

Newborn Screening Quality Assurance Program Biochemical Proficiency Testing Program Report 2022 Quarter 4 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: March 13, 2023

Volume 3, No 3a

AMENDED REPORT

This amended report replaces the Newborn Screening Quality Assurance Program Biochemical Proficiency Testing Program Report, Volume 3, No 3 issued on November 22, 2022. This report corrects Frequency Distribution for Participants' Clinical Assessment tables for International GALT, International TSH, and Manufacturer IRT.

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 2022 Quarter 4 Newborn Screening Quality Assurance Program's (NSQAP) PT event. Data were collected in the new NSQAP data reporting portal.

On September 20, 2022, 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), glutaryl carnitine (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 uridylyltransferase (GALT) deficiency, glucose-6-phosphate dehydrogenase (G6PD) deficiency, and immunoreactive trypsinogen (IRT) were sent to participating laboratories. We processed data from 408 laboratories.

Specimen Consensus

A consensus of 80% of US laboratories must be reached for a specimen to be evaluated. If less than 10 US laboratories reported results for any one specimen, all submitted results were evaluated. NSQAP occasionally challenged cutoff levels by enriching samples near cutoff levels. These specimens were closely reviewed by the NSQAP PT committee. Not-evaluated specimens are considered educational.

The following specimens did not meet the 80% domestic participant consensus and were not-evaluated:

- Specimen 20224006002 – C10
- Specimen 20224006003 – C2 Low

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: 2022 Quarter: 4**

Program: Amino Acids Expected Values

	Specimen				
	20224005001	20224005002	20224005003	20224005004	20224005005
Analyte	Expected Value				
Arg (µmol/L blood)	23.5	24.1	14.1	20.0	20.6
Cit (µmol/L blood)	34.1	34.7	30.1	38.4	41.0
Leu (µmol/L blood)	162.4	164.1	707.8	144.6	149.4
Met (µmol/L blood)	25.2	175.4	38.4	22.1	20.3
Phe (µmol/L blood)	67.0	69.0	68.9	60.6	313.0
SUAC (µmol/L blood)	50.2	0.2	0.1	0.2	0.1
Tyr (µmol/L blood)	859.4	60.6	103.6	48.9	51.0
Val (µmol/L blood)	153.5	172.2	642.8	134.9	134.6

Program: Amino Acids Expected Clinical Assessments

	Specimen				
	20224005001	20224005002	20224005003	20224005004	20224005005
Analyte	Expected Assessment				
Arg (µmol/L blood)	1	1	1	1	1
Cit (µmol/L blood)	1	1	1	1	1
Leu (µmol/L blood)	1	1	2	1	1
Met (µmol/L blood)	1	2	1	1	1
Phe (µmol/L blood)	1	1	1	1	2
SUAC (µmol/L blood)	2	1	1	1	1
Tyr (µmol/L blood)	2	1	1	1	1
Val (µmol/L blood)	1	1	2	1	1

Note: Expected Value = sum of endogenous and enrichment values
Note: 1 = Within Normal Limits, 2 = Outside Normal Limits, NE = Not Evaluated

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2022 Quarter: 4**

**Program: Acylcarnitines
Expected Values**

Analyte	Specimen				
	20224006001	20224006002	20224006003	20224006004	20224006005
	Expected Value				
C0(L) (µmol/L blood)	27.38	27.16	4.09	20.82	27.44
C2(L) (µmol/L blood)	21.79	21.66	3.54	13.68	21.84
C3 (µmol/L blood)	0.47	0.46	0.38	1.43	10.46
C3DC (µmol/L blood)	13.02	0.02	0.01	0.03	0.02
C3DC+C4OH (µmol/L blood)	13.02	0.02	0.01	0.05	0.02
C4 (µmol/L blood)	0.04	0.03	0.05	0.07	0.04
C4OH (µmol/L blood)	0.05	0.05	0.02	0.11	0.05
C5 (µmol/L blood)	0.03	0.03	0.03	0.07	0.03
C5:1 (µmol/L blood)	0.00	0.00	0.00	0.00	0.00
C5DC (µmol/L blood)	0.02	0.01	0.01	0.02	0.01
C5OH (µmol/L blood)	0.33	0.33	0.56	3.39	0.36
C6 (µmol/L blood)	0.02	1.32	0.02	0.03	0.02
C8 (µmol/L blood)	0.02	1.82	0.02	0.03	0.02
C10 (µmol/L blood)	0.08	1.18	0.07	0.10	0.09
C10:1 (µmol/L blood)	0.01	0.91	0.00	0.01	0.01
C10:2 (µmol/L blood)	0.00	0.00	0.00	0.00	0.00
C14 (µmol/L blood)	0.04	0.03	0.02	0.06	0.04
C14:1 (µmol/L blood)	0.01	0.01	0.00	0.02	0.01
C16 (µmol/L blood)	0.58	0.57	0.27	0.61	0.60
C16OH (µmol/L blood)	0.01	0.01	0.00	0.01	0.01
C18 (µmol/L blood)	0.52	0.50	0.21	0.50	0.53
C18:1 (µmol/L blood)	0.59	0.57	0.36	0.72	0.64
C18OH (µmol/L blood)	0.00	0.00	0.00	0.00	0.00

Note: Expected Value = sum of endogenous and enrichment values

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2022 Quarter: 4**

**Program: Acylcarnitines
Expected Clinical Assessments**

Analyte	Specimen				
	20224006001	20224006002	20224006003	20224006004	20224006005
Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment	Expected Assessment
C0(L) (μmol/L blood)	1	1	2	1	1
C2(L) (μmol/L blood)	1	1	NE	1	1
C3 (μmol/L blood)	1	1	1	1	2
C3DC (μmol/L blood)	2	1	1	1	1
C3DC+C4OH (μmol/L blood)	2	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)	1	1	1	1	1
C5OH (μmol/L blood)	1	1	1	2	1
C6 (μmol/L blood)	1	2	1	1	1
C8 (μmol/L blood)	1	2	1	1	1
C10 (μmol/L blood)	1	NE	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	1	1
C14:1 (μmol/L blood)	1	1	1	1	1
C16 (μmol/L blood)	1	1	1	1	1
C16OH (μmol/L blood)	1	1	1	1	1
C18 (μmol/L blood)	1	1	1	1	1
C18:1 (μmol/L blood)	1	1	1	1	1
C18OH (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: 2022 Quarter: 4**

**Program: Hormones and Total Galactose
Expected Values**

	Specimen				
	20224001001	20224001002	20224001003	20224001004	20224001005
Analyte	Expected Value				
T4 (µg/dL serum)	10.0	10.0	1.5	10.0	10.0
TSH (µIU/mL serum)	0.0	0.0	90.0	0.0	0.0
17OHP (ng/mL serum)	0.0	0.0	0.0	85.0	0.0
TGal (mg/dL blood)	0.0	0.0	0.0	0.0	25.0

**Program: Hormones and Total Galactose
Expected Clinical Assessments**

	Specimen				
	20224001001	20224001002	20224001003	20224001004	20224001005
Analyte	Expected Assessment				
T4 (µg/dL serum)	1	1	2	1	1
TSH (µIU/mL serum)	1	1	2	1	1
17OHP (ng/mL serum)	1	1	1	2	1
TGal (mg/dL blood)	1	1	1	1	2

Note: Expected Value = sum of endogenous and enrichment values

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

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2022 Quarter: 4**

**Program: Immunoreactive Trypsinogen
Expected Values**

	Specimen				
	20224008001	20224008002	20224008003	20224008004	20224008005
Analyte	Expected Value				
IRT (ng/mL blood)	142.9	9.0	27.7	21.6	198.0

**Program: Immunoreactive Trypsinogen
Specimen Certification**

	Specimen				
	20224008001	20224008002	20224008003	20224008004	20224008005
Analyte	Expected Assessment				
IRT (ng/mL blood)	2	1	1	1	2

Note: Expected Value = sum of endogenous and enrichment values

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

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2022 Quarter: 4**

**Program: Biotinidase
Expected Clinical Assessments**

	Specimen				
	20224007001	20224007002	20224007003	20224007004	20224007005
Analyte	Expected Assessment				
BIOT	1	1	2	1	1

