborn Screening Quality Assurance Program's (NSQAP) PT event. Data were collected in the new NSQAP data reporting portal.

On March 2, 2021 NSQAP distributed panels of five unknown dried blood spot (DBS) specimens to all active participants.

The hormone panel contained predetermined concentrations of thyroxine (T4), thyroid-stimulating hormone (TSH), 17 *α*- hydroxyprogesterone (17OHP), and total galactose (TGal). The amino acid panel contained arginine (Arg), citrulline (Cit), leucine (Leu), methionine (Met), phenylalanine (Phe), succinylacetone (SUAC), tyrosine (Tyr), and valine (Val). The acylcarnitine panel contained low free carnitine (C0(L)), low acetylcarnitine (C2(L)), propionylcarnitine (C3), malonylcarnitine [derivatized] (C3DC), butyrylcarnitine (C4), hydroxybutyrylcarnitine [derivatized] (C4OH), malonylcarnitine + hydroxybutyrylcarnitine [non- derivatized] (C3DC+C4OH), isovalerylcarnitine (C5), tiglylcarnitine (C5:1), glutarylcarnitine (C5DC), hydroxyisovalerylcarnitine, (C5OH), hexanoylcarnitine, (C6), octanoylcarnitine(C8), decanoylcarnitine (C10), decenoylcarnitine (C10:1), decadienoylcarnitine (C10:2), myristoylcarnitine (C14), tetradecenoylcarnitine (C14:1), palmitoylcarnitine (C16), hydroxypalmitoylcarnitine (C16OH), stearoylcarnitine (C18), oleoylcarnitine (C18:1) and hydroxystearoylcarnitine (C18OH). Separate panels for biotinidase deficiency (BIOT), galactose-1-phosphate uridyltransferase (GALT) deficiency, glucose-6-phosphate dehydrogenase (G6PD) deficiency, and immunoreactive trypsinogen (IRT) were sent to participating laboratories. We processed data from 391 laboratories.

Specimen Consensus

A consensus of 80% of US laboratories, as long as 10 or more US laboratories report results, must be reached for a specimen to be evaluated. If there were less than 10 US laboratories reporting results for any one specimen, all submitted results were evaluated. NSQAP occasionally challenges cutoff levels by enriching samples near cutoff levels and were closely reviewed by the NSQAP PT committee. Not-evaluated specimens are considered educational.

The following specimen(s) did not meet the 80% domestic participant consensus and were not-evaluated:

- Specimen 20211006004 - C18

Evaluations

Each specimen was evaluated as “Acceptable” or “Unacceptable.” For each analyte and specimen, the participating laboratory’s assessment must match the CDC certified assessment to achieve an “Acceptable” evaluation. When assessments differ, the evaluation will be “Unacceptable”. NSQAP does not identify “Unacceptable” results as “false negative” or “false positive”. It is the responsibility of the laboratory to categorize “Unacceptable” results according to their protocols and policies.

Proficiency Testing Materials Preparation

NSQAP certified PT specimens for homogeneity, accuracy, stability, and suitability for newborn screening assays. Most PT specimens were prepared from whole blood of 50% hematocrit. PT materials were produced by using unaltered donor blood, enriching a single donor blood unit with analytes, or by pooling several units of red blood cells (RBCs), mixing with normal serum, and enriching with analytes. Specimens prepared for normal G6PD enzyme activity were made from normal units of purchased cord blood.

- **Amino acid and acylcarnitine specimens** were enriched with commercially available or custom- synthesized standards. Small variances in enrichments and recoveries might result from impurities in the purchased (synthesized) materials.
    - **C0(L) and C2(L) PT deficient specimens** were produced by washing fresh RBCs at least six times then combining with charcoal-stripped serum.
- **Congenital hypothyroid PT specimens** were enriched with measured amounts of T4 and TSH after reconstituting washed RBCs with purchased T4-depleted charcoal-stripped serum.
- **TGal specimens** were enriched with galactose and galactose-1-phosphate, allowing measurement of free galactose (galactose alone) and total galactose (free galactose plus galactose-1- phosphate).
- **BIOT deficient PT specimens** were made using heat-treated serum combined with compatible donor RBCs.
- **GALT and G6PD deficient PT specimens** were made using a 50/50 saline/serum solution combined with compatible washed RBCs and followed by heat-treatment.
- **IRT specimens** were made from washed, hematocrit-adjusted blood that was treated with a protease inhibitor then enriched with commercially purchased IRT.

Proficiency Testing Data Handling

Tables in this report include Specimen Certification, Frequency Distribution of Participants' Clinical Assessments, Overall Statistics, and Mean Reported Concentration by Method. Individual laboratory data certification and evaluations are found in a separate report.

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Amino Acids
Expected Values

	Specimen				
	20211005001	20211005002	20211005003	20211005004	20211005005
Analyte	Expected Value	Expected Value	Expected Value	Expected Value	Expected Value
Arg (µmol/L blood)	216.6	11.9	12.3	15.3	20.2
Cit (µmol/L blood)	217.0	36.7	38.3	33.4	31.5
Leu (µmol/L blood)	113.9	142.7	148.5	117.7	152.4
Met (µmol/L blood)	20.8	30.8	211.1	19.9	43.5
Phe (µmol/L blood)	56.5	295.6	68.2	53.9	78.2
SUAC (µmol/L blood)	0.6	0.5	0.5	0.5	25.5
Tyr (µmol/L blood)	82.7	73.8	77.1	50.1	906.6
Val (µmol/L blood)	131.2	163.8	170.5	130.5	156.3

Note: Expected Value = sum of endogenous and enrichment values

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Amino Acids
Expected Clinical Assessments

	Specimen				
	20211005001	20211005002	20211005003	20211005004	20211005005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
Arg (µmol/L blood)	2	1	1	1	1
Cit (µmol/L blood)	2	1	1	1	1
Leu (µmol/L blood)	1	1	1	1	1
Met (µmol/L blood)	1	1	2	1	1
Phe (µmol/L blood)	1	2	1	1	1
SUAC (µmol/L blood)	1	1	1	1	2
Tyr (µmol/L blood)	1	1	1	1	2
Val (µmol/L blood)	1	1	1	1	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Acylcarnitines
Expected Values

	Specimen				
	20211006001	20211006002	20211006003	20211006004	20211006005
Analyte	Expected Value	Expected Value	Expected Value	Expected Value	Expected Value
C0(L) (µmol/L blood)	31.02	26.01	26.26	28.14	28.44
C2(L) (µmol/L blood)	19.99	14.58	14.57	13.43	13.50
C3 (µmol/L blood)	1.12	1.15	13.15	1.02	1.01
C3DC (µmol/L blood)	0.06	0.10	0.10	0.06	0.06
C3DC+C4OH (µmol/L blood)	0.06	0.04	0.04	0.06	0.06
C4 (µmol/L blood)	0.13	0.10	0.10	0.16	0.16
C4OH (µmol/L blood)	0.11	0.07	0.07	0.10	0.11
C5 (µmol/L blood)	0.08	0.08	0.08	0.08	0.12
C5:1 (µmol/L blood)	0.02	0.03	0.03	0.02	0.02
C5DC (µmol/L blood)	3.75	0.09	0.09	0.05	0.05
C5OH (µmol/L blood)	0.38	0.24	0.24	0.32	0.32
C6 (µmol/L blood)	0.04	1.24	0.04	0.03	0.04
C8 (µmol/L blood)	0.05	1.57	0.07	0.04	0.04
C10 (µmol/L blood)	0.06	1.10	0.10	0.05	0.05
C10:1 (µmol/L blood)	0.05	0.98	0.07	0.05	0.05
C10:2 (µmol/L blood)	0.02	0.01	0.01	0.01	0.01
C14 (µmol/L blood)	0.09	0.11	0.11	1.47	0.08
C14:1 (µmol/L blood)	0.06	0.07	0.07	1.55	0.05
C16 (µmol/L blood)	0.99	0.93	0.92	0.90	0.90
C16OH (µmol/L blood)	0.02	0.02	0.02	1.02	0.02
C18 (µmol/L blood)	0.57	0.63	0.62	1.71	1.72
C18:1 (µmol/L blood)	1.15	1.51	1.48	1.37	1.35
C18OH (µmol/L blood)	0.01	0.01	0.01	0.81	0.01

Note: Expected Value = sum of endogenous and enrichment values

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Acylcarnitines
Expected Clinical Assessments

	Specimen				
	20211006001	20211006002	20211006003	20211006004	20211006005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
C0(L) (µmol/L blood)	1	1	1	1	1
C2(L) (µmol/L blood)	1	1	1	1	1
C3 (µmol/L blood)	1	1	2	1	1
C3DC (µmol/L blood)	1	1	1	1	1
C3DC+C4OH (µmol/L blood)	1	1	1	1	1
C4 (µmol/L blood)	1	1	1	1	1
C4OH (µmol/L blood)	1	1	1	1	1
C5 (µmol/L blood)	1	1	1	1	1
C5:1 (µmol/L blood)	1	1	1	1	1
C5DC (µmol/L blood)	2	1	1	1	1
C5OH (µmol/L blood)	1	1	1	1	1
C6 (µmol/L blood)	1	2	1	1	1
C8 (µmol/L blood)	1	2	1	1	1
C10 (µmol/L blood)	1	2	1	1	1
C10:1 (µmol/L blood)	1	2	1	1	1
C10:2 (µmol/L blood)	1	1	1	1	1
C14 (µmol/L blood)	1	1	1	2	1
C14:1 (µmol/L blood)	1	1	1	2	1
C16 (µmol/L blood)	1	1	1	1	1
C16OH (µmol/L blood)	1	1	1	2	1
C18 (µmol/L blood)	1	1	1	NE	1
C18:1 (µmol/L blood)	1	1	1	1	1
C18OH (µmol/L blood)	1	1	1	2	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: HORMPT
Expected Values

	Specimen				
	20211001001	20211001002	20211001003	20211001004	20211001005
Analyte	Expected Value	Expected Value	Expected Value	Expected Value	Expected Value
T4 (µg/dL serum)	15.1	15.3	1.5	14.9	16.9
TSH (µIU/mL serum)	10.8	12.8	90.4	11.2	10.6
17OHP (ng/mL serum)	86.2	6.4	5.5	6.1	6.0
TGal (mg/dL blood)	3.2	25.1	4.0	3.0	2.6

Note: Expected Value = sum of endogenous and enrichment values

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Hormones and Total Galactose
Expected Clinical Assessments

	Specimen				
	20211001001	20211001002	20211001003	20211001004	20211001005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
T4 (µg/dL serum)	1	1	2	1	1
TSH (µIU/mL serum)	1	1	2	1	1
17OHP (ng/mL serum)	2	1	1	1	1
TGal (mg/dL blood)	1	2	1	1	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Immunoreactive Trypsinogen
Expected Values

	Specimen				
	20211008001	20211008002	20211008003	20211008004	20211008005
Analyte	Expected Value	Expected Value	Expected Value	Expected Value	Expected Value
IRT (ng/mL blood)	143.5	7.0	190.5	18.5	7.7

Note: Expected Value = sum of endogenous and enrichment values

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Immunoreactive Trypsinogen
Expected Clinical Assessments

	Specimen				
	20211008001	20211008002	20211008003	20211008004	20211008005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
IRT (ng/mL blood)	2	1	2	1	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Biotinidase
Expected Clinical Assessments

	Specimen				
	20211007001	20211007002	20211007003	20211007004	20211007005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
BIOT	1	2	1	1	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Galactose-1-phosphate Uridyltransferase
Expected Clinical Assessments

	Specimen				
	20211009001	20211009002	20211009003	20211009004	20211009005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
GALT	1	2	1	1	2

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2021 Quarter: 1

Program: Glucose-6-phosphate Dehydrogenase Deficiency
Expected Clinical Assessments

	Specimen				
	20211003001	20211003002	20211003003	20211003004	20211003005
Analyte	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
G6PD	2	1	1	1	1

Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)
Domestic

	Specimen Number									
	20211006001		20211006002		20211006003		20211006004		20211006005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	0	44	0	44	0	44	0	44	0	44
C2(L)	0	24	0	24	0	24	0	24	0	24
C3	0	45	0	45	45	0	0	45	0	45
C3DC	0	13	0	13	0	13	0	13	0	13
C3DC+C4OH	0	24	0	24	0	24	0	24	0	24
C4	0	40	0	40	0	40	0	40	0	40
C4OH	0	11	0	11	0	11	0	11	0	11
C5	0	45	0	45	0	45	0	45	0	45
C5:1	0	44	0	44	0	44	0	44	0	44
C5DC	44	0	1	43	0	44	0	44	0	44
C5OH	1	43	0	44	0	44	0	44	0	44
C6	0	41	39	2	0	41	0	41	0	41
C8	0	45	45	0	1	44	0	45	0	45
C10	0	41	39	2	0	41	0	41	0	41
C10:1	0	38	38	0	0	38	0	38	0	38
C10:2	0	26	0	26	0	26	0	26	0	26
C14	0	39	0	39	0	39	34	5	0	39
C14:1	0	45	0	45	0	45	45	0	0	45
C16	0	42	0	42	0	42	0	42	0	42
C16OH	0	45	0	45	0	45	45	0	0	45
C18	0	36	0	36	0	36	9	27	6	30
C18:1	0	37	0	37	0	37	0	37	0	37
C18OH	0	33	0	33	0	33	33	0	0	33