**Program: Galactose-1-phosphate Uridyltransferase
Expected Clinical Assessments**

	Specimen				
	20224009001	20224009002	20224009003	20224009004	20224009005
Analyte	Expected Assessment				
GALT	2	1	1	1	1

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

	Specimen				
	20224003001	20224003002	20224003003	20224003004	20224003005
Analyte	Expected Assessment				
G6PD	1	2	1	1	2

Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2022, Quarter 4
Acylcarnitines (ACPT)
Domestic

Analyte	Specimen Number									
	20224006001		20224006002		20224006003		20224006004		20224006005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	0	44	0	44	41	3	0	44	0	44
C2(L)	0	20	0	20	15	5	0	20	0	20
C3	0	44	0	44	0	44	44	0	43	1
C3DC	9	0	0	9	0	9	0	9	0	9
C3DC+C4OH	29	0	0	29	0	29	0	29	0	29
C4	0	42	0	42	0	42	0	42	0	42
C4OH	0	8	0	8	0	8	0	8	0	8
C5	0	44	0	44	0	44	0	44	0	44
C5:1	0	42	0	42	0	42	0	42	0	42
C5DC	0	41	0	41	0	41	0	41	0	41
C5OH	0	41	0	41	0	41	41	0	0	41
C6	0	38	38	0	0	38	0	38	0	38
C8	0	44	44	0	0	44	0	44	0	44
C10	0	39	23	16	0	39	0	39	0	39
C10:1	0	36	35	1	0	36	0	36	0	36
C10:2	0	25	0	25	0	25	0	25	0	25
C14	0	38	0	38	0	38	0	38	0	38
C14:1	0	44	0	44	0	44	0	44	0	44
C16	0	43	0	43	1	42	0	43	0	43
C16OH	0	44	0	44	0	44	0	44	0	44
C18	0	36	0	36	0	36	0	36	0	36
C18:1	0	38	0	38	0	38	0	38	0	38
C18OH	0	34	0	34	0	34	0	34	0	34

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments**

**Year: 2022, Quarter 4
Acylcarnitines (ACPT)**

International

Analyte	Specimen Number									
	20224006001		20224006002		20224006003		20224006004		20224006005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	4	222	4	222	201	25	4	222	4	222
C2(L)	3	185	4	184	129	59	4	184	4	184
C3	1	225	1	225	0	226	1	225	212	14
C3DC	65	4	1	68	0	69	0	69	0	69
C3DC+C4OH	95	3	2	96	0	98	1	97	0	98
C4	2	211	1	212	1	212	1	212	0	213
C4OH	4	58	2	60	1	61	2	60	1	61
C5	3	229	2	230	2	230	2	230	1	231
C5:1	1	204	1	204	2	203	2	203	1	204
C5DC	5	215	1	219	1	219	1	219	0	220
C5OH	1	196	0	197	21	176	194	3	0	197
C6	0	218	211	7	0	218	0	218	0	218
C8	1	237	234	4	0	238	0	238	0	238
C10	1	231	163	69	0	232	0	232	0	232
C10:1	0	203	192	11	0	203	0	203	0	203
C10:2	0	144	0	144	0	144	0	144	1	143
C14	1	218	1	218	1	218	0	219	2	217
C14:1	0	219	0	219	0	219	0	219	1	218
C16	2	219	4	217	5	216	3	218	4	217
C16OH	1	216	0	217	0	217	1	216	1	216
C18	2	212	3	211	4	210	3	211	2	212
C18:1	3	202	1	204	4	201	2	203	1	204
C18OH	0	182	0	182	0	182	0	182	0	182

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments**

**Year: 2022, Quarter 4
Acylcarnitines (ACPT)
Manufacturer**

Analyte	Specimen Number									
	20224006001		20224006002		20224006003		20224006004		20224006005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	1	9	1	9	9	1	1	9	1	9
C2(L)	0	6	0	6	5	1	0	6	0	6
C3	0	10	0	10	0	10	0	10	10	0
C3DC	4	0	0	4	0	4	0	4	0	4
C3DC+C4OH	5	0	0	5	0	5	0	5	0	5
C4	0	10	0	10	0	10	1	9	0	10
C4OH	1	3	0	4	0	4	0	4	0	4
C5	0	10	0	10	0	10	0	10	0	10
C5:1	0	8	0	8	0	8	0	8	0	8
C5DC	1	9	0	10	0	10	0	10	0	10
C5OH	0	7	0	7	1	6	7	0	0	7
C6	0	10	9	1	0	10	0	10	0	10
C8	0	10	10	0	0	10	0	10	0	10
C10	0	10	6	4	0	10	0	10	0	10
C10:1	0	8	8	0	0	8	0	8	0	8
C10:2	0	8	0	8	0	8	0	8	0	8
C14	0	10	0	10	0	10	0	10	0	10
C14:1	0	8	0	8	0	8	0	8	0	8
C16	0	10	0	10	0	10	0	10	0	10
C16OH	0	8	0	8	0	8	0	8	0	8
C18	0	10	0	10	0	10	0	10	0	10
C18:1	0	8	0	8	0	8	0	8	0	8
C18OH	0	8	0	8	0	8	0	8	0	8

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2022, Quarter4**

**Program: Amino Acids (AAPT)
Domestic**

Analyte	Specimen Number									
	20224005001		20224005002		20224005003		20224005004		20224005005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	0	37	0	37	0	37	0	37	0	37
CIT	1	41	1	41	0	42	1	41	0	42
LEU	0	42	1	41	42	0	0	42	0	42
MET	0	42	42	0	0	42	0	42	0	42
PHE	0	49	0	49	0	49	0	49	49	0
SUAC	41	0	0	41	0	41	0	41	0	41
TYR	45	2	0	47	1	46	0	47	0	47
VAL	0	29	0	29	29	0	0	29	0	29

**Program: Amino Acids (AAPT)
International**

Analyte	Specimen Number									
	20224005001		20224005002		20224005003		20224005004		20224005005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	0	196	0	196	0	196	0	196	1	195
CIT	7	208	8	207	3	212	23	192	19	196
LEU	1	235	1	235	231	5	1	235	0	236
MET	0	227	222	5	7	220	0	227	0	227
PHE	2	295	0	297	10	287	2	295	288	9
SUAC	117	5	1	121	1	121	0	122	0	122
TYR	234	3	0	237	4	233	0	237	0	237
VAL	1	222	0	223	218	5	0	223	0	223

**Newborn Screening Quality Assurance Program
 Frequency Distribution of Participants' Clinical Assessments
 Year: 2022, Quarter4**

**Program: Amino Acids (AAPT)
 Manufacturer**

	Specimen Number									
	20224005001		20224005002		20224005003		20224005004		20224005005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	0	10	0	10	0	10	0	10	0	10
CIT	0	10	0	10	0	10	0	10	0	10
LEU	0	12	0	12	12	0	0	12	0	12
MET	0	10	10	0	0	10	0	10	0	10
PHE	0	13	0	13	0	13	0	13	13	0
SUAC	7	1	0	8	0	8	0	8	1	7
TYR	10	0	0	10	0	10	0	10	0	10
VAL	0	10	0	10	10	0	0	10	0	10

**Newborn Screening Quality Assurance Program
 Frequency Distribution of Participants' Clinical Assessments
 Year: 2022, Quarter4**

**Program: Biotinidase (BIOTPT)
 Domestic**

	Specimen Number									
	20224007001		20224007002		20224007003		20224007004		20224007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	41	0	41	41	0	0	41	0	41

**Program: Biotinidase (BIOTPT)
 International**

	Specimen Number									
	20224007001		20224007002		20224007003		20224007004		20224007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	1	164	2	163	159	6	3	162	3	162

**Program: Biotinidase (BIOTPT)
 Manufacturer**

	Specimen Number									
	20224007001		20224007002		20224007003		20224007004		20224007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	4	0	4	4	0	0	4	0	4