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)
International

	Specimen Number									
	20211006001		20211006002		20211006003		20211006004		20211006005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	2	213	1	214	1	214	1	214	1	214
C2(L)	2	164	2	162	3	162	4	161	4	161
C3	3	212	1	214	211	4	1	214	2	213
C3DC	1	68	3	66	0	69	1	68	1	68
C3DC+C4OH	1	87	0	88	0	88	1	87	0	88
C4	1	198	2	197	1	198	1	198	1	198
C4OH	1	60	1	60	2	59	2	59	1	60
C5	2	219	1	220	2	219	2	219	2	219
C5:1	3	190	2	191	2	191	4	189	4	189
C5DC	209	1	4	206	3	207	2	208	1	209
C5OH	27	158	21	164	17	168	11	174	11	174
C6	2	201	192	11	1	202	1	202	3	200
C8	2	225	222	5	1	226	1	226	2	225
C10	1	218	202	17	3	216	3	216	1	218
C10:1	2	192	186	8	2	192	2	192	1	193
C10:2	0	137	1	136	0	137	2	135	0	137
C14	3	202	1	204	1	204	193	12	2	203
C14:1	2	210	0	212	1	211	206	6	0	212
C16	1	207	2	206	1	207	3	205	2	206
C16OH	1	209	1	209	0	210	204	6	0	210
C18	2	197	2	197	3	196	50	149	48	151
C18:1	1	192	1	192	1	192	1	192	1	192
C18OH	1	173	0	174	0	174	169	5	2	172

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)
Manufacturer

	Specimen Number									
	20211006001		20211006002		20211006003		20211006004		20211006005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	0	12	0	12	0	12	0	12	0	12
C2(L)	0	8	0	8	0	8	0	8	0	8
C3	0	12	0	12	12	0	0	12	0	12
C3DC	0	6	0	6	0	6	0	6	0	6
C3DC+C4OH	0	6	0	6	0	6	0	6	0	6
C4	0	12	0	12	0	12	0	12	0	12
C4OH	0	6	0	6	0	6	0	6	0	6
C5	0	12	0	12	0	12	0	12	0	12
C5:1	0	11	0	11	0	11	0	11	0	11
C5DC	12	0	0	12	0	12	0	12	0	12
C5OH	1	9	1	9	1	9	0	10	0	10
C6	0	12	11	1	0	12	0	12	0	12
C8	0	12	12	0	0	12	0	12	0	12
C10	0	12	12	0	0	12	0	12	0	12
C10:1	0	11	11	0	0	11	0	11	0	11
C10:2	0	11	0	11	0	11	0	11	0	11
C14	0	12	0	12	0	12	10	2	0	12
C14:1	0	11	0	11	0	11	10	1	0	11
C16	0	12	0	12	0	12	0	12	0	12
C16OH	0	11	0	11	0	11	11	0	0	11
C18	0	12	0	12	0	12	2	10	2	10
C18:1	0	11	0	11	0	11	0	11	0	11
C18OH	0	10	0	10	0	10	9	1	0	10

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Amino Acids (AAPT)
Domestic

	Specimen Number									
	20211005001		20211005002		20211005003		20211005004		20211005005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	32	1	0	33	0	33	0	33	0	33
CIT	41	0	1	40	1	40	0	41	0	41
LEU	0	42	1	41	1	41	1	41	1	41
MET	0	41	0	41	41	0	0	41	0	41
PHE	0	49	49	0	0	49	0	49	0	49
SUAC	0	37	0	37	0	37	0	37	37	0
TYR	0	44	0	44	0	44	0	44	43	1
VAL	0	29	0	29	0	29	0	29	0	29

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Amino Acids (AAPT)
International

	Specimen Number									
	20211005001		20211005002		20211005003		20211005004		20211005005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	175	5	2	178	1	179	1	179	1	178
CIT	195	1	19	177	16	180	5	191	4	191
LEU	4	218	5	217	4	218	2	220	8	213
MET	3	207	10	200	201	9	4	206	31	178
PHE	1	279	276	4	4	276	4	276	9	270
SUAC	1	110	1	110	1	110	3	108	107	3
TYR	1	220	3	218	2	219	3	218	219	1
VAL	1	205	4	202	3	203	1	205	1	204

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Amino Acids (AAPT)
Manufacturer

	Specimen Number									
	20211005001		20211005002		20211005003		20211005004		20211005005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	12	0	0	12	0	12	0	12	0	12
CIT	12	0	0	12	0	12	0	12	0	12
LEU	0	13	0	13	0	13	0	13	0	13
MET	0	12	0	12	12	0	0	12	0	12
PHE	1	13	13	1	0	14	0	14	2	12
SUAC	1	9	0	10	1	9	0	10	9	1
TYR	0	12	0	12	0	12	0	12	12	0
VAL	0	12	0	12	0	12	0	12	0	12

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Biotinidase (BIOTPT)
Domestic

	Specimen Number									
	20211007001		20211007002		20211007003		20211007004		20211007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	39	39	0	0	39	0	39	0	39

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Biotinidase (BIOTPT)
International

	Specimen Number									
	20211007001		20211007002		20211007003		20211007004		20211007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	2	134	130	6	1	135	0	136	0	136

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Biotinidase (BIOTPT)
Manufacturer

	Specimen Number									
	20211007001		20211007002		20211007003		20211007004		20211007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	5	4	1	0	5	0	5	0	5

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Galactose-1-phosphate Uridyltransferase (GALTPT)
Domestic

	Specimen Number									
	20211009001		20211009002		20211009003		20211009004		20211009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	0	40	40	0	0	40	0	40	40	0

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Galactose-1-phosphate Uridyltransferase (GALTPT)
International

	Specimen Number									
	20211009001		20211009002		20211009003		20211009004		20211009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	2	89	86	5	0	91	2	89	84	7

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Galactose-1-phosphate Uridyltransferase (GALTPT)
Manufacturer

	Specimen Number									
	20211009001		20211009002		20211009003		20211009004		20211009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	0	2	2	0	0	2	0	2	2	0

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Glucose-6-phosphate Dehydrogenase (G6PDPT)
Domestic

	Specimen Number									
	20211003001		20211003002		20211003003		20211003004		20211003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	2	0	0	2	0	2	0	2	0	2

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Glucose-6-phosphate Dehydrogenase (G6PDPT)
International

	Specimen Number									
	20211003001		20211003002		20211003003		20211003004		20211003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	76	1	0	77	1	76	0	77	0	77

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Glucose-6-phosphate Dehydrogenase (G6PDPT)
Manufacturer

	Specimen Number									
	20211003001		20211003002		20211003003		20211003004		20211003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	4	0	0	4	0	4	0	4	0	4

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Hormones and Total Galactose (HORMPT)
Domestic

	Specimen Number									
	20211001001		20211001002		20211001003		20211001004		20211001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	19	19	0	0	19	0	19	0	19
T4	0	19	0	19	19	0	0	19	0	19
TSH	0	40	0	40	40	0	0	40	0	40
17OHP	39	0	0	39	0	39	0	39	0	39

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Hormones and Total Galactose (HORMPT)
International

	Specimen Number									
	20211001001		20211001002		20211001003		20211001004		20211001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	128	127	1	0	128	0	128	1	127
T4	0	43	1	42	42	1	0	43	0	43
TSH	2	236	4	234	236	2	2	236	3	235
17OHP	192	2	1	193	0	194	0	194	1	193

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Hormones and Total Galactose (HORMPT)
Manufacturer

	Specimen Number									
	20211001001		20211001002		20211001003		20211001004		20211001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	7	6	1	0	7	0	7	0	7
T4	0	7	0	7	7	0	0	7	0	7
TSH	1	11	1	11	12	0	1	11	1	11
17OHP	8	1	0	9	0	9	0	9	0	9

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Immunoreactive Trypsinogen (IRTPT)
Domestic

	Specimen Number									
	20211008001		20211008002		20211008003		20211008004		20211008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	41	0	0	41	41	0	0	41	0	41

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Immunoreactive Trypsinogen (IRTPT)
International

	Specimen Number									
	20211008001		20211008002		20211008003		20211008004		20211008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	152	11	1	162	163	0	1	162	0	163

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2021, Quarter 1

Program: Immunoreactive Trypsinogen (IRTPT)
Manufacturer

	Specimen Number									
	20211008001		20211008002		20211008003		20211008004		20211008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	6	1	0	7	6	1	1	6	0	7

Clinical Assessment codes: WNL (Within Normal Limits), ONL (Outside Normal Limits).

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C0(L) (µmol/L blood)	20211006001	271	31.02	27.79	5.44	2.27	51.10	
	20211006002	271	26.01	23.31	4.55	12.25	49.62	
	20211006003	271	26.26	24.17	4.78	11.64	47.30	
	20211006004	271	28.14	25.46	4.41	15.19	48.71	
	20211006005	271	28.44	25.14	4.30	16.97	42.84	
C2(L) (µmol/L blood)	20211006001	199	19.99	18.46	4.78	9.85	40.00	
	20211006002	199	14.58	13.51	3.90	7.94	36.00	
	20211006003	199	14.57	13.46	3.62	7.60	28.46	
	20211006004	199	13.43	12.58	3.66	7.75	32.31	
	20211006005	198	13.50	12.55	3.72	7.30	30.59	
C3 (µmol/L blood)	20211006001	272	1.12	1.08	0.24	0.50	2.90	
	20211006002	272	1.15	1.10	0.24	0.49	2.70	
	20211006003	272	13.15	12.96	2.15	3.69	21.66	
	20211006004	272	1.02	1.01	0.28	0.35	3.69	
	20211006005	272	1.01	0.97	0.21	0.53	2.18	
C3DC (µmol/L blood)	20211006001	88	0.06	0.05	0.07	0.00	0.65	
	20211006002	88	0.10	0.08	0.14	0.02	1.30	
	20211006003	88	0.10	0.07	0.05	0.02	0.37	
	20211006004	88	0.06	0.05	0.05	0.01	0.43	
	20211006005	88	0.06	0.05	0.06	0.00	0.52	
C3DC+C4OH (µmol/L blood)	20211006001	118	0.06	0.10	0.06	0.02	0.48	
	20211006002	118	0.04	0.07	0.05	0.01	0.36	
	20211006003	118	0.04	0.06	0.05	0.00	0.34	
	20211006004	117	0.06	0.10	0.06	0.02	0.48	
	20211006005	118	0.06	0.09	0.06	0.01	0.45	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C4 (µmol/L blood)	20211006001	250	0.13	0.14	0.04	0.00	0.34	
	20211006002	250	0.10	0.12	0.07	0.01	0.90	
	20211006003	249	0.10	0.11	0.06	0.01	0.80	
	20211006004	250	0.16	0.18	0.05	0.07	0.64	
	20211006005	250	0.16	0.17	0.04	0.04	0.47	
C4OH (µmol/L blood)	20211006001	78	0.11	0.13	0.08	0.03	0.53	
	20211006002	78	0.07	0.09	0.07	0.02	0.54	
	20211006003	78	0.07	0.08	0.07	0.02	0.64	
	20211006004	78	0.10	0.12	0.08	0.03	0.64	
	20211006005	78	0.11	0.12	0.06	0.03	0.46	
C5 (µmol/L blood)	20211006001	277	0.08	0.09	0.07	0.03	0.71	
	20211006002	277	0.08	0.09	0.05	0.03	0.60	
	20211006003	277	0.08	0.09	0.04	0.01	0.39	
	20211006004	277	0.08	0.08	0.03	0.01	0.31	
	20211006005	277	0.12	0.08	0.04	0.01	0.40	
C5:1 (µmol/L blood)	20211006001	247	0.02	0.02	0.04	0.00	0.44	
	20211006002	247	0.03	0.02	0.04	0.00	0.44	
	20211006003	247	0.03	0.02	0.03	0.00	0.32	
	20211006004	247	0.02	0.02	0.05	0.00	0.70	
	20211006005	247	0.02	0.02	0.04	0.00	0.36	
C5DC (µmol/L blood)	20211006001	265	3.75	3.46	1.39	0.09	11.30	
	20211006002	265	0.09	0.11	0.09	0.01	0.87	
	20211006003	265	0.09	0.10	0.07	0.00	0.53	
	20211006004	265	0.05	0.08	0.07	0.00	0.66	
	20211006005	264	0.05	0.07	0.06	0.00	0.39	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C5OH (µmol/L blood)	20211006001	239	0.38	0.46	0.16	0.14	1.57	
	20211006002	239	0.24	0.41	0.18	0.10	1.49	
	20211006003	239	0.24	0.40	0.19	0.04	1.62	
	20211006004	239	0.32	0.36	0.12	0.04	1.28	
	20211006005	239	0.32	0.36	0.11	0.04	1.14	
C6 (µmol/L blood)	20211006001	255	0.04	0.06	0.04	0.00	0.42	
	20211006002	256	1.24	0.99	0.19	0.10	1.78	
	20211006003	255	0.04	0.05	0.03	0.00	0.26	
	20211006004	255	0.03	0.04	0.04	0.00	0.36	
	20211006005	255	0.04	0.04	0.03	0.00	0.26	
C8 (µmol/L blood)	20211006001	283	0.05	0.06	0.03	0.01	0.29	
	20211006002	284	1.57	1.54	0.37	0.06	4.61	
	20211006003	284	0.07	0.08	0.03	0.03	0.46	
	20211006004	283	0.04	0.05	0.03	0.01	0.35	
	20211006005	283	0.04	0.05	0.03	0.01	0.40	
C10 (µmol/L blood)	20211006001	271	0.06	0.06	0.03	0.01	0.42	
	20211006002	272	1.10	0.76	0.20	0.08	1.60	
	20211006003	271	0.10	0.10	0.03	0.02	0.34	
	20211006004	271	0.05	0.07	0.04	0.01	0.42	
	20211006005	271	0.05	0.06	0.03	0.01	0.30	
C10:1 (µmol/L blood)	20211006001	243	0.05	0.05	0.04	0.01	0.34	
	20211006002	242	0.98	0.66	0.30	0.21	3.54	
	20211006003	243	0.07	0.07	0.04	0.01	0.38	
	20211006004	242	0.05	0.06	0.05	0.02	0.33	
	20211006005	243	0.05	0.05	0.04	0.01	0.35	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C10:2 (µmol/L blood)	20211006001	174	0.02	0.02	0.02	0.00	0.11	
	20211006002	174	0.01	0.02	0.02	0.00	0.14	
	20211006003	174	0.01	0.02	0.02	0.00	0.13	
	20211006004	174	0.01	0.02	0.02	0.00	0.19	
	20211006005	174	0.01	0.02	0.02	0.00	0.16	
C14 (µmol/L blood)	20211006001	256	0.09	0.09	0.03	0.04	0.25	
	20211006002	256	0.11	0.10	0.04	0.04	0.43	
	20211006003	256	0.11	0.10	0.04	0.01	0.34	
	20211006004	256	1.47	1.13	0.22	0.36	2.33	
	20211006005	255	0.08	0.06	0.05	0.02	0.44	
C14:1 (µmol/L blood)	20211006001	266	0.06	0.06	0.04	0.00	0.29	
	20211006002	268	0.07	0.06	0.05	0.00	0.41	
	20211006003	267	0.07	0.06	0.04	0.00	0.32	
	20211006004	268	1.55	1.00	0.25	0.00	2.17	
	20211006005	268	0.05	0.05	0.05	0.00	0.46	
C16 (µmol/L blood)	20211006001	261	0.99	1.08	0.22	0.68	3.05	
	20211006002	262	0.93	1.02	0.27	0.01	4.08	
	20211006003	262	0.92	1.02	0.27	0.56	4.59	
	20211006004	262	0.90	0.99	0.44	0.48	7.59	
	20211006005	262	0.90	0.97	0.24	0.53	3.56	
C16OH (µmol/L blood)	20211006001	266	0.02	0.02	0.03	0.00	0.32	
	20211006002	266	0.02	0.02	0.02	0.00	0.16	
	20211006003	266	0.02	0.02	0.02	0.00	0.16	
	20211006004	266	1.02	0.61	0.21	0.08	2.74	
	20211006005	266	0.02	0.02	0.02	0.00	0.23	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C18 (µmol/L blood)	20211006001	247	0.57	0.62	0.13	0.39	1.67	
	20211006002	247	0.63	0.68	0.14	0.40	2.00	
	20211006003	247	0.62	0.69	0.20	0.01	3.14	
	20211006004	247	1.71	1.83	0.35	1.05	4.80	
	20211006005	247	1.72	1.80	0.30	1.10	3.65	
C18:1 (µmol/L blood)	20211006001	241	1.15	1.23	0.33	0.02	3.78	
	20211006002	241	1.51	1.66	0.43	0.02	5.54	
	20211006003	241	1.48	1.66	0.45	0.02	5.63	
	20211006004	241	1.37	1.49	0.41	0.02	5.21	
	20211006005	241	1.35	1.47	0.42	0.02	5.93	
C18OH (µmol/L blood)	20211006001	217	0.01	0.01	0.03	0.00	0.24	
	20211006002	217	0.01	0.01	0.02	0.00	0.18	
	20211006003	217	0.01	0.01	0.01	0.00	0.11	
	20211006004	217	0.81	0.47	0.23	0.00	2.24	
	20211006005	217	0.01	0.02	0.03	0.00	0.39	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Amino Acids (AAPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
Arg (µmol/L blood)	20211005001	224	216.6	156.3	49.2	33.8	465.3	
	20211005002	224	11.9	10.3	8.3	0.0	92.6	
	20211005003	224	12.3	9.2	5.2	2.4	43.2	
	20211005004	224	15.3	11.4	4.8	2.8	37.6	
	20211005005	223	20.2	14.5	5.0	4.0	41.5	
Cit (µmol/L blood)	20211005001	248	217.0	188.3	36.5	65.0	399.0	
	20211005002	248	36.7	33.6	6.5	11.0	51.6	
	20211005003	248	38.3	33.8	5.9	15.2	59.0	
	20211005004	248	33.4	31.4	5.8	15.3	61.0	
	20211005005	247	31.5	28.6	5.7	13.2	50.0	
Leu (µmol/L blood)	20211005001	275	113.9	146.9	33.5	28.7	352.0	
	20211005002	275	142.7	187.3	47.4	27.8	611.4	
	20211005003	275	148.5	188.3	37.9	35.2	384.9	
	20211005004	275	117.7	157.9	34.2	32.3	340.1	
	20211005005	273	152.4	199.5	46.1	24.0	441.0	
Met (µmol/L blood)	20211005001	261	20.8	18.9	5.9	5.6	59.6	
	20211005002	262	30.8	29.0	7.6	8.0	88.6	
	20211005003	262	211.1	172.7	37.1	60.8	334.1	
	20211005004	261	19.9	19.4	5.8	6.0	59.4	
	20211005005	261	43.5	39.6	9.2	16.8	106.3	
Phe (µmol/L blood)	20211005001	342	56.5	55.3	17.0	1.8	204.2	
	20211005002	341	295.6	271.1	40.8	80.0	526.9	
	20211005003	343	68.2	65.4	20.1	0.9	221.7	
	20211005004	343	53.9	54.3	17.7	1.2	210.7	
	20211005005	342	78.2	78.1	35.3	2.0	546.0	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Amino Acids (AAPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
SUAC (µmol/L blood)	20211005001	156	0.6	0.9	2.8	0.0	31.0	
	20211005002	156	0.5	0.6	0.7	0.0	7.4	
	20211005003	156	0.5	0.6	0.7	0.0	7.1	
	20211005004	156	0.5	0.7	1.1	0.0	10.9	
	20211005005	156	25.5	12.8	7.2	0.0	53.6	
Tyr (µmol/L blood)	20211005001	276	82.7	79.1	13.2	33.0	162.0	
	20211005002	276	73.8	72.8	18.6	27.0	294.0	
	20211005003	276	77.1	75.0	41.6	38.1	725.0	
	20211005004	275	50.1	50.3	9.1	25.3	102.1	
	20211005005	273	906.6	821.1	134.1	426.3	1621.0	
Val (µmol/L blood)	20211005001	245	131.2	134.1	28.7	35.8	242.2	
	20211005002	245	163.8	168.7	34.5	48.8	273.4	
	20211005003	245	170.5	170.2	39.7	46.1	459.4	
	20211005004	245	130.5	138.8	27.8	33.1	260.4	
	20211005005	245	156.3	157.8	31.5	48.1	284.7	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Hormones and Total Galactose (HORMPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
T4 (µg/dL serum)	20211001001	69	15.1	16.1	3.4	2.2	30.6	
	20211001002	69	15.3	16.3	3.4	2.2	26.5	
	20211001003	66	1.5	2.3	2.3	1.1	19.1	
	20211001004	69	14.9	16.0	3.6	2.4	34.2	
	20211001005	69	16.9	18.0	4.0	2.5	32.4	
TSH (µIU/mL serum)	20211001001	290	10.8	8.0	4.4	2.1	72.2	
	20211001002	290	12.8	10.0	2.7	0.8	24.0	
	20211001003	290	90.4	82.9	19.5	7.5	208.8	
	20211001004	290	11.2	8.2	2.4	0.8	20.0	
	20211001005	290	10.6	8.5	6.5	0.8	110.0	
17OHP (ng/mL serum)	20211001001	241	86.2	82.9	22.4	0.0	228.0	
	20211001002	241	6.4	5.2	2.0	0.0	17.9	
	20211001003	241	5.5	4.8	1.8	0.0	15.9	
	20211001004	240	6.1	5.1	2.5	0.0	21.8	
	20211001005	238	6.0	4.5	1.9	0.0	14.5	
TGal (mg/dL blood)	20211001001	151	3.2	2.5	1.2	0.0	8.1	
	20211001002	151	25.1	24.1	7.7	0.0	75.9	
	20211001003	151	4.0	2.9	1.2	0.0	8.5	
	20211001004	152	3.0	2.8	1.7	0.0	11.3	
	20211001005	152	2.6	2.8	2.3	0.0	22.3	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2021, Quarter 1

Program: Immunoreactive Trypsinogen (IRTPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
IRT (ng/mL blood)	20211008001	211	143.5	139.6	55.1	38.0	580.0	
	20211008002	204	7.0	7.9	4.4	0.4	37.6	
	20211008003	211	190.5	184.4	64.1	14.8	765.0	
	20211008004	209	18.5	19.3	16.6	4.1	207.8	
	20211008005	204	7.7	8.5	4.5	0.7	41.1	

Note: EV = Expected Value, SD= Standard Deviation. N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C0(L) (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	31.02	30.65	3.27	3	26.01	25.15	4.31	3	26.26	27.49	3.68	3	28.14	27.10	2.31	3	28.44	26.74	4.30
	Derivatized - MS/MS MassChrom® Chromsystems	20	31.02	25.36	4.83	20	26.01	21.53	4.07	20	26.26	23.35	4.45	20	28.14	22.40	3.87	20	28.44	22.75	3.69
	Derivatized - MS/MS NeoGram PerkinElmer	3	31.02	36.50	4.33	3	26.01	30.96	6.45	3	26.26	33.16	7.54	3	28.14	31.61	4.20	3	28.44	32.17	6.32
	Derivatized - MS/MS non-kit	67	31.02	31.18	5.62	67	26.01	26.19	5.71	67	26.26	27.88	4.67	67	28.14	27.79	4.40	67	28.44	27.17	4.58
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	31.02	31.99	4.35	4	26.01	26.02	4.15	4	26.26	26.79	4.08	4	28.14	29.42	4.01	4	28.44	28.29	2.90
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	31.02	23.98	3.62	21	26.01	20.25	3.38	21	26.26	20.31	3.23	21	28.14	21.86	3.18	21	28.44	22.06	3.09
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	72	31.02	27.06	3.67	72	26.01	22.80	3.04	72	26.26	23.17	2.91	72	28.14	25.38	3.06	72	28.44	24.78	2.76
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	45	31.02	26.86	3.34	45	26.01	22.27	2.25	45	26.26	22.63	2.66	45	28.14	25.03	2.75	45	28.44	24.84	2.99
	Non-derivatized - MS/MS non-kit	24	31.02	27.44	8.45	24	26.01	22.76	4.75	24	26.26	23.59	6.61	24	28.14	25.83	6.64	24	28.44	25.92	6.44
	Non-derivatized Labsystems Neomass AAAC Plus	6	31.02	25.26	5.29	6	26.01	21.52	3.45	6	26.26	21.49	4.48	6	28.14	23.03	5.67	6	28.44	23.16	5.08
	Other	5	31.02	22.85	3.54	5	26.01	19.38	2.08	5	26.26	19.70	3.02	5	28.14	21.30	2.63	5	28.44	20.28	2.96
C2(L) (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	19.99	16.94	2.96	3	14.58	12.72	2.88	3	14.57	12.40	2.24	3	13.43	11.65	2.70	3	13.50	11.69	2.66
	Derivatized - MS/MS MassChrom® Chromsystems	16	19.99	18.53	5.79	16	14.58	14.59	6.12	16	14.57	14.26	3.38	16	13.43	13.01	3.28	16	13.50	13.34	3.46
	Derivatized - MS/MS NeoGram PerkinElmer	3	19.99	19.35	0.81	3	14.58	16.58	1.92	3	14.57	16.41	1.44	3	13.43	15.68	1.04	3	13.50	15.73	2.05
	Derivatized - MS/MS non-kit	56	19.99	20.77	5.13	56	14.58	15.73	3.65	56	14.57	15.83	4.02	56	13.43	15.17	4.08	56	13.50	14.80	3.76
	Non-derivatized - MS/MS MassChrom® Chromsystems	18	19.99	15.57	2.28	18	14.58	11.05	1.76	18	14.57	11.05	1.90	18	13.43	9.88	1.34	18	13.50	9.90	1.54
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	48	19.99	17.28	2.02	48	14.58	12.23	2.24	48	14.57	12.12	1.43	48	13.43	11.13	1.08	47	13.50	10.96	1.10
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	29	19.99	16.19	1.60	29	14.58	11.12	1.12	29	14.57	11.19	1.18	29	13.43	10.50	1.09	29	13.50	10.49	1.22
	Non-derivatized - MS/MS non-kit	15	19.99	22.85	8.85	15	14.58	16.03	5.91	15	14.57	16.19	5.59	15	13.43	14.93	6.03	15	13.50	16.10	6.74
	Non-derivatized Labsystems Neomass AAAC Plus	5	19.99	18.28	2.49	5	14.58	13.66	3.38	5	14.57	12.65	2.37	5	13.43	12.23	2.42	5	13.50	11.93	2.74
	Other	4	19.99	15.50	2.56	4	14.58	11.82	2.59	4	14.57	11.51	2.13	4	13.43	10.60	2.33	4	13.50	10.52	2.13