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2022, Quarter 4**

**Program: Galactose-1- phosphate Uridyltransferase (GALT)
Domestic**

	Specimen Number									
	20224009001		20224009002		20224009003		20224009004		20224009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	41	0	0	41	0	41	0	41	0	41

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

	Specimen Number									
	20224009001		20224009002		20224009003		20224009004		20224009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	98	1	0	99	0	99	0	99	1	98

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

	Specimen Number									
	20224009001		20224009002		20224009003		20224009004		20224009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	2	0	0	2	0	2	0	2	0	2

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments
Year: 2022, Quarter 4**

**Program: Glucose-6-phosphate Dehydrogenase (G6PD)
Domestic**

	Specimen Number									
	20224003001		20224003002		20224003003		20224003004		20224003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	0	2	2	0	0	2	0	2	2	0

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

	Specimen Number									
	20224003001		20224003002		20224003003		20224003004		20224003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	0	88	86	2	0	88	0	88	86	2

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

	Specimen Number									
	20224003001		20224003002		20224003003		20224003004		20224003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	0	3	3	0	0	3	0	3	3	0

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments**

Year: 2022, Quarter 4

Program: Hormone and Total Galactose (HORM)

Domestic

	Specimen Number									
	20224001001		20224001002		20224001003		20224001004		20224001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	20	0	20	0	20	0	20	20	0
T4	0	19	0	19	19	0	0	19	0	19
TSH	0	42	0	42	42	0	0	42	0	42
17OHP	0	41	0	41	0	41	41	0	0	41

Program: Hormones and Total Galactose (HORMPT)

International

	Specimen Number									
	20224001001		20224001002		20224001003		20224001004		20224001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	1	149	1	149	1	149	1	149	141	9
T4	0	41	0	41	40	1	1	40	0	41
TSH	2	264	1	265	265	1	3	263	3	263
17OHP	1	220	0	221	0	221	218	3	2	219

Program: Hormones and Total Galactose (HORMPT)

Manufacturer

	Specimen Number									
	20224001001		20224001002		20224001003		20224001004		20224001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	6	0	6	0	6	0	6	6	0
T4	0	5	0	5	5	0	0	5	0	5
TSH	0	11	0	11	11	0	0	11	0	11
17OHP	0	8	0	8	0	8	8	0	0	8

**Newborn Screening Quality Assurance Program
Frequency Distribution of Participants' Clinical Assessments**

Year: 2022, Quarter 4

Program: Immunoreactive Trypsinogen (IRTPT)

Domestic

	Specimen Number									
	20224008001		20224008002		20224008003		20224008004		20224008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	43	0	0	43	0	43	0	43	42	1

**Program: Immunoreactive Trypsinogen (IRTPT)
International**

	Specimen Number									
	20224008001		20224008002		20224008003		20224008004		20224008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	177	0	0	177	5	172	0	177	175	2

**Program: Immunoreactive Trypsinogen (IRTPT)
Manufacturer**

	Specimen Number									
	20224008001		20224008002		20224008003		20224008004		20224008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	5	0	0	5	0	5	0	5	5	0

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C0(L) (µmol/L blood)	20224006001	278	27.38	30.17	5.67	15.39	56.07	
	20224006002	278	27.16	29.06	5.72	13.77	53.50	
	20224006003	278	4.09	5.32	3.10	1.62	44.00	
	20224006004	277	20.82	23.93	4.83	12.95	52.75	
	20224006005	277	27.44	29.74	6.29	13.64	66.25	
C2(L) (µmol/L blood)	20224006001	212	21.79	22.13	4.06	10.24	45.38	
	20224006002	212	21.66	22.03	3.94	10.31	41.39	
	20224006003	211	3.54	4.31	1.07	1.37	11.90	
	20224006004	210	13.68	16.26	5.32	6.11	78.87	
	20224006005	211	21.84	22.25	4.96	10.51	67.07	
C3 (µmol/L blood)	20224006001	277	0.47	0.53	0.12	0.21	1.33	
	20224006002	277	0.46	0.53	0.14	0.15	1.67	
	20224006003	276	0.38	0.45	0.11	0.05	1.14	
	20224006004	277	1.43	1.62	0.35	0.57	3.94	
	20224006005	278	10.46	9.97	2.13	0.79	21.71	
C3DC (µmol/L blood)	20224006001	81	13.02	8.12	4.88	0.11	25.94	
	20224006002	81	0.02	0.05	0.04	0.00	0.21	
	20224006003	79	0.01	0.03	0.03	0.00	0.13	
	20224006004	80	0.03	0.05	0.03	0.00	0.13	
	20224006005	80	0.02	0.04	0.03	0.00	0.19	
C3DC+C4OH (µmol/L blood)	20224006001	132	13.02	2.93	1.69	0.10	11.70	
	20224006002	131	0.02	0.05	0.04	0.00	0.42	
	20224006003	132	0.01	0.03	0.03	0.00	0.28	
	20224006004	131	0.05	0.10	0.07	0.03	0.78	
	20224006005	131	0.02	0.05	0.03	0.00	0.20	

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

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C4 (µmol/L blood)	20224006001	262	0.04	0.07	0.06	0.00	0.70	
	20224006002	261	0.03	0.08	0.07	0.00	0.61	
	20224006003	260	0.05	0.08	0.04	0.00	0.29	
	20224006004	260	0.07	0.10	0.04	0.00	0.33	
	20224006005	260	0.04	0.06	0.04	0.00	0.36	
C4OH (µmol/L blood)	20224006001	74	0.05	0.27	0.54	0.05	3.51	
	20224006002	73	0.05	0.07	0.05	0.01	0.36	
	20224006003	72	0.02	0.04	0.03	0.00	0.15	
	20224006004	71	0.11	0.11	0.04	0.05	0.25	
	20224006005	73	0.05	0.07	0.04	0.01	0.25	
C5 (µmol/L blood)	20224006001	281	0.03	0.04	0.04	0.00	0.45	
	20224006002	282	0.03	0.04	0.03	0.00	0.21	
	20224006003	281	0.03	0.05	0.03	0.00	0.25	
	20224006004	281	0.07	0.09	0.03	0.03	0.24	
	20224006005	281	0.03	0.04	0.02	0.00	0.14	
C5:1 (µmol/L blood)	20224006001	253	0.00	0.02	0.02	0.00	0.16	
	20224006002	253	0.00	0.02	0.02	0.00	0.22	
	20224006003	253	0.00	0.02	0.03	0.00	0.29	
	20224006004	253	0.00	0.03	0.03	0.00	0.22	
	20224006005	253	0.00	0.02	0.03	0.00	0.23	
C5DC (µmol/L blood)	20224006001	269	0.02	0.13	0.10	0.00	0.65	
	20224006002	269	0.01	0.04	0.06	0.00	0.54	
	20224006003	266	0.01	0.03	0.04	0.00	0.33	
	20224006004	268	0.02	0.04	0.05	0.00	0.44	
	20224006005	268	0.01	0.04	0.05	0.00	0.45	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C5OH (µmol/L blood)	20224006001	244	0.33	0.27	0.13	0.04	0.88	
	20224006002	244	0.33	0.27	0.12	0.05	0.68	
	20224006003	243	0.56	0.47	0.14	0.12	1.05	
	20224006004	243	3.39	2.55	0.72	0.33	5.17	
	20224006005	243	0.36	0.27	0.12	0.07	0.62	
C6 (µmol/L blood)	20224006001	262	0.02	0.02	0.02	0.00	0.20	
	20224006002	264	1.32	1.18	0.23	0.05	2.12	
	20224006003	261	0.02	0.02	0.02	0.00	0.18	
	20224006004	261	0.03	0.03	0.02	0.00	0.18	
	20224006005	261	0.02	0.02	0.02	0.00	0.16	
C8 (µmol/L blood)	20224006001	289	0.02	0.04	0.05	0.00	0.67	
	20224006002	290	1.82	1.81	0.40	0.05	4.30	
	20224006003	288	0.02	0.04	0.04	0.00	0.40	
	20224006004	288	0.03	0.05	0.03	0.00	0.39	
	20224006005	288	0.02	0.04	0.03	0.00	0.36	
C10 (µmol/L blood)	20224006001	278	0.08	0.03	0.04	0.00	0.51	
	20224006002	279	1.18	0.43	0.14	0.07	1.55	
	20224006003	277	0.07	0.03	0.03	0.00	0.24	
	20224006004	277	0.10	0.04	0.03	0.00	0.23	
	20224006005	277	0.09	0.03	0.03	0.00	0.25	
C10:1 (µmol/L blood)	20224006001	245	0.01	0.02	0.03	0.00	0.26	
	20224006002	246	0.91	0.79	0.43	0.06	4.67	
	20224006003	244	0.00	0.02	0.04	0.00	0.34	
	20224006004	244	0.01	0.03	0.03	0.00	0.25	
	20224006005	244	0.01	0.02	0.03	0.00	0.33	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C10:2 (µmol/L blood)	20224006001	175	0.00	0.01	0.02	0.00	0.21	
	20224006002	175	0.00	0.01	0.03	0.00	0.33	
	20224006003	175	0.00	0.01	0.03	0.00	0.29	
	20224006004	175	0.00	0.01	0.03	0.00	0.29	
	20224006005	175	0.00	0.01	0.02	0.00	0.29	
C14 (µmol/L blood)	20224006001	265	0.04	0.05	0.06	0.00	0.99	
	20224006002	265	0.03	0.05	0.05	0.00	0.62	
	20224006003	263	0.02	0.03	0.02	0.00	0.22	
	20224006004	264	0.06	0.08	0.07	0.02	1.02	
	20224006005	262	0.04	0.05	0.03	0.00	0.38	
C14:1 (µmol/L blood)	20224006001	269	0.01	0.03	0.03	0.00	0.36	
	20224006002	270	0.01	0.03	0.03	0.00	0.31	
	20224006003	268	0.00	0.02	0.03	0.00	0.22	
	20224006004	268	0.02	0.04	0.03	0.00	0.34	
	20224006005	268	0.01	0.03	0.04	0.00	0.48	
C16 (µmol/L blood)	20224006001	271	0.58	0.73	0.16	0.29	1.82	
	20224006002	271	0.57	0.73	0.15	0.35	1.76	
	20224006003	270	0.27	0.35	0.10	0.03	1.02	
	20224006004	270	0.61	0.73	0.17	0.08	1.92	
	20224006005	270	0.60	0.70	0.14	0.08	1.33	
C16OH (µmol/L blood)	20224006001	267	0.01	0.01	0.02	0.00	0.16	
	20224006002	267	0.01	0.01	0.02	0.00	0.19	
	20224006003	266	0.00	0.01	0.01	0.00	0.14	
	20224006004	265	0.01	0.01	0.01	0.00	0.12	
	20224006005	264	0.01	0.01	0.01	0.00	0.09	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Acylcarnitines (ACPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C18 (μmol/L blood)	20224006001	258	0.52	0.61	0.20	0.01	2.94	
	20224006002	258	0.50	0.61	0.18	0.01	2.90	
	20224006003	257	0.21	0.26	0.09	0.01	1.27	
	20224006004	257	0.50	0.56	0.11	0.01	1.24	
	20224006005	257	0.53	0.59	0.11	0.01	1.09	
C18:1 (μmol/L blood)	20224006001	250	0.59	0.67	0.27	0.01	3.53	
	20224006002	250	0.57	0.68	0.26	0.02	3.09	
	20224006003	249	0.36	0.38	0.15	0.01	1.94	
	20224006004	249	0.72	0.79	0.19	0.07	1.79	
	20224006005	249	0.64	0.66	0.17	0.09	1.82	
C18OH (μmol/L blood)	20224006001	221	0.00	0.01	0.01	0.00	0.07	
	20224006002	221	0.00	0.01	0.01	0.00	0.08	
	20224006003	221	0.00	0.01	0.01	0.00	0.08	
	20224006004	221	0.00	0.01	0.01	0.00	0.08	
	20224006005	221	0.00	0.01	0.01	0.00	0.08	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Amino Acids (AAPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
Arg (µmol/L blood)	20224005001	240	23.5	18.8	6.7	3.8	58.9	
	20224005002	240	24.1	19.9	6.4	5.2	52.3	
	20224005003	240	14.1	11.1	4.8	2.3	50.0	
	20224005004	240	20.0	17.4	8.1	4.9	64.1	
	20224005005	239	20.6	18.0	8.8	5.2	83.6	
Cit (µmol/L blood)	20224005001	265	34.1	31.2	5.5	11.7	46.7	
	20224005002	264	34.7	32.0	5.8	8.8	45.8	
	20224005003	264	30.1	27.6	5.4	3.6	49.4	
	20224005004	264	38.4	34.6	6.3	11.0	49.9	
	20224005005	265	41.0	35.1	6.0	10.8	53.6	
Leu (µmol/L blood)	20224005001	286	162.4	162.6	28.7	55.7	266.1	
	20224005002	285	164.1	167.1	26.7	78.3	247.8	
	20224005003	286	707.8	593.1	92.0	188.0	835.0	
	20224005004	286	144.6	141.8	27.7	61.6	254.0	
	20224005005	286	149.4	141.9	27.4	60.9	253.1	
Met (µmol/L blood)	20224005001	274	25.2	23.2	6.2	9.8	70.0	
	20224005002	274	175.4	134.8	23.2	75.0	259.8	
	20224005003	275	38.4	32.5	6.8	10.0	70.8	
	20224005004	275	22.1	17.8	4.4	7.1	52.9	
	20224005005	274	20.3	18.0	4.1	8.3	46.3	
Phe (µmol/L blood)	20224005001	353	67.0	74.2	25.9	26.0	363.4	
	20224005002	356	69.0	70.8	15.7	16.0	181.8	
	20224005003	352	68.9	73.6	25.8	33.2	301.8	
	20224005004	352	60.6	62.4	14.2	17.5	163.6	
	20224005005	354	313.0	279.4	41.6	100.0	436.3	

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

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Amino Acids (AAPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
SUAC (µmol/L blood)	20224005001	165	50.2	23.4	13.7	3.5	102.9	
	20224005002	167	0.2	0.7	0.8	0.0	7.0	
	20224005003	167	0.1	0.7	1.1	0.0	9.0	
	20224005004	167	0.2	0.6	0.8	0.0	6.8	
	20224005005	167	0.1	0.7	1.0	0.0	8.8	
Tyr (µmol/L blood)	20224005001	289	859.4	719.6	106.3	420.4	1095.7	
	20224005002	290	60.6	65.8	11.1	34.6	122.0	
	20224005003	290	103.6	104.6	16.6	66.5	199.0	
	20224005004	290	48.9	51.6	9.1	15.0	98.1	
	20224005005	288	51.0	52.0	9.1	12.4	94.0	
Val (µmol/L blood)	20224005001	258	153.5	142.0	27.6	69.5	237.0	
	20224005002	258	172.2	146.2	28.3	67.2	245.0	
	20224005003	258	642.8	512.0	105.1	109.0	840.8	
	20224005004	257	134.9	128.4	26.4	49.8	208.7	
	20224005005	258	134.6	129.6	26.4	62.4	235.0	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Hormones and Total Galactose (HORMPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
T4 (µg/dL serum)	20224001001	65	10.0	14.9	4.1	9.4	36.0	
	20224001002	65	10.0	14.3	3.2	10.0	28.8	
	20224001003	61	1.5	1.9	0.9	0.0	7.4	
	20224001004	64	10.0	15.0	3.4	11.1	31.4	
	20224001005	65	10.0	15.9	3.7	10.0	33.6	
TSH (µIU/mL serum)	20224001001	309	0.0	1.9	3.1	0.0	32.4	
	20224001002	308	0.0	1.4	2.4	0.0	16.6	
	20224001003	315	90.0	58.6	14.5	11.4	115.0	
	20224001004	306	0.0	1.7	2.2	0.0	16.4	
	20224001005	309	0.0	2.5	2.6	0.0	27.5	
17OHP (ng/mL serum)	20224001001	260	0.0	2.2	2.7	0.0	20.1	
	20224001002	261	0.0	1.9	2.9	0.0	28.6	
	20224001003	260	0.0	0.9	2.8	0.0	33.1	
	20224001004	267	85.0	86.1	30.6	8.3	314.3	
	20224001005	258	0.0	1.8	2.8	0.0	27.5	
TGal (mg/dL blood)	20224001001	172	0.0	1.6	1.9	0.0	12.8	
	20224001002	172	0.0	1.8	1.8	0.0	10.0	
	20224001003	170	0.0	1.8	1.7	0.0	10.0	
	20224001004	171	0.0	1.7	1.9	0.0	11.0	
	20224001005	174	25.0	23.5	6.2	0.0	37.4	