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C3 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	1.12	1.39	0.64	3	1.15	1.41	0.41	3	13.15	12.28	1.51	3	1.02	1.35	0.67	3	1.01	1.44	0.64
	Derivatized - MS/MS MassChrom® Chromsystems	20	1.12	1.04	0.46	20	1.15	0.97	0.15	20	13.15	11.42	1.42	20	1.02	0.93	0.27	20	1.01	0.89	0.13
	Derivatized - MS/MS NeoGram PerkinElmer	3	1.12	1.06	0.27	3	1.15	1.08	0.23	3	13.15	12.86	2.31	3	1.02	0.98	0.24	3	1.01	0.92	0.25
	Derivatized - MS/MS non-kit	68	1.12	1.14	0.22	68	1.15	1.18	0.31	68	13.15	13.25	2.19	68	1.02	1.10	0.39	68	1.01	1.04	0.21
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	1.12	1.13	0.09	4	1.15	1.14	0.05	4	13.15	13.75	0.45	4	1.02	1.04	0.06	4	1.01	0.99	0.05
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	1.12	0.96	0.19	21	1.15	0.97	0.22	21	13.15	11.34	1.74	21	1.02	0.84	0.16	21	1.01	0.83	0.20
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	72	1.12	0.99	0.12	72	1.15	1.02	0.15	72	13.15	12.41	1.48	72	1.02	0.95	0.20	72	1.01	0.88	0.11
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	45	1.12	1.17	0.16	45	1.15	1.18	0.14	45	13.15	14.43	1.60	45	1.02	1.07	0.13	45	1.01	1.04	0.13
	Non-derivatized - MS/MS non-kit	24	1.12	1.16	0.27	24	1.15	1.16	0.32	24	13.15	14.15	3.36	24	1.02	1.05	0.30	24	1.01	1.09	0.34
	Non-derivatized Labsystems Neomass AAAC Plus	6	1.12	0.97	0.07	6	1.15	0.98	0.11	6	13.15	11.86	1.00	6	1.02	0.94	0.15	6	1.01	0.86	0.09
	Other	5	1.12	0.97	0.17	5	1.15	1.01	0.13	5	13.15	12.69	1.00	5	1.02	0.90	0.18	5	1.01	0.87	0.16
C3DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.06	0.03	0.01	3	0.10	0.04	0.01	3	0.10	0.04	0.00	3	0.06	0.03	0.01	3	0.06	0.02	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.06	0.05	0.03	17	0.10	0.09	0.05	17	0.10	0.08	0.04	17	0.06	0.05	0.04	17	0.06	0.06	0.03
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.06	0.05	0.01	3	0.10	0.09	0.01	3	0.10	0.09	0.02	3	0.06	0.05	0.02	3	0.06	0.05	0.02
	Derivatized - MS/MS non-kit	61	0.06	0.05	0.08	61	0.10	0.09	0.16	61	0.10	0.07	0.05	61	0.06	0.05	0.06	61	0.06	0.05	0.07
C3DC+C4OH (µmol/L blood)	Non-derivatized - MS/MS MassChrom® Chromsystems	11	0.06	0.12	0.12	11	0.04	0.09	0.09	11	0.04	0.09	0.08	11	0.06	0.12	0.12	11	0.06	0.11	0.12
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	52	0.06	0.09	0.04	52	0.04	0.06	0.03	52	0.04	0.06	0.03	51	0.06	0.09	0.03	52	0.06	0.09	0.04
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	33	0.06	0.09	0.02	33	0.04	0.05	0.01	33	0.04	0.05	0.01	33	0.06	0.08	0.02	33	0.06	0.08	0.02
	Non-derivatized - MS/MS non-kit	14	0.06	0.11	0.07	14	0.04	0.08	0.05	14	0.04	0.08	0.05	14	0.06	0.14	0.07	14	0.06	0.12	0.08
	Other	6	0.06	0.12	0.12	6	0.04	0.11	0.13	6	0.04	0.10	0.12	6	0.06	0.12	0.13	6	0.06	0.12	0.12

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C4 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.13	0.13	0.02	3	0.10	0.13	0.09	3	0.10	0.11	0.03	3	0.16	0.18	0.04	3	0.16	0.18	0.07
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.13	0.13	0.04	20	0.10	0.19	0.07	20	0.10	0.11	0.04	20	0.16	0.16	0.05	20	0.16	0.18	0.06
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.13	0.17	0.04	3	0.10	0.14	0.04	3	0.10	0.13	0.01	3	0.16	0.19	0.05	3	0.16	0.20	0.03
	Derivatized - MS/MS non-kit	65	0.13	0.16	0.05	65	0.10	0.15	0.06	65	0.10	0.13	0.05	65	0.16	0.21	0.08	65	0.16	0.20	0.05
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	0.13	0.12	0.02	20	0.10	0.09	0.02	20	0.10	0.09	0.02	20	0.16	0.15	0.02	20	0.16	0.16	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	66	0.13	0.13	0.02	66	0.10	0.11	0.10	65	0.10	0.11	0.09	66	0.16	0.17	0.03	66	0.16	0.17	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	40	0.13	0.12	0.02	40	0.10	0.09	0.02	40	0.10	0.09	0.01	40	0.16	0.16	0.02	40	0.16	0.16	0.02
	Non-derivatized - MS/MS non-kit	19	0.13	0.13	0.04	19	0.10	0.10	0.03	19	0.10	0.10	0.02	19	0.16	0.18	0.04	19	0.16	0.18	0.06
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.13	0.09	0.05	6	0.10	0.08	0.03	6	0.10	0.07	0.04	6	0.16	0.14	0.05	6	0.16	0.13	0.03
	Other	5	0.13	0.12	0.02	5	0.10	0.15	0.11	5	0.10	0.10	0.02	5	0.16	0.17	0.03	5	0.16	0.17	0.04
C4OH (µmol/L blood)	Derivatized - MS/MS MassChrom® Chromsystems	13	0.11	0.12	0.03	13	0.07	0.08	0.03	13	0.07	0.07	0.03	13	0.10	0.12	0.04	13	0.11	0.11	0.03
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.11	0.14	0.02	3	0.07	0.13	0.02	3	0.07	0.10	0.01	3	0.10	0.16	0.01	3	0.11	0.12	0.03
	Derivatized - MS/MS non-kit	56	0.11	0.13	0.09	56	0.07	0.09	0.07	56	0.07	0.09	0.09	56	0.10	0.13	0.09	56	0.11	0.13	0.07
C5 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.08	0.16	0.12	3	0.08	0.17	0.09	3	0.08	0.13	0.10	3	0.08	0.13	0.07	3	0.12	0.20	0.18
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.08	0.14	0.14	20	0.08	0.12	0.09	20	0.08	0.11	0.07	20	0.08	0.10	0.05	20	0.12	0.10	0.05
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.08	0.11	0.04	3	0.08	0.09	0.04	3	0.08	0.09	0.03	3	0.08	0.08	0.02	3	0.12	0.12	0.02
	Derivatized - MS/MS non-kit	68	0.08	0.10	0.07	68	0.08	0.10	0.05	68	0.08	0.09	0.03	68	0.08	0.09	0.03	68	0.12	0.09	0.04
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.08	0.07	0.01	4	0.08	0.07	0.01	4	0.08	0.08	0.01	4	0.08	0.07	0.01	4	0.12	0.07	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	22	0.08	0.09	0.04	22	0.08	0.09	0.04	22	0.08	0.09	0.04	22	0.08	0.09	0.04	22	0.12	0.10	0.06
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	73	0.08	0.07	0.01	73	0.08	0.08	0.06	73	0.08	0.07	0.01	73	0.08	0.07	0.01	73	0.12	0.07	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	45	0.08	0.07	0.01	45	0.08	0.07	0.01	45	0.08	0.07	0.02	45	0.08	0.07	0.01	45	0.12	0.07	0.01
	Non-derivatized - MS/MS non-kit	27	0.08	0.11	0.12	27	0.08	0.08	0.03	27	0.08	0.08	0.03	27	0.08	0.08	0.03	27	0.12	0.09	0.06

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C5 (µmol/L blood)	Non-derivatized Labsystems Neomass AAAC Plus	6	0.08	0.10	0.04	6	0.08	0.11	0.03	6	0.08	0.12	0.02	6	0.08	0.09	0.01	6	0.12	0.10	0.02
	Other	5	0.08	0.09	0.03	5	0.08	0.09	0.04	5	0.08	0.11	0.06	5	0.08	0.08	0.03	5	0.12	0.08	0.03
C5:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.02	0.01	0.01	3	0.03	0.02	0.01	3	0.03	0.02	0.01	3	0.02	0.01	0.01	3	0.02	0.02	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.02	0.06	0.10	20	0.03	0.07	0.10	20	0.03	0.05	0.06	20	0.02	0.07	0.15	20	0.02	0.06	0.08
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.02	0.02	0.02	3	0.03	0.04	0.01	3	0.03	0.03	0.01	3	0.02	0.03	0.01	3	0.02	0.03	0.02
	Derivatized - MS/MS non-kit	64	0.02	0.03	0.04	64	0.03	0.03	0.03	64	0.03	0.04	0.05	64	0.02	0.03	0.03	64	0.02	0.04	0.03
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.02	0.01	0.01	3	0.03	0.01	0.00	3	0.03	0.01	0.00	3	0.02	0.01	0.01	3	0.02	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	18	0.02	0.03	0.05	18	0.03	0.03	0.05	18	0.03	0.03	0.05	18	0.02	0.02	0.05	18	0.02	0.02	0.04
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	69	0.02	0.01	0.01	69	0.03	0.01	0.02	69	0.03	0.01	0.01	69	0.02	0.01	0.01	69	0.02	0.01	0.04
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	36	0.02	0.01	0.01	36	0.03	0.01	0.01	36	0.03	0.01	0.01	36	0.02	0.01	0.01	36	0.02	0.01	0.01
	Non-derivatized - MS/MS non-kit	20	0.02	0.02	0.02	20	0.03	0.02	0.03	20	0.03	0.02	0.03	20	0.02	0.02	0.02	20	0.02	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	5	0.02	0.01	0.01	5	0.03	0.01	0.01	5	0.03	0.00	0.01	5	0.02	0.01	0.01	5	0.02	0.01	0.01
	Other	5	0.02	0.01	0.01	5	0.03	0.02	0.02	5	0.03	0.02	0.01	5	0.02	0.02	0.01	5	0.02	0.02	0.02
C5DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	3.75	4.60	0.76	3	0.09	0.10	0.03	3	0.09	0.09	0.03	3	0.05	0.05	0.02	3	0.05	0.05	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	20	3.75	5.24	2.30	20	0.09	0.18	0.10	20	0.09	0.16	0.10	20	0.05	0.11	0.09	20	0.05	0.11	0.09
	Derivatized - MS/MS NeoGram PerkinElmer	3	3.75	3.64	0.27	3	0.09	0.09	0.02	3	0.09	0.08	0.01	3	0.05	0.05	0.01	3	0.05	0.05	0.01
	Derivatized - MS/MS non-kit	68	3.75	2.41	1.14	68	0.09	0.08	0.10	68	0.09	0.07	0.05	68	0.05	0.06	0.09	67	0.05	0.05	0.05
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	3.75	3.39	0.36	4	0.09	0.09	0.01	4	0.09	0.09	0.01	4	0.05	0.07	0.01	4	0.05	0.07	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	22	3.75	4.69	1.07	22	0.09	0.18	0.09	22	0.09	0.16	0.07	22	0.05	0.12	0.08	22	0.05	0.12	0.07
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	67	3.75	3.76	0.64	67	0.09	0.15	0.09	67	0.09	0.14	0.09	67	0.05	0.10	0.07	67	0.05	0.10	0.06
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	41	3.75	3.08	0.38	41	0.09	0.07	0.02	41	0.09	0.06	0.02	41	0.05	0.05	0.02	41	0.05	0.05	0.01
	Non-derivatized - MS/MS non-kit	26	3.75	3.27	1.29	26	0.09	0.08	0.04	26	0.09	0.09	0.04	26	0.05	0.06	0.03	26	0.05	0.07	0.03

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C5DC (µmol/L blood)	Non-derivatized Labsystems Neomass AAAC Plus	5	3.75	4.66	2.44	5	0.09	0.11	0.13	5	0.09	0.08	0.05	5	0.05	0.10	0.12	5	0.05	0.05	0.07
	Other	5	3.75	3.51	1.01	5	0.09	0.14	0.10	5	0.09	0.15	0.05	5	0.05	0.09	0.03	5	0.05	0.07	0.03
C5OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.38	0.27	0.06	3	0.24	0.18	0.05	3	0.24	0.16	0.05	3	0.32	0.24	0.07	3	0.32	0.23	0.05
	Derivatized - MS/MS MassChrom® Chromsystems	19	0.38	0.40	0.13	19	0.24	0.29	0.15	19	0.24	0.27	0.16	19	0.32	0.33	0.13	19	0.32	0.33	0.10
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.38	0.40	0.09	3	0.24	0.25	0.06	3	0.24	0.22	0.07	3	0.32	0.27	0.10	3	0.32	0.34	0.09
	Derivatized - MS/MS non-kit	66	0.38	0.40	0.11	66	0.24	0.26	0.12	66	0.24	0.25	0.09	66	0.32	0.32	0.08	66	0.32	0.31	0.08
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.38	0.62	0.03	4	0.24	0.55	0.03	4	0.24	0.58	0.09	4	0.32	0.48	0.02	4	0.32	0.47	0.03
	Non-derivatized - MS/MS MassChrom® Chromsystems	14	0.38	0.40	0.12	14	0.24	0.39	0.11	14	0.24	0.38	0.12	14	0.32	0.29	0.12	14	0.32	0.32	0.09
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	63	0.38	0.48	0.16	63	0.24	0.48	0.16	63	0.24	0.47	0.17	63	0.32	0.38	0.13	63	0.32	0.36	0.12
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	36	0.38	0.59	0.11	36	0.24	0.60	0.13	36	0.24	0.60	0.13	36	0.32	0.46	0.09	36	0.32	0.46	0.09
	Non-derivatized - MS/MS non-kit	21	0.38	0.55	0.15	21	0.24	0.50	0.13	21	0.24	0.46	0.16	21	0.32	0.40	0.14	21	0.32	0.41	0.13
	Non-derivatized Labsystems Neomass AAAC Plus	4	0.38	0.26	0.04	4	0.24	0.25	0.12	4	0.24	0.21	0.09	4	0.32	0.19	0.07	4	0.32	0.20	0.06
	Other	5	0.38	0.60	0.15	5	0.24	0.51	0.17	5	0.24	0.54	0.16	5	0.32	0.44	0.13	5	0.32	0.43	0.12
C6 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.04	0.06	0.03	3	1.24	0.93	0.10	3	0.04	0.04	0.02	3	0.03	0.04	0.03	3	0.04	0.04	0.03
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.04	0.08	0.05	20	1.24	0.88	0.14	20	0.04	0.08	0.06	20	0.03	0.08	0.06	20	0.04	0.08	0.06
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.04	0.07	0.04	3	1.24	0.97	0.10	3	0.04	0.07	0.01	3	0.03	0.05	0.02	3	0.04	0.04	0.02
	Derivatized - MS/MS non-kit	66	0.04	0.07	0.06	66	1.24	0.96	0.26	66	0.04	0.06	0.04	66	0.03	0.05	0.05	66	0.04	0.05	0.04
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	0.04	0.05	0.01	21	1.24	0.99	0.09	20	0.04	0.04	0.01	20	0.03	0.04	0.01	20	0.04	0.04	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	68	0.04	0.05	0.02	68	1.24	1.03	0.16	68	0.04	0.05	0.02	68	0.03	0.04	0.02	68	0.04	0.04	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	40	0.04	0.04	0.01	40	1.24	0.99	0.11	40	0.04	0.04	0.01	40	0.03	0.03	0.01	40	0.04	0.03	0.01
	Non-derivatized - MS/MS non-kit	21	0.04	0.05	0.02	21	1.24	1.08	0.24	21	0.04	0.04	0.01	21	0.03	0.03	0.01	21	0.04	0.03	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.04	0.04	0.02	6	1.24	0.93	0.11	6	0.04	0.03	0.02	6	0.03	0.03	0.02	6	0.04	0.04	0.02

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C6 (µmol/L blood)	Other	5	0.04	0.04	0.01	5	1.24	0.96	0.20	5	0.04	0.04	0.01	5	0.03	0.03	0.01	5	0.04	0.04	0.01
C8 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.05	0.05	0.01	3	1.57	1.35	0.31	3	0.07	0.06	0.01	3	0.04	0.04	0.01	3	0.04	0.04	0.00
	Derivatized - MS/MS MassChrom® Chromsystems	19	0.05	0.06	0.02	19	1.57	1.23	0.38	19	0.07	0.08	0.04	19	0.04	0.06	0.03	19	0.04	0.05	0.03
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.05	0.09	0.02	3	1.57	1.64	0.20	3	0.07	0.09	0.01	3	0.04	0.04	0.01	3	0.04	0.07	0.01
	Derivatized - MS/MS non-kit	68	0.05	0.07	0.04	68	1.57	1.61	0.41	68	0.07	0.10	0.06	68	0.04	0.06	0.04	68	0.04	0.06	0.05
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.05	0.05	0.01	4	1.57	1.60	0.13	4	0.07	0.07	0.01	4	0.04	0.04	0.01	4	0.04	0.04	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	0.05	0.05	0.01	29	1.57	1.45	0.30	29	0.07	0.07	0.01	28	0.04	0.04	0.01	28	0.04	0.04	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	74	0.05	0.06	0.03	74	1.57	1.62	0.18	74	0.07	0.07	0.02	74	0.04	0.04	0.01	74	0.04	0.04	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	45	0.05	0.05	0.02	45	1.57	1.43	0.14	45	0.07	0.06	0.01	45	0.04	0.04	0.01	45	0.04	0.04	0.02
	Non-derivatized - MS/MS non-kit	27	0.05	0.06	0.02	27	1.57	1.66	0.76	27	0.07	0.08	0.03	27	0.04	0.05	0.02	27	0.04	0.05	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.05	0.06	0.02	6	1.57	1.62	0.14	6	0.07	0.07	0.03	6	0.04	0.05	0.02	6	0.04	0.04	0.02
	Other	5	0.05	0.06	0.01	5	1.57	1.57	0.07	5	0.07	0.07	0.01	5	0.04	0.04	0.02	5	0.04	0.04	0.00
C10 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.06	0.05	0.03	3	1.10	0.54	0.08	3	0.10	0.07	0.02	3	0.05	0.04	0.01	3	0.05	0.04	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	19	0.06	0.05	0.02	19	1.10	0.41	0.09	19	0.10	0.06	0.02	19	0.05	0.08	0.05	19	0.05	0.04	0.02
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.06	0.05	0.01	3	1.10	0.66	0.11	3	0.10	0.09	0.03	3	0.05	0.08	0.04	3	0.05	0.07	0.01
	Derivatized - MS/MS non-kit	66	0.06	0.08	0.05	66	1.10	0.85	0.20	66	0.10	0.11	0.04	66	0.05	0.10	0.06	66	0.05	0.07	0.03
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.06	0.06	0.01	4	1.10	0.81	0.05	4	0.10	0.09	0.01	4	0.05	0.05	0.01	4	0.05	0.05	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	0.06	0.06	0.02	27	1.10	0.70	0.10	26	0.10	0.09	0.02	26	0.05	0.05	0.02	26	0.05	0.05	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	71	0.06	0.05	0.01	71	1.10	0.76	0.11	71	0.10	0.09	0.02	71	0.05	0.05	0.01	71	0.05	0.05	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	42	0.06	0.06	0.01	42	1.10	0.72	0.10	42	0.10	0.09	0.01	42	0.05	0.05	0.01	42	0.05	0.05	0.01
	Non-derivatized - MS/MS non-kit	25	0.06	0.08	0.04	25	1.10	0.91	0.30	25	0.10	0.12	0.05	25	0.05	0.07	0.05	25	0.05	0.08	0.05
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.06	0.05	0.01	6	1.10	0.69	0.10	6	0.10	0.07	0.01	6	0.05	0.04	0.01	6	0.05	0.04	0.01

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C10 (µmol/L blood)	Other	5	0.06	0.06	0.02	5	1.10	0.70	0.09	5	0.10	0.09	0.02	5	0.05	0.07	0.03	5	0.05	0.05	0.02
C10:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.05	0.03	0.01	3	0.98	0.51	0.02	3	0.07	0.05	0.01	3	0.05	0.04	0.01	3	0.05	0.03	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.05	0.04	0.02	20	0.98	0.40	0.13	20	0.07	0.05	0.02	20	0.05	0.07	0.03	20	0.05	0.05	0.03
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.05	0.05	0.02	3	0.98	0.67	0.16	3	0.07	0.07	0.02	3	0.05	0.08	0.05	3	0.05	0.05	0.03
	Derivatized - MS/MS non-kit	63	0.05	0.07	0.05	63	0.98	0.84	0.30	63	0.07	0.09	0.04	63	0.05	0.09	0.06	63	0.05	0.07	0.04
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	0.05	0.04	0.01	20	0.98	0.55	0.10	20	0.07	0.06	0.01	20	0.05	0.03	0.01	20	0.05	0.03	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	65	0.05	0.05	0.02	65	0.98	0.61	0.12	65	0.07	0.07	0.03	65	0.05	0.05	0.03	65	0.05	0.05	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	38	0.05	0.03	0.01	38	0.98	0.51	0.08	38	0.07	0.05	0.01	38	0.05	0.03	0.01	38	0.05	0.03	0.01
	Non-derivatized - MS/MS non-kit	20	0.05	0.07	0.07	20	0.98	0.97	0.67	20	0.07	0.10	0.08	20	0.05	0.07	0.07	20	0.05	0.07	0.07
	Non-derivatized Labsystems Neomass AAAC Plus	5	0.05	0.04	0.01	5	0.98	0.59	0.09	5	0.07	0.06	0.01	4	0.05	0.04	0.01	5	0.05	0.04	0.01
	Other	4	0.05	0.04	0.01	4	0.98	0.64	0.14	4	0.07	0.06	0.01	4	0.05	0.08	0.07	4	0.05	0.04	0.00
C10:2 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.02	0.02	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.01	3	0.01	0.02	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	13	0.02	0.02	0.02	13	0.01	0.02	0.02	13	0.01	0.02	0.01	13	0.01	0.02	0.02	13	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	43	0.02	0.03	0.02	43	0.01	0.03	0.03	43	0.01	0.03	0.02	43	0.01	0.03	0.03	43	0.01	0.03	0.03
	Non-derivatized - MS/MS MassChrom® Chromsystems	7	0.02	0.02	0.02	7	0.01	0.02	0.02	7	0.01	0.02	0.02	7	0.01	0.02	0.02	7	0.01	0.02	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	50	0.02	0.01	0.01	50	0.01	0.01	0.01	50	0.01	0.01	0.01	50	0.01	0.01	0.01	50	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	35	0.02	0.01	0.00	35	0.01	0.01	0.00	35	0.01	0.01	0.00	35	0.01	0.01	0.01	35	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	12	0.02	0.03	0.02	12	0.01	0.02	0.02	12	0.01	0.03	0.03	12	0.01	0.03	0.05	12	0.01	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	5	0.02	0.01	0.00	5	0.01	0.01	0.01	5	0.01	0.02	0.01	5	0.01	0.01	0.00	5	0.01	0.01	0.01
	Other	3	0.02	0.02	0.01	3	0.01	0.02	0.01	3	0.01	0.02	0.01	3	0.01	0.01	0.00	3	0.01	0.02	0.01

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C14 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.09	0.08	0.03	3	0.11	0.09	0.03	3	0.11	0.09	0.03	3	1.47	0.81	0.17	3	0.08	0.06	0.04
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.09	0.11	0.04	20	0.11	0.11	0.03	20	0.11	0.11	0.04	20	1.47	0.99	0.21	20	0.08	0.13	0.08
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.09	0.09	0.02	3	0.11	0.13	0.01	3	0.11	0.12	0.02	3	1.47	1.24	0.21	3	0.08	0.11	0.05
	Derivatized - MS/MS non-kit	65	0.09	0.10	0.04	65	0.11	0.12	0.06	65	0.11	0.13	0.06	65	1.47	1.24	0.26	65	0.08	0.09	0.07
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.09	0.08	0.00	3	0.11	0.09	0.01	3	0.11	0.10	0.01	3	1.47	1.14	0.04	3	0.08	0.04	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	0.09	0.07	0.01	21	0.11	0.08	0.01	21	0.11	0.08	0.02	21	1.47	1.02	0.18	20	0.08	0.03	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	67	0.09	0.07	0.01	67	0.11	0.09	0.01	67	0.11	0.10	0.03	67	1.47	1.15	0.12	67	0.08	0.04	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	40	0.09	0.07	0.01	40	0.11	0.09	0.01	40	0.11	0.08	0.01	40	1.47	1.07	0.16	40	0.08	0.04	0.01
	Non-derivatized - MS/MS non-kit	22	0.09	0.09	0.02	22	0.11	0.10	0.03	22	0.11	0.10	0.03	22	1.47	1.19	0.29	22	0.08	0.05	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.09	0.06	0.02	6	0.11	0.08	0.02	6	0.11	0.07	0.01	6	1.47	0.92	0.17	6	0.08	0.03	0.01
	Other	5	0.09	0.09	0.02	5	0.11	0.08	0.03	5	0.11	0.09	0.03	5	1.47	1.06	0.22	5	0.08	0.06	0.05
C14:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.06	0.05	0.03	3	0.07	0.04	0.02	3	0.07	0.04	0.03	3	1.55	0.81	0.14	3	0.05	0.03	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.06	0.10	0.06	20	0.07	0.11	0.07	20	0.07	0.10	0.07	20	1.55	0.93	0.15	20	0.05	0.11	0.10
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.06	0.09	0.05	3	0.07	0.10	0.05	3	0.07	0.09	0.05	3	1.55	1.33	0.10	3	0.05	0.09	0.08
	Derivatized - MS/MS non-kit	68	0.06	0.07	0.05	68	0.07	0.08	0.07	68	0.07	0.07	0.05	68	1.55	1.18	0.29	68	0.05	0.07	0.06
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.06	0.05	0.02	4	0.07	0.04	0.01	4	0.07	0.05	0.01	4	1.55	1.00	0.07	4	0.05	0.04	0.02
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	0.06	0.04	0.01	20	0.07	0.04	0.02	20	0.07	0.04	0.01	20	1.55	0.85	0.22	20	0.05	0.03	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	71	0.06	0.05	0.01	72	0.07	0.05	0.01	71	0.07	0.05	0.03	72	1.55	0.95	0.12	72	0.05	0.04	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	44	0.06	0.05	0.01	44	0.07	0.04	0.01	44	0.07	0.04	0.01	44	1.55	0.92	0.11	44	0.05	0.03	0.01
	Non-derivatized - MS/MS non-kit	23	0.06	0.06	0.02	23	0.07	0.06	0.03	23	0.07	0.05	0.03	23	1.55	1.01	0.29	23	0.05	0.04	0.03
	Non-derivatized Labsystems Neomass AAAC Plus	4	0.06	0.05	0.03	5	0.07	0.04	0.04	5	0.07	0.04	0.03	5	1.55	0.65	0.39	5	0.05	0.04	0.03
	Other	5	0.06	0.08	0.05	5	0.07	0.08	0.07	5	0.07	0.08	0.06	5	1.55	0.99	0.30	5	0.05	0.07	0.07