**Newborn Screening Quality Assurance Program
Overall Statistics
Year: 2022, Quarter 4**

Program: Immunoreactive Trypsinogen (IRTPT)

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
IRT (ng/mL blood)	20224008001	223	142.9	142.6	35.7	83.9	372.0	
	20224008002	215	9.0	9.7	4.6	1.6	34.1	
	20224008003	221	27.7	32.2	16.4	17.9	131.7	
	20224008004	220	21.6	23.1	8.5	2.0	75.0	
	20224008005	223	198.0	192.9	38.5	101.7	373.8	

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	27.38	32.23	10.97	5	27.16	32.83	10.46	5	4.09	5.05	2.01	5	20.82	26.41	8.62	5	27.44	35.16	14.49
	Derivatized - MS/MS MassChrom® Chromsystems	18	27.38	26.85	3.88	18	27.16	26.75	4.05	18	4.09	7.27	9.27	18	20.82	23.01	6.69	18	27.44	30.44	8.67
	Derivatized - MS/MS non-kit	60	27.38	33.18	6.44	60	27.16	32.75	6.23	60	4.09	6.35	2.26	59	20.82	25.95	4.86	59	27.44	33.62	6.24
	LC-MS/MS non-kit	4	27.38	31.71	5.47	4	27.16	29.35	8.66	4	4.09	5.74	1.12	4	20.82	24.46	4.04	4	27.44	30.89	6.40
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	27.38	32.66	3.76	4	27.16	31.27	4.32	4	4.09	4.88	0.35	4	20.82	24.74	3.74	4	27.44	31.56	4.55
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	27.38	27.70	4.17	27	27.16	26.17	3.88	27	4.09	4.54	0.87	27	20.82	21.74	3.71	27	27.44	26.95	4.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	51	27.38	29.56	3.58	51	27.16	28.16	3.37	51	4.09	4.67	0.70	51	20.82	23.38	3.18	51	27.44	28.22	3.67
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	77	27.38	30.15	4.76	77	27.16	28.94	4.60	77	4.09	5.10	2.78	77	20.82	23.93	3.64	77	27.44	29.01	3.76
	Non-derivatized - MS/MS non-kit	20	27.38	31.31	7.57	20	27.16	29.64	7.24	20	4.09	4.90	1.42	20	20.82	25.06	7.58	20	27.44	30.31	9.65
	Non-derivatized Labsystems Neomass AAAC Plus	7	27.38	22.43	4.39	7	27.16	20.00	5.16	7	4.09	3.70	1.13	7	20.82	18.22	3.36	7	27.44	20.79	5.16
Other	5	27.38	26.64	4.79	5	27.16	24.52	4.66	5	4.09	4.23	0.92	5	20.82	20.81	5.92	5	27.44	25.75	6.53	
C2(L) (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	21.79	25.06	3.97	5	21.66	24.46	3.30	5	3.54	4.61	1.09	5	13.68	18.46	2.67	5	21.84	24.62	3.04
	Derivatized - MS/MS MassChrom® Chromsystems	16	21.79	22.19	4.44	16	21.66	21.84	4.33	15	3.54	4.77	1.25	15	13.68	16.68	4.00	16	21.84	21.59	3.66
	Derivatized - MS/MS non-kit	48	21.79	22.75	4.71	48	21.66	23.00	4.49	48	3.54	4.74	0.94	47	13.68	18.94	9.57	47	21.84	23.98	7.53
	LC-MS/MS non-kit	4	21.79	25.01	2.07	4	21.66	23.85	4.62	4	3.54	4.85	0.27	4	13.68	17.32	2.02	4	21.84	25.92	5.06
	Non-derivatized - MS/MS MassChrom® Chromsystems	23	21.79	20.67	2.29	23	21.66	20.58	1.98	23	3.54	3.83	0.42	23	13.68	14.39	1.64	23	21.84	20.85	2.07
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	41	21.79	22.13	2.23	41	21.66	22.16	2.36	41	3.54	4.12	0.65	41	13.68	15.82	1.90	41	21.84	22.21	2.52
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	49	21.79	21.18	3.49	49	21.66	20.92	3.39	49	3.54	3.98	1.23	49	13.68	14.45	1.42	49	21.84	20.53	2.40
	Non-derivatized - MS/MS non-kit	17	21.79	22.43	4.59	17	21.66	22.51	4.70	17	3.54	4.28	1.21	17	13.68	15.61	3.33	17	21.84	22.43	5.50
	Non-derivatized Labsystems Neomass AAAC Plus	5	21.79	19.14	2.09	5	21.66	18.19	2.85	5	3.54	3.56	0.50	5	13.68	13.95	1.88	5	21.84	18.27	1.99
	Other	3	21.79	31.86	11.81	3	21.66	31.51	8.57	3	3.54	6.69	2.14	3	13.68	24.75	5.91	3	21.84	33.59	10.49

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.47	0.52	0.08	5	0.46	0.50	0.09	5	0.38	0.48	0.13	5	1.43	1.68	0.22	5	10.46	10.75	1.83
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.47	0.45	0.07	17	0.46	0.46	0.09	17	0.38	0.42	0.08	18	1.43	1.47	0.52	18	10.46	7.68	2.37
	Derivatized - MS/MS non-kit	60	0.47	0.57	0.18	60	0.46	0.59	0.22	59	0.38	0.50	0.17	59	1.43	1.73	0.50	60	10.46	10.17	2.45
	LC-MS/MS non-kit	4	0.47	0.59	0.05	4	0.46	0.61	0.13	4	0.38	0.51	0.08	4	1.43	1.61	0.29	4	10.46	12.19	0.98
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.47	0.54	0.06	4	0.46	0.51	0.02	4	0.38	0.44	0.03	4	1.43	1.58	0.08	4	10.46	10.38	0.53
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.47	0.47	0.07	27	0.46	0.46	0.05	27	0.38	0.37	0.05	27	1.43	1.39	0.21	27	10.46	8.67	1.88
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	51	0.47	0.49	0.07	51	0.46	0.48	0.06	51	0.38	0.40	0.06	51	1.43	1.53	0.17	51	10.46	9.63	1.17
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	77	0.47	0.57	0.10	77	0.46	0.56	0.09	77	0.38	0.47	0.07	77	1.43	1.74	0.23	77	10.46	10.94	1.66
	Non-derivatized - MS/MS non-kit	20	0.47	0.50	0.11	20	0.46	0.51	0.11	20	0.38	0.43	0.09	20	1.43	1.62	0.34	20	10.46	10.24	2.52
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.47	0.45	0.14	7	0.46	0.47	0.15	7	0.38	0.32	0.18	7	1.43	1.39	0.33	7	10.46	8.17	1.47
Other	5	0.47	0.52	0.07	5	0.46	0.52	0.06	5	0.38	0.50	0.13	5	1.43	1.66	0.36	5	10.46	10.08	2.01	
C3DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	13.02	9.74	3.78	4	0.02	0.06	0.05	4	0.01	0.02	0.01	4	0.03	0.05	0.05	4	0.02	0.02	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	16	13.02	10.70	7.38	16	0.02	0.07	0.05	15	0.01	0.04	0.02	16	0.03	0.05	0.03	16	0.02	0.04	0.02
	Derivatized - MS/MS non-kit	57	13.02	7.31	3.78	57	0.02	0.04	0.03	56	0.01	0.03	0.03	56	0.03	0.04	0.03	56	0.02	0.04	0.04
	Other	3	13.02	6.17	5.69	3	0.02	0.04	0.03	3	0.01	0.01	0.01	3	0.03	0.08	0.05	3	0.02	0.05	0.04
C3DC+C4OH (µmol/L blood)	Non-derivatized - MS/MS MassChrom® Chromsystems	14	13.02	2.63	2.77	13	0.02	0.07	0.11	14	0.01	0.05	0.07	13	0.05	0.13	0.20	13	0.02	0.04	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	38	13.02	2.17	0.41	38	0.02	0.04	0.01	38	0.01	0.02	0.01	38	0.05	0.09	0.02	38	0.02	0.04	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	60	13.02	3.51	1.33	60	0.02	0.05	0.02	60	0.01	0.02	0.01	60	0.05	0.10	0.03	60	0.02	0.05	0.01
	Non-derivatized - MS/MS non-kit	12	13.02	2.10	1.27	12	0.02	0.06	0.04	12	0.01	0.03	0.03	12	0.05	0.11	0.06	12	0.02	0.06	0.04
	Non-derivatized Labsystems Neomass AAAC Plus	4	13.02	1.27	0.44	4	0.02	0.05	0.04	4	0.01	0.03	0.05	4	0.05	0.09	0.04	4	0.02	0.05	0.05

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.04	0.05	0.01	5	0.03	0.06	0.02	5	0.05	0.08	0.04	5	0.07	0.11	0.03	5	0.04	0.05	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.04	0.10	0.16	16	0.03	0.14	0.11	17	0.05	0.08	0.02	17	0.07	0.11	0.04	17	0.04	0.06	0.02
	Derivatized - MS/MS non-kit	59	0.04	0.09	0.06	59	0.03	0.13	0.09	57	0.05	0.11	0.05	57	0.07	0.13	0.06	58	0.04	0.09	0.06
	LC-MS/MS non-kit	4	0.04	0.08	0.03	4	0.03	0.07	0.04	4	0.05	0.09	0.02	4	0.07	0.10	0.02	4	0.04	0.05	0.03
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.04	0.06	0.01	3	0.03	0.04	0.01	3	0.05	0.06	0.01	3	0.07	0.09	0.02	3	0.04	0.04	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.04	0.06	0.04	27	0.03	0.06	0.05	27	0.05	0.08	0.04	27	0.07	0.10	0.05	26	0.04	0.06	0.04
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	48	0.04	0.07	0.03	48	0.03	0.06	0.02	48	0.05	0.09	0.03	48	0.07	0.10	0.02	48	0.04	0.06	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	70	0.04	0.05	0.02	70	0.03	0.05	0.02	70	0.05	0.06	0.01	70	0.07	0.08	0.02	70	0.04	0.05	0.02
	Non-derivatized - MS/MS non-kit	18	0.04	0.06	0.03	18	0.03	0.06	0.04	18	0.05	0.09	0.04	18	0.07	0.10	0.04	18	0.04	0.06	0.04
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.04	0.07	0.07	7	0.03	0.06	0.07	7	0.05	0.07	0.09	7	0.07	0.10	0.08	7	0.04	0.06	0.07
Other	4	0.04	0.08	0.06	4	0.03	0.07	0.04	4	0.05	0.10	0.05	4	0.07	0.10	0.05	4	0.04	0.07	0.04	
C4OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.05	0.09	0.03	3	0.05	0.05	0.01	3	0.02	0.02	0.01	3	0.11	0.12	0.02	3	0.05	0.05	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	13	0.05	0.39	0.61	12	0.05	0.06	0.03	13	0.02	0.04	0.03	13	0.11	0.11	0.03	13	0.05	0.07	0.02
	Derivatized - MS/MS non-kit	55	0.05	0.20	0.32	55	0.05	0.07	0.05	53	0.02	0.04	0.03	52	0.11	0.11	0.04	54	0.05	0.07	0.05
C5 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.03	0.04	0.01	5	0.03	0.04	0.01	5	0.03	0.04	0.02	5	0.07	0.09	0.03	5	0.03	0.04	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.03	0.07	0.04	17	0.03	0.06	0.04	17	0.03	0.07	0.04	17	0.07	0.11	0.04	17	0.03	0.06	0.03
	Derivatized - MS/MS non-kit	59	0.03	0.06	0.06	60	0.03	0.06	0.03	59	0.03	0.06	0.04	59	0.07	0.10	0.04	59	0.03	0.05	0.03
	LC-MS/MS non-kit	4	0.03	0.04	0.01	4	0.03	0.03	0.01	4	0.03	0.04	0.01	4	0.07	0.08	0.02	4	0.03	0.03	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.03	0.04	0.01	4	0.03	0.03	0.00	4	0.03	0.04	0.00	4	0.07	0.08	0.01	4	0.03	0.03	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	29	0.03	0.04	0.02	29	0.03	0.04	0.03	29	0.03	0.04	0.02	29	0.07	0.09	0.03	29	0.03	0.04	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	52	0.03	0.03	0.01	52	0.03	0.03	0.01	52	0.03	0.04	0.01	52	0.07	0.08	0.01	52	0.03	0.03	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	77	0.03	0.03	0.02	77	0.03	0.03	0.02	77	0.03	0.04	0.02	77	0.07	0.08	0.01	77	0.03	0.04	0.02

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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 - MS/MS non-kit	23	0.03	0.04	0.02	23	0.03	0.04	0.02	23	0.03	0.04	0.02	23	0.07	0.09	0.03	23	0.03	0.04	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.03	0.05	0.05	6	0.03	0.05	0.05	6	0.03	0.06	0.04	6	0.07	0.11	0.06	6	0.03	0.05	0.05
	Other	5	0.03	0.03	0.00	5	0.03	0.04	0.01	5	0.03	0.04	0.01	5	0.07	0.09	0.03	5	0.03	0.04	0.01
C5:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.00	0.02	0.02	5	0.00	0.02	0.02	5	0.00	0.02	0.01	5	0.00	0.03	0.03	5	0.00	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.00	0.03	0.04	17	0.00	0.03	0.05	18	0.00	0.05	0.08	18	0.00	0.05	0.06	18	0.00	0.04	0.06
	Derivatized - MS/MS non-kit	55	0.00	0.02	0.02	55	0.00	0.03	0.02	54	0.00	0.03	0.03	54	0.00	0.04	0.03	54	0.00	0.02	0.03
	LC-MS/MS non-kit	4	0.00	0.01	0.01	4	0.00	0.01	0.01	4	0.00	0.01	0.01	4	0.00	0.03	0.01	4	0.00	0.01	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.00	0.01	0.00	3	0.00	0.01	0.00	3	0.00	0.01	0.00	3	0.00	0.01	0.00	3	0.00	0.01	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.00	0.02	0.03	24	0.00	0.02	0.03	24	0.00	0.03	0.04	24	0.00	0.03	0.03	24	0.00	0.02	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	49	0.00	0.01	0.01	49	0.00	0.01	0.01	49	0.00	0.01	0.01	49	0.00	0.02	0.01	49	0.00	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	68	0.00	0.01	0.01	68	0.00	0.01	0.01	68	0.00	0.01	0.01	68	0.00	0.02	0.01	68	0.00	0.01	0.01
	Non-derivatized - MS/MS non-kit	18	0.00	0.03	0.04	18	0.00	0.03	0.04	18	0.00	0.03	0.04	18	0.00	0.05	0.05	18	0.00	0.03	0.05
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.00	0.02	0.02	6	0.00	0.03	0.03	6	0.00	0.02	0.02	6	0.00	0.04	0.03	6	0.00	0.02	0.02
Other	4	0.00	0.02	0.01	4	0.00	0.02	0.01	4	0.00	0.02	0.01	4	0.00	0.04	0.01	4	0.00	0.03	0.02	
C5DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.02	0.03	0.02	5	0.01	0.02	0.01	5	0.01	0.01	0.01	5	0.02	0.02	0.01	5	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.02	0.06	0.07	18	0.01	0.09	0.15	18	0.01	0.06	0.08	18	0.02	0.09	0.11	18	0.01	0.06	0.07
	Derivatized - MS/MS non-kit	61	0.02	0.03	0.05	61	0.01	0.03	0.04	60	0.01	0.03	0.04	60	0.02	0.04	0.04	60	0.01	0.03	0.03
	LC-MS/MS non-kit	4	0.02	0.16	0.12	4	0.01	0.03	0.04	4	0.01	0.02	0.02	4	0.02	0.05	0.05	4	0.01	0.04	0.02
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.02	0.24	0.05	4	0.01	0.03	0.01	4	0.01	0.02	0.01	4	0.02	0.03	0.01	4	0.01	0.03	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	0.02	0.23	0.09	28	0.01	0.06	0.02	28	0.01	0.05	0.03	28	0.02	0.05	0.03	28	0.01	0.05	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	47	0.02	0.18	0.03	47	0.01	0.03	0.01	47	0.01	0.03	0.01	47	0.02	0.03	0.01	47	0.01	0.03	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	71	0.02	0.12	0.03	71	0.01	0.03	0.02	71	0.01	0.02	0.03	71	0.02	0.03	0.01	71	0.01	0.03	0.03