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C16 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.99	1.14	0.10	3	0.93	1.17	0.29	3	0.92	1.18	0.31	3	0.90	1.04	0.11	3	0.90	1.11	0.28
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.99	1.01	0.24	20	0.93	0.91	0.16	20	0.92	0.90	0.16	20	0.90	0.91	0.21	20	0.90	0.91	0.14
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.99	0.96	0.08	3	0.93	1.02	0.17	3	0.92	1.07	0.12	3	0.90	1.06	0.09	3	0.90	1.03	0.12
	Derivatized - MS/MS non-kit	66	0.99	1.09	0.19	66	0.93	1.00	0.25	66	0.92	1.02	0.18	66	0.90	0.97	0.19	66	0.90	0.96	0.20
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.99	1.16	0.07	4	0.93	1.07	0.06	4	0.92	1.13	0.11	4	0.90	1.03	0.05	4	0.90	1.00	0.07
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	0.99	0.96	0.16	21	0.93	0.89	0.13	21	0.92	0.89	0.13	21	0.90	0.82	0.09	21	0.90	0.85	0.13
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	68	0.99	1.08	0.27	68	0.93	1.05	0.40	68	0.92	1.06	0.45	68	0.90	1.06	0.81	68	0.90	0.97	0.34
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	42	0.99	1.21	0.17	42	0.93	1.11	0.14	42	0.92	1.11	0.13	42	0.90	1.07	0.14	42	0.90	1.07	0.12
	Non-derivatized - MS/MS non-kit	22	0.99	1.07	0.20	23	0.93	1.00	0.23	23	0.92	1.00	0.20	23	0.90	0.94	0.20	23	0.90	0.97	0.26
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.99	1.06	0.07	6	0.93	1.02	0.10	6	0.92	1.02	0.13	6	0.90	0.94	0.12	6	0.90	0.92	0.13
	Other	5	0.99	0.97	0.26	5	0.93	0.89	0.26	5	0.92	0.88	0.18	5	0.90	0.87	0.22	5	0.90	0.85	0.22
C16OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.02	0.01	0.01	3	0.02	0.02	0.01	3	0.02	0.01	0.00	3	1.02	0.50	0.10	3	0.02	0.01	0.00
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.02	0.03	0.03	20	0.02	0.03	0.03	20	0.02	0.03	0.03	20	1.02	0.67	0.20	20	0.02	0.03	0.02
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.02	0.01	0.01	3	0.02	0.03	0.01	3	0.02	0.02	0.01	3	1.02	0.65	0.03	3	0.02	0.02	0.03
	Derivatized - MS/MS non-kit	67	0.02	0.03	0.05	67	0.02	0.03	0.03	67	0.02	0.03	0.03	67	1.02	0.68	0.17	67	0.02	0.03	0.04
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.02	0.01	0.00	3	0.02	0.01	0.00	3	0.02	0.01	0.00	3	1.02	0.67	0.11	3	0.02	0.01	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	0.02	0.01	0.01	20	0.02	0.01	0.01	20	0.02	0.01	0.02	20	1.02	0.44	0.10	20	0.02	0.02	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	71	0.02	0.01	0.00	71	0.02	0.01	0.01	71	0.02	0.01	0.01	71	1.02	0.57	0.28	71	0.02	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	45	0.02	0.01	0.00	45	0.02	0.01	0.00	45	0.02	0.01	0.01	45	1.02	0.58	0.09	45	0.02	0.01	0.00
	Non-derivatized - MS/MS non-kit	23	0.02	0.01	0.01	23	0.02	0.01	0.01	23	0.02	0.01	0.01	23	1.02	0.70	0.18	23	0.02	0.02	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	5	0.02	0.01	0.00	5	0.02	0.01	0.01	5	0.02	0.01	0.01	5	1.02	0.47	0.11	5	0.02	0.01	0.01
	Other	5	0.02	0.04	0.03	5	0.02	0.03	0.02	5	0.02	0.02	0.01	5	1.02	0.80	0.39	5	0.02	0.03	0.02

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C18 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.57	0.62	0.12	3	0.63	0.66	0.10	3	0.62	0.75	0.22	3	1.71	1.69	0.08	3	1.72	1.56	0.18
	Derivatized - MS/MS MassChrom® Chromsystems	20	0.57	0.67	0.14	20	0.63	0.73	0.13	20	0.62	0.71	0.13	20	1.71	1.81	0.27	20	1.72	1.82	0.28
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.57	0.65	0.04	3	0.63	0.66	0.08	3	0.62	0.61	0.08	3	1.71	1.85	0.24	3	1.72	1.78	0.27
	Derivatized - MS/MS non-kit	62	0.57	0.67	0.21	62	0.63	0.71	0.20	62	0.62	0.72	0.35	62	1.71	1.87	0.52	62	1.72	1.84	0.39
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	0.57	0.60	0.11	21	0.63	0.65	0.09	21	0.62	0.67	0.15	21	1.71	1.79	0.25	21	1.72	1.79	0.24
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	66	0.57	0.59	0.06	66	0.63	0.67	0.08	66	0.62	0.68	0.08	66	1.71	1.84	0.23	66	1.72	1.79	0.17
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	38	0.57	0.61	0.07	38	0.63	0.66	0.07	38	0.62	0.66	0.07	38	1.71	1.87	0.21	38	1.72	1.83	0.19
	Non-derivatized - MS/MS non-kit	20	0.57	0.58	0.08	20	0.63	0.64	0.12	20	0.62	0.64	0.11	20	1.71	1.71	0.32	20	1.72	1.74	0.38
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.57	0.57	0.05	6	0.63	0.66	0.05	6	0.62	0.65	0.07	6	1.71	1.74	0.16	6	1.72	1.75	0.15
	Other	5	0.57	0.59	0.21	5	0.63	0.73	0.37	5	0.62	0.73	0.39	5	1.71	1.88	0.92	5	1.72	1.95	0.94
C18:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	1.15	1.20	0.20	3	1.51	1.42	0.17	3	1.48	1.63	0.29	3	1.37	1.44	0.25	3	1.35	1.41	0.23
	Derivatized - MS/MS MassChrom® Chromsystems	20	1.15	1.24	0.51	20	1.51	1.66	0.44	20	1.48	1.61	0.61	20	1.37	1.49	0.51	20	1.35	1.43	0.46
	Derivatized - MS/MS NeoGram PerkinElmer	3	1.15	1.29	0.10	3	1.51	1.66	0.20	3	1.48	1.59	0.19	3	1.37	1.68	0.08	3	1.35	1.59	0.28
	Derivatized - MS/MS non-kit	61	1.15	1.22	0.25	61	1.51	1.64	0.33	61	1.48	1.62	0.33	61	1.37	1.45	0.28	61	1.35	1.44	0.26
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	1.15	1.27	0.37	20	1.51	1.70	0.42	20	1.48	1.73	0.42	20	1.37	1.48	0.41	20	1.35	1.50	0.37
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	66	1.15	1.21	0.21	66	1.51	1.67	0.31	66	1.48	1.67	0.29	66	1.37	1.51	0.33	66	1.35	1.45	0.25
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	35	1.15	1.27	0.17	35	1.51	1.68	0.21	35	1.48	1.69	0.20	35	1.37	1.53	0.17	35	1.35	1.53	0.20
	Non-derivatized - MS/MS non-kit	20	1.15	1.18	0.41	20	1.51	1.58	0.59	20	1.48	1.56	0.60	20	1.37	1.37	0.50	20	1.35	1.41	0.56
	Non-derivatized Labsystems Neomass AAAC Plus	5	1.15	1.16	0.21	5	1.51	1.62	0.26	5	1.48	1.54	0.29	5	1.37	1.34	0.17	5	1.35	1.34	0.20
	Other	5	1.15	1.67	1.18	5	1.51	2.37	1.77	5	1.48	2.41	1.80	5	1.37	2.16	1.71	5	1.35	2.27	2.05

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20211006001				20211006002				20211006003				20211006004				20211006005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
C18OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.01	0.01	0.01	3	0.01	0.01	0.02	3	0.01	0.01	0.01	3	0.81	0.39	0.10	3	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.01	0.03	0.05	18	0.01	0.03	0.04	18	0.01	0.02	0.02	18	0.81	0.62	0.35	18	0.01	0.04	0.05
	Derivatized - MS/MS NeoGram PerkinElmer	3	0.01	0.01	0.01	3	0.01	0.01	0.02	3	0.01	0.02	0.01	3	0.81	0.58	0.06	3	0.01	0.02	0.00
	Derivatized - MS/MS non-kit	44	0.01	0.03	0.04	44	0.01	0.02	0.03	44	0.01	0.02	0.02	44	0.81	0.57	0.32	44	0.01	0.04	0.06
	Non-derivatized - MS/MS MassChrom® Chromsystems	18	0.01	0.00	0.01	18	0.01	0.01	0.01	18	0.01	0.01	0.01	18	0.81	0.41	0.11	18	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	65	0.01	0.00	0.00	65	0.01	0.01	0.02	65	0.01	0.01	0.01	65	0.81	0.42	0.06	65	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	37	0.01	0.00	0.01	37	0.01	0.00	0.01	37	0.01	0.01	0.01	37	0.81	0.39	0.10	37	0.01	0.01	0.00
	Non-derivatized - MS/MS non-kit	19	0.01	0.01	0.01	19	0.01	0.01	0.01	19	0.01	0.01	0.01	19	0.81	0.45	0.19	19	0.01	0.01	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	5	0.01	0.00	0.01	5	0.01	0.01	0.01	5	0.01	0.01	0.01	5	0.81	0.34	0.10	5	0.01	0.01	0.00
	Other	4	0.01	0.03	0.03	4	0.01	0.03	0.03	4	0.01	0.02	0.03	4	0.81	0.77	0.79	4	0.01	0.03	0.02

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Amino Acids (AAPT)

		Specimen Number																			
		20211005001				20211005002				20211005003				20211005004				20211005005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
Arg (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	216.6	95.6	12.0	3	11.9	25.6	25.3	3	12.3	17.1	16.3	3	15.3	10.2	3.2	3	20.2	11.8	1.4
	Derivatized - MS/MS MassChrom® Chromsystems	16	216.6	178.3	35.1	16	11.9	12.9	4.8	16	12.3	11.4	4.0	16	15.3	13.6	4.3	16	20.2	17.4	6.5
	Derivatized - MS/MS NeoGram PerkinElmer	3	216.6	144.3	10.0	3	11.9	9.1	1.3	3	12.3	7.5	0.8	3	15.3	9.8	1.2	3	20.2	12.9	1.1
	Derivatized - MS/MS non-kit	49	216.6	115.7	70.4	49	11.9	10.6	8.9	49	12.3	10.1	8.7	49	15.3	11.1	7.6	49	20.2	13.7	8.0
	LC-MS/MS non-kit	4	216.6	170.6	54.2	4	11.9	10.8	10.5	4	12.3	10.3	5.4	4	15.3	11.7	6.5	4	20.2	13.9	4.9
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	216.6	153.6	29.2	20	11.9	9.3	2.9	20	12.3	8.4	2.5	20	15.3	11.0	2.8	20	20.2	12.7	3.5
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	62	216.6	173.3	31.7	62	11.9	8.4	2.0	62	12.3	8.1	1.8	62	15.3	10.7	2.0	61	20.2	14.5	2.6
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	39	216.6	171.8	16.5	39	11.9	9.2	2.3	39	12.3	8.3	2.3	39	15.3	11.5	3.1	39	20.2	15.0	1.9
	Non-derivatized - MS/MS non-kit	13	216.6	165.2	35.4	13	11.9	11.8	6.7	13	12.3	9.6	2.3	13	15.3	11.4	1.3	13	20.2	15.9	2.3
	Non-derivatized Labsystems Neomass AAAC Plus	7	216.6	162.6	39.3	7	11.9	10.4	5.6	7	12.3	9.5	4.4	7	15.3	13.4	5.9	7	20.2	16.4	7.3
	Other	6	216.6	193.1	38.5	6	11.9	24.5	33.6	6	12.3	12.5	7.3	6	15.3	16.8	9.7	6	20.2	16.9	5.7
Cit (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	217.0	215.7	36.9	3	36.7	38.2	8.8	3	38.3	35.1	6.0	3	33.4	34.3	4.4	3	31.5	25.9	13.1
	Derivatized - MS/MS MassChrom® Chromsystems	16	217.0	178.5	26.2	16	36.7	34.8	4.8	16	38.3	33.2	5.5	16	33.4	29.8	5.2	16	31.5	30.1	6.5
	Derivatized - MS/MS NeoGram PerkinElmer	3	217.0	215.5	16.3	3	36.7	37.9	2.3	3	38.3	38.1	3.7	3	33.4	33.0	3.5	3	31.5	30.5	3.4
	Derivatized - MS/MS non-kit	53	217.0	171.2	38.8	53	36.7	31.0	7.1	53	38.3	31.4	7.0	53	33.4	29.3	7.5	53	31.5	26.7	6.1
	LC-MS/MS non-kit	4	217.0	175.6	96.1	4	36.7	34.8	17.6	4	38.3	31.0	10.8	4	33.4	31.8	10.5	4	31.5	26.7	11.7
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	217.0	180.4	34.3	4	36.7	29.4	2.5	4	38.3	30.4	3.4	4	33.4	28.6	3.0	4	31.5	26.0	3.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	217.0	180.1	23.0	20	36.7	32.7	4.6	20	38.3	33.2	3.9	20	33.4	30.3	5.0	20	31.5	28.3	4.4
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	72	217.0	199.1	28.9	72	36.7	34.8	5.8	72	38.3	35.7	4.3	72	33.4	32.4	3.8	71	31.5	29.8	4.3
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	41	217.0	189.8	21.4	41	36.7	33.7	4.2	41	38.3	34.0	3.9	41	33.4	31.6	3.5	41	31.5	28.6	3.6
	Non-derivatized - MS/MS non-kit	20	217.0	208.3	53.8	20	36.7	35.6	7.4	20	38.3	35.4	8.0	20	33.4	33.9	8.0	20	31.5	28.3	7.0
	Non-derivatized Labsystems Neomass AAAC Plus	7	217.0	189.0	50.7	7	36.7	27.2	6.7	7	38.3	28.2	7.1	7	33.4	30.2	4.9	7	31.5	26.2	5.9
	Other	5	217.0	168.0	36.8	5	36.7	41.5	4.9	5	38.3	40.7	7.9	5	33.4	39.3	10.8	5	31.5	35.9	12.5