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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 - MS/MS non-kit	21	0.02	0.20	0.11	21	0.01	0.06	0.09	20	0.01	0.03	0.02	21	0.02	0.05	0.09	21	0.01	0.06	0.09
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.02	0.18	0.24	6	0.01	0.09	0.17	5	0.01	0.03	0.05	6	0.02	0.10	0.17	6	0.01	0.09	0.17
	Other	4	0.02	0.18	0.12	4	0.01	0.06	0.06	4	0.01	0.03	0.03	4	0.02	0.04	0.03	4	0.01	0.05	0.04
C5OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.33	0.10	0.04	5	0.33	0.10	0.03	5	0.56	0.30	0.09	5	3.39	2.21	0.60	5	0.36	0.09	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.33	0.25	0.21	18	0.33	0.24	0.14	18	0.56	0.42	0.19	18	3.39	2.53	0.96	18	0.36	0.21	0.11
	Derivatized - MS/MS non-kit	60	0.33	0.15	0.09	60	0.33	0.16	0.07	59	0.56	0.44	0.14	59	3.39	2.67	0.68	59	0.36	0.15	0.06
	LC-MS/MS non-kit	4	0.33	0.27	0.10	4	0.33	0.29	0.10	4	0.56	0.54	0.06	4	3.39	3.17	0.23	4	0.36	0.30	0.15
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.33	0.37	0.04	4	0.33	0.38	0.03	4	0.56	0.69	0.06	4	3.39	3.77	0.27	4	0.36	0.37	0.03
	Non-derivatized - MS/MS MassChrom® Chromsystems	16	0.33	0.25	0.10	16	0.33	0.26	0.10	16	0.56	0.39	0.14	16	3.39	2.01	0.64	16	0.36	0.25	0.09
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	46	0.33	0.27	0.03	46	0.33	0.28	0.05	46	0.56	0.43	0.07	46	3.39	2.27	0.31	46	0.36	0.28	0.04
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	65	0.33	0.38	0.09	65	0.33	0.38	0.09	65	0.56	0.53	0.11	65	3.39	2.58	0.53	65	0.36	0.38	0.09
	Non-derivatized - MS/MS non-kit	17	0.33	0.35	0.12	17	0.33	0.37	0.13	17	0.56	0.58	0.17	17	3.39	3.26	1.00	17	0.36	0.36	0.13
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.33	0.16	0.06	6	0.33	0.17	0.05	6	0.56	0.27	0.10	6	3.39	1.46	0.31	6	0.36	0.17	0.06
Other	3	0.33	0.27	0.12	3	0.33	0.28	0.12	3	0.56	0.55	0.09	3	3.39	3.28	0.50	3	0.36	0.29	0.14	
C6 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.02	0.01	0.01	5	1.32	1.05	0.21	5	0.02	0.01	0.01	5	0.03	0.02	0.00	5	0.02	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.02	0.05	0.03	18	1.32	1.12	0.35	17	0.02	0.04	0.02	17	0.03	0.04	0.02	17	0.02	0.04	0.02
	Derivatized - MS/MS non-kit	58	0.02	0.04	0.03	58	1.32	1.13	0.32	57	0.02	0.03	0.03	57	0.03	0.05	0.03	57	0.02	0.03	0.03
	LC-MS/MS non-kit	4	0.02	0.03	0.02	4	1.32	1.22	0.18	4	0.02	0.01	0.01	4	0.03	0.04	0.01	4	0.02	0.02	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.02	0.01	0.01	3	1.32	1.25	0.15	3	0.02	0.01	0.01	3	0.03	0.02	0.01	3	0.02	0.01	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.02	0.01	0.01	27	1.32	1.20	0.11	27	0.02	0.01	0.01	27	0.03	0.02	0.01	27	0.02	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	48	0.02	0.01	0.00	48	1.32	1.24	0.12	48	0.02	0.01	0.00	48	0.03	0.02	0.00	48	0.02	0.01	0.00
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	70	0.02	0.01	0.01	70	1.32	1.17	0.17	70	0.02	0.01	0.01	70	0.03	0.02	0.01	70	0.02	0.01	0.01

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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)	Non-derivatized - MS/MS non-kit	19	0.02	0.02	0.02	19	1.32	1.33	0.24	19	0.02	0.02	0.03	19	0.03	0.03	0.03	19	0.02	0.02	0.03
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.02	0.02	0.02	7	1.32	0.93	0.13	6	0.02	0.02	0.02	6	0.03	0.02	0.01	6	0.02	0.02	0.02
	Other	5	0.02	0.03	0.03	5	1.32	1.16	0.11	5	0.02	0.02	0.02	5	0.03	0.03	0.02	5	0.02	0.03	0.02
C8 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.02	0.02	0.01	5	1.82	1.84	0.31	5	0.02	0.01	0.01	5	0.03	0.02	0.01	5	0.02	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	16	0.02	0.02	0.01	17	1.82	1.32	0.40	16	0.02	0.02	0.01	16	0.03	0.03	0.02	16	0.02	0.02	0.01
	Derivatized - MS/MS non-kit	60	0.02	0.04	0.09	60	1.82	1.92	0.54	59	0.02	0.04	0.05	59	0.03	0.04	0.03	59	0.02	0.03	0.03
	LC-MS/MS non-kit	4	0.02	0.03	0.01	4	1.82	1.87	0.21	4	0.02	0.02	0.01	4	0.03	0.04	0.02	4	0.02	0.02	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.02	0.04	0.01	4	1.82	1.96	0.13	4	0.02	0.04	0.01	4	0.03	0.05	0.01	4	0.02	0.04	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	35	0.02	0.04	0.01	35	1.82	1.77	0.21	35	0.02	0.04	0.01	35	0.03	0.06	0.02	35	0.02	0.04	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	52	0.02	0.05	0.03	52	1.82	1.94	0.21	52	0.02	0.05	0.04	52	0.03	0.06	0.03	52	0.02	0.05	0.04
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	78	0.02	0.04	0.01	78	1.82	1.68	0.25	78	0.02	0.04	0.04	78	0.03	0.05	0.02	78	0.02	0.04	0.02
	Non-derivatized - MS/MS non-kit	23	0.02	0.05	0.03	23	1.82	2.07	0.58	23	0.02	0.05	0.04	23	0.03	0.06	0.04	23	0.02	0.05	0.04
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.02	0.10	0.14	7	1.82	1.75	0.46	7	0.02	0.10	0.13	7	0.03	0.12	0.12	7	0.02	0.10	0.12
Other	5	0.02	0.04	0.02	5	1.82	1.76	0.32	5	0.02	0.04	0.03	5	0.03	0.06	0.03	5	0.02	0.06	0.05	
C10 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.08	0.01	0.00	5	1.18	0.31	0.03	5	0.07	0.01	0.00	5	0.10	0.01	0.01	5	0.09	0.01	0.00
	Derivatized - MS/MS MassChrom® Chromsystems	16	0.08	0.02	0.01	17	1.18	0.33	0.32	16	0.07	0.01	0.01	16	0.10	0.03	0.03	16	0.09	0.02	0.01
	Derivatized - MS/MS non-kit	58	0.08	0.05	0.07	58	1.18	0.48	0.17	57	0.07	0.03	0.04	57	0.10	0.04	0.03	57	0.09	0.04	0.04
	LC-MS/MS non-kit	4	0.08	0.03	0.01	4	1.18	0.49	0.13	4	0.07	0.01	0.01	4	0.10	0.04	0.02	4	0.09	0.02	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.08	0.02	0.00	4	1.18	0.44	0.02	4	0.07	0.01	0.00	4	0.10	0.02	0.01	4	0.09	0.02	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	33	0.08	0.03	0.01	33	1.18	0.41	0.06	33	0.07	0.02	0.01	33	0.10	0.04	0.02	33	0.09	0.03	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	51	0.08	0.03	0.02	51	1.18	0.43	0.05	51	0.07	0.03	0.02	51	0.10	0.04	0.02	51	0.09	0.03	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	73	0.08	0.03	0.01	73	1.18	0.40	0.06	73	0.07	0.02	0.01	73	0.10	0.03	0.01	73	0.09	0.03	0.01