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Amino Acids (AAPT)

		Specimen Number																			
		20211005001				20211005002				20211005003				20211005004				20211005005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
Leu (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	113.9	191.8	97.5	3	142.7	187.4	53.8	3	148.5	170.1	43.7	3	117.7	161.5	50.1	3	152.4	178.5	36.3
	Derivatized - MS/MS MassChrom® Chromsystems	16	113.9	123.2	21.6	16	142.7	152.5	24.6	16	148.5	159.4	35.8	16	117.7	125.0	26.2	16	152.4	154.0	22.9
	Derivatized - MS/MS NeoGram PerkinElmer	3	113.9	124.3	17.0	3	142.7	151.9	11.3	3	148.5	160.6	18.7	3	117.7	130.9	9.5	3	152.4	152.7	24.9
	Derivatized - MS/MS non-kit	54	113.9	133.6	36.4	54	142.7	169.8	76.0	54	148.5	166.3	42.4	54	117.7	137.9	39.5	53	152.4	169.8	44.5
	LC-MS/MS non-kit	6	113.9	157.6	105.9	6	142.7	199.4	112.8	6	148.5	191.3	95.8	6	117.7	166.0	84.3	6	152.4	238.9	139.2
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	113.9	162.9	13.1	4	142.7	212.3	20.0	4	148.5	217.8	21.9	4	117.7	180.8	15.5	4	152.4	231.9	15.9
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	113.9	145.2	24.2	21	142.7	186.8	28.1	21	148.5	188.8	32.5	21	117.7	158.4	28.6	21	152.4	205.3	31.7
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	75	113.9	157.9	21.6	75	142.7	204.6	27.9	75	148.5	208.9	26.2	75	117.7	171.1	20.1	74	152.4	218.4	34.8
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	48	113.9	144.1	14.6	48	142.7	187.3	15.9	48	148.5	188.3	16.1	48	117.7	162.1	17.0	48	152.4	200.3	23.1
	Non-derivatized - MS/MS non-kit	28	113.9	165.1	26.8	28	142.7	203.8	29.2	28	148.5	203.0	25.1	28	117.7	174.5	28.4	28	152.4	223.9	31.0
	Non-derivatized Labsystems Neomass AAAC Plus	7	113.9	129.9	24.4	7	142.7	164.7	21.4	7	148.5	164.0	24.1	7	117.7	144.1	25.4	7	152.4	197.6	49.3
	Other	10	113.9	132.6	51.6	10	142.7	170.6	66.7	10	148.5	172.6	59.0	10	117.7	155.3	61.9	10	152.4	191.6	70.6
Met (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	20.8	22.2	2.5	3	30.8	27.8	3.1	3	211.1	169.6	12.7	3	19.9	17.7	4.1	3	43.5	36.1	3.4
	Derivatized - MS/MS MassChrom® Chromsystems	16	20.8	14.8	4.6	16	30.8	21.9	4.9	16	211.1	129.4	35.7	16	19.9	15.2	4.4	16	43.5	30.7	8.5
	Derivatized - MS/MS NeoGram PerkinElmer	3	20.8	21.1	3.0	3	30.8	34.3	1.7	3	211.1	197.2	23.6	3	19.9	21.0	2.5	3	43.5	42.4	7.1
	Derivatized - MS/MS non-kit	53	20.8	22.4	8.2	53	30.8	32.1	10.5	53	211.1	167.8	35.9	53	19.9	22.0	7.5	53	43.5	41.5	7.5
	LC-MS/MS non-kit	5	20.8	18.8	3.7	5	30.8	33.4	11.6	5	211.1	184.3	85.2	5	19.9	18.5	4.6	5	43.5	48.6	20.1
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	20.8	18.6	1.3	4	30.8	29.1	1.1	4	211.1	174.8	13.2	4	19.9	18.9	0.6	4	43.5	40.2	1.8
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	20.8	16.7	4.1	21	30.8	25.0	5.6	21	211.1	158.7	28.2	20	19.9	17.2	3.2	21	43.5	35.6	7.8
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	74	20.8	17.8	2.6	74	30.8	28.8	4.3	74	211.1	181.2	21.4	74	19.9	18.8	2.5	73	43.5	39.7	4.2
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	43	20.8	16.7	1.9	43	30.8	27.2	3.1	43	211.1	167.1	18.0	43	19.9	18.4	5.2	43	43.5	36.8	4.4
	Non-derivatized - MS/MS non-kit	26	20.8	21.3	5.1	26	30.8	33.6	7.5	26	211.1	195.6	40.7	26	19.9	21.4	5.6	26	43.5	43.6	8.4

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Amino Acids (AAPT)

		Specimen Number																			
		20211005001				20211005002				20211005003				20211005004				20211005005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
Met (µmol/L blood)	Non-derivatized Labsystems Neomass AAAC Plus	7	20.8	21.3	17.6	7	30.8	31.2	18.0	7	211.1	198.9	92.0	7	19.9	22.6	16.6	7	43.5	42.1	25.1
	Other	7	20.8	20.3	6.0	7	30.8	24.6	5.4	7	211.1	167.3	63.8	7	19.9	17.8	4.0	7	43.5	48.9	25.4
Phe (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	56.5	51.3	7.5	3	295.6	232.4	26.8	3	68.2	50.3	11.8	3	53.9	46.2	3.9	3	78.2	60.9	8.0
	Derivatized - MS/MS MassChrom® Chromsystems	17	56.5	50.3	6.0	17	295.6	259.1	32.1	17	68.2	67.1	32.5	17	53.9	54.7	30.5	17	78.2	71.2	20.5
	Derivatized - MS/MS NeoGram PerkinElmer	3	56.5	58.9	5.6	3	295.6	295.4	8.0	3	68.2	65.7	3.2	3	53.9	52.9	4.0	3	78.2	74.7	6.8
	Derivatized - MS/MS non-kit	56	56.5	56.4	13.1	56	295.6	279.3	53.0	56	68.2	66.3	14.6	56	53.9	54.3	11.7	56	78.2	74.8	16.0
	Fluorometric manual Phe - non-kit	5	56.5	78.9	22.6	5	295.6	276.8	53.7	5	68.2	102.6	20.4	5	53.9	92.1	28.0	5	78.2	127.0	28.4
	GSP® Phe Neonatal PerkinElmer	13	56.5	59.1	12.3	13	295.6	280.8	15.7	13	68.2	80.2	12.1	13	53.9	60.3	14.4	13	78.2	94.1	16.3
	LC-MS/MS non-kit	5	56.5	53.7	6.8	5	295.6	307.7	54.2	5	68.2	63.2	7.6	5	53.9	49.4	7.2	5	78.2	80.4	22.9
	NeoLISA® Phe Interscientifica	3	56.5	122.6	70.7	3	295.6	319.3	118.0	3	68.2	115.9	85.6	3	53.9	105.0	51.5	3	78.2	293.0	231.8
	Neonatal Phe LabSystems	9	56.5	68.6	14.2	9	295.6	285.5	17.4	9	68.2	84.1	13.8	9	53.9	70.7	10.4	9	78.2	107.6	12.9
	Neonatal® Phe Kit PerkinElmer	12	56.5	62.6	20.6	11	295.6	249.7	30.4	12	68.2	65.4	23.6	12	53.9	51.6	23.2	12	78.2	90.9	30.3
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	56.5	55.1	5.7	4	295.6	290.3	24.8	4	68.2	65.2	4.8	4	53.9	55.0	4.4	4	78.2	74.4	5.8
	Non-derivatized - MS/MS MassChrom® Chromsystems	31	56.5	52.8	6.7	31	295.6	270.2	26.2	31	68.2	62.6	6.2	31	53.9	52.5	6.3	31	78.2	72.4	9.6
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	76	56.5	51.5	6.9	76	295.6	271.9	37.3	76	68.2	60.9	6.7	76	53.9	50.5	5.1	75	78.2	69.7	7.2
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	47	56.5	46.9	5.7	47	295.6	246.6	29.7	47	68.2	55.3	6.8	47	53.9	47.0	5.8	47	78.2	62.9	8.0
	Non-derivatized - MS/MS non-kit	33	56.5	54.6	8.3	33	295.6	282.8	41.2	33	68.2	64.5	11.4	33	53.9	55.8	11.5	33	78.2	79.1	27.8
	Non-derivatized Labsystems Neomass AAAC Plus	5	56.5	48.8	8.1	6	295.6	264.0	35.3	6	68.2	57.7	8.7	6	53.9	50.4	7.7	6	78.2	74.9	23.8
	Other	17	56.5	74.4	39.8	17	295.6	276.4	42.0	17	68.2	85.1	45.9	17	53.9	68.0	43.0	17	78.2	105.5	48.4

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Amino Acids (AAPT)

		Specimen Number																			
		20211005001				20211005002				20211005003				20211005004				20211005005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
SUAC (µmol/L blood)	Derivatized - MS/MS MassChrom® Chromsystems	15	0.6	1.1	2.1	15	0.5	1.0	1.8	15	0.5	1.0	1.8	15	0.5	1.2	2.7	15	25.5	13.9	2.5
	Derivatized - MS/MS non-kit	26	0.6	1.3	2.6	26	0.5	0.7	0.7	26	0.5	0.7	0.6	26	0.5	0.9	0.8	27	25.5	16.6	10.0
	Non-derivatized - MS/MS MassChrom® Chromsystems	10	0.6	0.7	0.4	10	0.5	0.6	0.4	10	0.5	0.6	0.4	10	0.5	0.7	0.4	10	25.5	11.5	3.4
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	49	0.6	0.6	0.3	49	0.5	0.6	0.3	49	0.5	0.5	0.3	49	0.5	0.6	0.4	48	25.5	11.3	2.1
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	34	0.6	0.2	0.1	34	0.5	0.2	0.1	34	0.5	0.2	0.1	34	0.5	0.4	1.3	34	25.5	8.9	2.2
	Non-derivatized - MS/MS non-kit	15	0.6	0.7	0.5	15	0.5	0.6	0.4	15	0.5	0.6	0.4	15	0.5	0.7	0.5	15	25.5	19.8	14.1
Tyr (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	82.7	81.9	8.5	3	73.8	63.9	10.6	3	77.1	59.6	5.2	3	50.1	48.4	5.3	3	906.6	750.1	14.3
	Derivatized - MS/MS MassChrom® Chromsystems	17	82.7	81.3	15.2	17	73.8	75.1	10.9	17	77.1	75.2	14.1	17	50.1	51.6	7.7	17	906.6	811.4	85.8
	Derivatized - MS/MS NeoGram PerkinElmer	3	82.7	79.4	12.5	3	73.8	73.0	1.5	3	77.1	71.8	6.5	3	50.1	47.9	7.1	3	906.6	856.0	79.8
	Derivatized - MS/MS non-kit	54	82.7	78.1	17.8	54	73.8	70.8	15.9	54	77.1	71.6	16.8	54	50.1	50.3	13.1	54	906.6	792.5	164.9
	LC-MS/MS non-kit	5	82.7	79.5	13.8	5	73.8	116.5	99.8	5	77.1	70.9	9.8	5	50.1	49.0	5.4	5	906.6	792.9	82.5
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	82.7	74.1	9.5	4	73.8	66.4	6.4	4	77.1	66.9	8.7	4	50.1	45.7	3.7	4	906.6	795.0	84.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	82.7	78.6	10.2	28	73.8	72.3	8.1	28	77.1	72.3	6.8	28	50.1	50.4	6.5	27	906.6	822.7	101.0
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	70	82.7	83.6	11.6	70	73.8	75.1	11.0	70	77.1	85.8	78.0	70	50.1	52.2	6.5	69	906.6	877.7	102.0
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	48	82.7	73.0	7.9	48	73.8	67.0	7.5	48	77.1	66.7	6.9	47	50.1	46.6	4.1	47	906.6	761.0	83.1
	Non-derivatized - MS/MS non-kit	29	82.7	80.3	12.2	29	73.8	72.8	10.0	29	77.1	73.2	9.9	29	50.1	49.6	6.7	29	906.6	839.0	132.8
	Non-derivatized Labsystems Neomass AAAC Plus	7	82.7	80.3	18.5	7	73.8	74.9	36.2	7	77.1	83.2	49.2	7	50.1	49.8	19.1	7	906.6	805.2	173.2
	Other	7	82.7	76.1	12.9	7	73.8	76.1	24.2	7	77.1	76.2	19.8	7	50.1	60.5	19.6	7	906.6	871.6	363.4

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Amino Acids (AAPT)

		Specimen Number																			
		20211005001				20211005002				20211005003				20211005004				20211005005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
Val (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	131.2	128.2	10.9	3	163.8	143.6	27.5	3	170.5	133.7	27.6	3	130.5	123.0	18.7	3	156.3	140.7	12.1
	Derivatized - MS/MS MassChrom® Chromsystems	16	131.2	117.4	25.2	16	163.8	147.4	25.6	16	170.5	145.6	28.6	16	130.5	116.8	26.8	16	156.3	134.1	23.2
	Derivatized - MS/MS NeoGram PerkinElmer	3	131.2	115.7	7.6	3	163.8	159.0	19.8	3	170.5	145.6	11.3	3	130.5	135.1	5.7	3	156.3	138.0	13.1
	Derivatized - MS/MS non-kit	51	131.2	137.3	36.3	51	163.8	169.6	39.8	51	170.5	176.6	60.0	51	130.5	141.3	35.7	51	156.3	159.1	39.6
	LC-MS/MS non-kit	5	131.2	160.1	56.7	5	163.8	197.2	57.6	5	170.5	177.2	52.2	5	130.5	144.2	46.9	5	156.3	185.0	58.1
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	131.2	143.0	9.5	4	163.8	181.1	11.0	4	170.5	184.8	17.2	4	130.5	151.6	8.9	4	156.3	171.9	11.4
	Non-derivatized - MS/MS MassChrom® Chromsystems	20	131.2	111.3	14.3	20	163.8	142.4	19.1	20	170.5	144.8	21.6	20	130.5	118.5	18.3	21	156.3	138.0	23.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	62	131.2	146.5	24.9	62	163.8	185.1	31.6	62	170.5	189.2	27.8	62	130.5	151.7	19.6	61	156.3	174.5	24.3
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	46	131.2	136.4	12.5	46	163.8	174.6	18.1	46	170.5	173.7	15.2	46	130.5	144.5	14.8	46	156.3	159.9	15.3
	Non-derivatized - MS/MS non-kit	20	131.2	126.7	20.1	20	163.8	159.0	23.3	20	170.5	154.8	24.1	20	130.5	132.2	20.9	20	156.3	147.4	24.4
	Non-derivatized Labsystems Neomass AAAC Plus	7	131.2	114.8	35.5	7	163.8	135.7	45.0	7	170.5	139.9	46.0	7	130.5	119.4	42.7	7	156.3	132.6	38.9
	Other	8	131.2	118.7	43.3	8	163.8	152.5	57.3	8	170.5	149.5	52.8	8	130.5	117.0	34.3	8	156.3	146.6	45.4

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20211001001				20211001002				20211001003				20211001004				20211001005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
T4 (µg/dL serum)	AutoDELFIA® Neonatal T4 PerkinElmer	19	15.1	14.5	3.4	19	15.3	14.9	3.5	18	1.5	1.9	0.5	19	14.9	14.0	3.2	19	16.9	15.8	3.8
	DELFIA® Neonatal T4 PerkinElmer	13	15.1	18.1	4.8	13	15.3	17.4	3.4	13	1.5	2.0	1.0	13	14.9	17.9	5.5	13	16.9	19.6	5.8
	GSP® T4 Neonatal PerkinElmer	24	15.1	16.1	1.8	24	15.3	16.3	2.8	22	1.5	2.6	3.7	24	14.9	15.9	1.8	24	16.9	18.7	2.4
	NeoMAP® T4 Interscientifica	4	15.1	18.2	0.5	4	15.3	19.5	2.1	4	1.5	4.8	1.5	4	14.9	18.9	2.3	4	16.9	19.9	2.5
	Other	9	15.1	15.6	3.4	9	15.3	16.3	4.1	9	1.5	2.1	0.6	9	14.9	15.9	3.4	9	16.9	17.3	4.0
TSH (µIU/mL serum)	AutoDELFIA® Neonatal hTSH PerkinElmer	78	10.8	7.3	1.4	78	12.8	9.6	1.9	78	90.4	82.7	14.6	78	11.2	7.7	1.7	78	10.6	7.5	1.5
	DELFIA® Neonatal TSH PerkinElmer	52	10.8	8.8	9.3	52	12.8	10.1	3.4	52	90.4	79.6	18.7	52	11.2	7.7	2.8	52	10.6	9.6	14.5
	GSP® hTSH Neonatal PerkinElmer	106	10.8	8.0	2.0	106	12.8	10.3	2.3	106	90.4	84.1	16.4	106	11.2	8.4	2.2	106	10.6	8.3	2.0
	NeoMAP® TSH Interscientifica	4	10.8	9.2	2.7	4	12.8	11.8	2.7	4	90.4	135.3	49.1	4	11.2	8.5	0.4	4	10.6	8.1	0.8
	Neonatal TSH LabSystems	17	10.8	8.7	3.9	17	12.8	10.1	3.8	17	90.4	78.6	24.5	17	11.2	8.8	3.3	17	10.6	8.9	3.6
	Other	18	10.8	9.7	2.5	18	12.8	12.0	2.4	18	90.4	89.4	26.1	18	11.2	10.1	2.4	18	10.6	9.7	2.7
	Trimaris HORM non-kit	3	10.8	8.5	0.2	3	12.8	9.5	0.7	3	90.4	76.3	0.8	3	11.2	9.1	1.0	3	10.6	6.8	0.8
	ZenTech ELISA Neonatal TSH	9	10.8	5.3	2.9	9	12.8	6.6	4.2	9	90.4	63.3	18.2	9	11.2	7.0	4.5	9	10.6	8.3	5.5
17OHP (ng/mL serum)	AutoDELFIA® Neonatal 17OHP PerkinElmer	60	86.2	87.9	16.6	60	6.4	5.0	1.0	60	5.5	4.6	1.0	60	6.1	4.9	1.0	59	6.0	4.3	0.8
	DELFIA® Neonatal 17OHP PerkinElmer	40	86.2	87.1	26.8	40	6.4	5.2	2.0	40	5.5	4.8	1.7	40	6.1	5.0	3.1	39	6.0	4.4	2.4
	GSP® 17OHP Neonatal PerkinElmer	92	86.2	77.9	14.9	93	6.4	4.7	1.1	93	5.5	5.0	1.2	92	6.1	4.4	1.0	92	6.0	4.0	0.9
	LC-MS/MS non-kit	9	86.2	67.0	20.9	9	6.4	3.9	1.4	9	5.5	3.4	1.2	9	6.1	4.1	1.8	9	6.0	4.0	2.0
	NeoMAP® 17OHP Interscientifica	3	86.2	85.6	5.6	3	6.4	4.6	0.9	3	5.5	3.2	0.7	3	6.1	4.7	0.5	3	6.0	3.2	0.9
	Neonatal 17OHP LabSystems	13	86.2	76.9	22.9	13	6.4	7.0	2.8	13	5.5	6.0	3.5	13	6.1	7.4	4.7	13	6.0	5.7	3.0
	Other	13	86.2	103.0	38.2	12	6.4	6.6	2.2	12	5.5	6.3	2.1	12	6.1	7.6	2.6	12	6.0	6.3	1.8
	ZenTech ELISA Neonatal 17OHP	10	86.2	75.2	41.2	10	6.4	7.6	4.5	10	5.5	2.9	4.0	10	6.1	6.3	4.9	10	6.0	6.0	4.2

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20211001001				20211001002				20211001003				20211001004				20211001005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
TGal (mg/dL blood)	50hr Reagent Kit Spotcheck® TGal Astoria-Pacific	5	3.2	2.9	0.6	5	25.1	21.7	2.4	5	4.0	2.9	0.6	5	3.0	3.0	0.7	5	2.6	3.3	0.6
	Colorimetric -non-kit method	5	3.2	4.5	1.6	5	25.1	42.0	21.9	5	4.0	4.5	2.2	5	3.0	4.8	1.3	5	2.6	5.4	2.0
	Fluorescence TGal Neonatal PerkinElmer	35	3.2	1.9	0.9	35	25.1	19.6	2.4	35	4.0	2.6	0.8	36	3.0	2.0	1.7	36	2.6	1.7	3.6
	Fluorometric manual TGal - non-kit	8	3.2	2.7	1.6	9	25.1	25.4	9.8	8	4.0	2.2	1.1	8	3.0	4.5	2.7	8	2.6	4.7	3.1
	GSP® TGal Neonatal PerkinElmer	49	3.2	2.5	1.0	49	25.1	25.2	5.0	49	4.0	3.0	1.0	49	3.0	2.6	1.1	49	2.6	2.4	0.7
	NeoLISA® TGal Interscientifica	3	3.2	3.2	1.4	3	25.1	24.8	1.1	3	4.0	2.5	1.4	3	3.0	2.9	1.1	3	2.6	5.2	0.6
	Other	25	3.2	2.5	1.1	24	25.1	26.7	7.8	25	4.0	2.7	1.5	25	3.0	3.2	2.2	25	2.6	3.0	1.1
	ZenTech Neonatal TGal Enzymatic Colorimetric	19	3.2	3.0	1.4	19	25.1	21.6	6.1	19	4.0	3.6	1.4	19	3.0	2.9	1.3	19	2.6	3.4	1.3

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

Newborn Screening Quality Assurance Program
Year: 2021, Quarter: 1
Mean Reported Concentrations Sorted by Method

Program: Immunoreactive Trypsinogen (IRTPT)

		Specimen Number																			
		20211008001				20211008002				20211008003				20211008004				20211008005			
Analyte	**Method**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**	**N**	**EV**	**Mean**	**SD**
IRT (ng/mL blood)	AutoDELFIA® Neonatal IRT PerkinElmer	69	143.5	133.3	39.1	68	7.0	6.6	2.4	69	190.5	180.4	50.2	68	18.5	16.5	4.7	68	7.7	7.4	2.3
	DELFIA® Neonatal IRT	31	143.5	95.5	33.3	31	7.0	6.1	6.8	31	190.5	136.4	28.0	31	18.5	10.3	3.8	31	7.7	5.6	3.5
	ELISA Neonatal Trypsin MP Biomedicals	3	143.5	378.6	209.5	3	7.0	11.7	3.0	3	190.5	451.1	289.9	3	18.5	33.0	18.2	3	7.7	13.2	3.1
	FEIA IRT Labsystems	6	143.5	159.9	48.9	6	7.0	12.2	8.2	6	190.5	188.4	68.8	6	18.5	16.1	7.6	6	7.7	9.3	5.8
	GSP® IRT Neonatal PerkinElmer, ng/mL blood	77	143.5	144.5	17.9	71	7.0	7.7	1.3	77	190.5	193.4	21.1	76	18.5	18.4	2.2	71	7.7	8.2	1.2
	NeoMAP® IRT Interscientifica	4	143.5	65.9	32.4	4	7.0	5.2	0.7	4	190.5	119.0	14.6	4	18.5	13.7	8.5	4	7.7	12.2	3.4
	Other	12	143.5	175.4	75.5	12	7.0	13.1	6.1	12	190.5	233.1	77.6	12	18.5	25.9	9.9	12	7.7	14.5	7.7
	ZenTech ELISA Neonatal IRT	9	143.5	188.9	38.7	9	7.0	14.7	3.5	9	190.5	176.1	67.8	9	18.5	69.2	56.7	9	7.7	17.5	10.3

Note: EV = Expected Value, SD = Standard Deviation. Methods N < 3 not shown.

This *NEWBORN SCREENING QUALITY ASSURANCE PROGRAM* report is an internal publication distributed to program participants and selected program colleagues. The laboratory quality assurance program is a project cosponsored by the Centers for Disease Control and Prevention (CDC) and the Association of Public Health Laboratories.

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) ATLANTA, GA 30341

Director
Rochelle P. Walensky, MD, MPH

Director
National Center for Environmental Health
Patrick Breysse, Ph.D.

Director
Division of Laboratory Sciences
James L. Pirkle, M.D., Ph.D.

Chief
Newborn Screening and Molecular Biology Branch
Carla Cuthbert, Ph.D.

Contributors
Nicolle Baird, Ph.D
John Bernstein, MS
Christofer Brown, BS
Laura Centeno, BS
Suzanne Cordovado,
Ph.D Paul Dantonio, MS
Katherine Duneman, MS
Elise Gowen, MS
Christopher Greene, Ph.D
Laura Hancock, MS
Christopher Haynes, Ph.D
Miyono Hendrix, MS
Samantha Isenberg, Ph.D
Matt Kilgore, Ph.D
Deborah Koontz, Ph.D
Francis Lee, Ph.D
LiXia Li, Ph.D
Tim Lim, Ph.D
Edgardo Lobo, MS
Allison McCabe, BS
Elizabeth McCown, BS
Joanne Mei, Ph.D
Kristina Mercer, Ph.D
Stanimila Nikolova, Ph.D
Kaila Pearson, MS
Gyliann Pena, MS
Kostas Petritis, Ph.D
C. Austin Pickens, Ph.D
Maryam Salehi, Ph.D
Blanche Temate, Ph.D
Robert Vogt, Ph.D
Irene Sofikitis Williams, MS
Golriz Yazdanpanah, MS
Sherri Zobel, BS

Production
Vinay Anumula, MS
Kizzy Stewart
Dion Cannon

ASSOCIATION OF PUBLIC HEALTH LABORATORIES SILVER SPRING, MD 20910

President
Bill Whitmar, MS

Chairman, Newborn Screening and Genetics in Public Health Committee
Michele Caggana, Sc.D., FACMG

Chairman, Newborn Screening Quality Assurance Quality Control Subcommittee
Patricia R. Hunt, B.A. and Joseph Orsini, Ph.D.

Chairman, Newborn Screening Molecular Subcommittee
Rachel Lee, Ph.D., and Rosemary Hage, Ph.D.

INQUIRIES TO:
Sherri Zobel, Editor
Centers for Disease Control and Prevention (CDC), Newborn Screening Quality Assurance Program
Mailstop S110-3, 4770 Buford Highway, N.E., Atlanta, GA 30341-3724 E-mail: NSQAPDMT@cdc.gov