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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)	Non-derivatized - MS/MS non-kit	22	0.08	0.07	0.07	22	1.18	0.52	0.20	22	0.07	0.06	0.07	22	0.10	0.07	0.07	22	0.09	0.06	0.07
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.08	0.03	0.01	7	1.18	0.30	0.09	7	0.07	0.02	0.01	7	0.10	0.04	0.02	7	0.09	0.03	0.01
	Other	5	0.08	0.04	0.01	5	1.18	0.44	0.08	5	0.07	0.03	0.02	5	0.10	0.04	0.01	5	0.09	0.04	0.02
C10:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.01	0.01	0.01	5	0.91	0.83	0.30	5	0.00	0.01	0.01	5	0.01	0.02	0.01	5	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.01	0.02	0.01	18	0.91	0.57	0.19	17	0.00	0.03	0.04	17	0.01	0.02	0.02	17	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	55	0.01	0.04	0.04	55	0.91	1.01	0.49	54	0.00	0.04	0.06	54	0.01	0.04	0.05	54	0.01	0.04	0.05
	LC-MS/MS non-kit	4	0.01	0.01	0.01	4	0.91	0.75	0.17	4	0.00	0.02	0.03	4	0.01	0.01	0.01	4	0.01	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.01	0.02	0.04	24	0.91	0.78	0.45	24	0.00	0.01	0.01	24	0.01	0.02	0.01	24	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	47	0.01	0.03	0.02	47	0.91	0.75	0.13	47	0.00	0.03	0.02	47	0.01	0.03	0.03	47	0.01	0.03	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	67	0.01	0.02	0.03	67	0.91	0.64	0.14	67	0.00	0.01	0.03	67	0.01	0.02	0.03	67	0.01	0.02	0.03
	Non-derivatized - MS/MS non-kit	16	0.01	0.02	0.02	16	0.91	1.09	0.98	16	0.00	0.02	0.02	16	0.01	0.03	0.03	16	0.01	0.02	0.03
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.01	0.02	0.02	6	0.91	0.56	0.15	6	0.00	0.01	0.02	6	0.01	0.02	0.02	6	0.01	0.02	0.02
Other	3	0.01	0.03	0.03	3	0.91	1.27	0.92	3	0.00	0.04	0.04	3	0.01	0.05	0.04	3	0.01	0.04	0.04	
C10:2 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	0.00	0.00	0.01	4	0.00	0.01	0.01	4	0.00	0.01	0.01	4	0.00	0.01	0.01	4	0.00	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.00	0.01	0.01	11	0.00	0.01	0.01	11	0.00	0.01	0.01	11	0.00	0.01	0.01	11	0.00	0.01	0.01
	Derivatized - MS/MS non-kit	36	0.00	0.02	0.03	36	0.00	0.03	0.06	36	0.00	0.03	0.05	36	0.00	0.03	0.05	36	0.00	0.02	0.05
	LC-MS/MS non-kit	3	0.00	0.01	0.01	3	0.00	0.01	0.01	3	0.00	0.00	0.01	3	0.00	0.00	0.01	3	0.00	0.00	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	9	0.00	0.02	0.02	9	0.00	0.02	0.02	9	0.00	0.02	0.02	9	0.00	0.02	0.02	9	0.00	0.02	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	39	0.00	0.00	0.01	39	0.00	0.00	0.01	39	0.00	0.00	0.01	39	0.00	0.01	0.01	39	0.00	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	56	0.00	0.00	0.01	56	0.00	0.01	0.01	56	0.00	0.00	0.01	56	0.00	0.00	0.01	56	0.00	0.00	0.01
	Non-derivatized - MS/MS non-kit	10	0.00	0.02	0.02	10	0.00	0.02	0.03	10	0.00	0.02	0.03	10	0.00	0.02	0.02	10	0.00	0.02	0.03
Non-derivatized Labsystems Neomass AAAC Plus	5	0.00	0.01	0.00	5	0.00	0.01	0.01	5	0.00	0.00	0.01	5	0.00	0.00	0.00	5	0.00	0.01	0.01	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.04	0.03	0.01	5	0.03	0.03	0.01	5	0.02	0.02	0.01	5	0.06	0.06	0.02	5	0.04	0.03	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.04	0.12	0.23	18	0.03	0.11	0.15	17	0.02	0.04	0.04	18	0.06	0.16	0.23	17	0.04	0.08	0.08
	Derivatized - MS/MS non-kit	58	0.04	0.06	0.03	58	0.03	0.06	0.03	57	0.02	0.04	0.02	57	0.06	0.10	0.05	57	0.04	0.07	0.04
	LC-MS/MS non-kit	4	0.04	0.05	0.02	4	0.03	0.06	0.02	4	0.02	0.03	0.01	4	0.06	0.07	0.01	4	0.04	0.05	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.04	0.05	0.00	3	0.03	0.04	0.01	3	0.02	0.02	0.01	3	0.06	0.08	0.01	3	0.04	0.05	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.04	0.04	0.01	27	0.03	0.04	0.01	27	0.02	0.02	0.01	27	0.06	0.07	0.01	26	0.04	0.04	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	49	0.04	0.04	0.01	49	0.03	0.04	0.01	49	0.02	0.02	0.01	49	0.06	0.08	0.01	49	0.04	0.04	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	69	0.04	0.04	0.01	69	0.03	0.04	0.01	69	0.02	0.02	0.01	69	0.06	0.07	0.01	69	0.04	0.04	0.01
	Non-derivatized - MS/MS non-kit	20	0.04	0.05	0.03	20	0.03	0.05	0.03	20	0.02	0.03	0.02	20	0.06	0.08	0.03	20	0.04	0.05	0.03
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.04	0.07	0.07	7	0.03	0.08	0.07	7	0.02	0.05	0.08	7	0.06	0.10	0.08	7	0.04	0.07	0.07
Other	5	0.04	0.06	0.02	5	0.03	0.05	0.01	5	0.02	0.03	0.00	5	0.06	0.08	0.02	5	0.04	0.05	0.00	
C14:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.01	0.02	0.01	5	0.01	0.02	0.01	5	0.00	0.01	0.00	5	0.02	0.03	0.02	5	0.01	0.02	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.01	0.06	0.09	18	0.01	0.07	0.08	17	0.00	0.03	0.04	17	0.02	0.08	0.08	17	0.01	0.06	0.06
	Derivatized - MS/MS non-kit	58	0.01	0.04	0.03	58	0.01	0.04	0.03	57	0.00	0.03	0.04	57	0.02	0.05	0.04	57	0.01	0.04	0.04
	LC-MS/MS non-kit	5	0.01	0.02	0.01	5	0.01	0.02	0.01	5	0.00	0.01	0.01	5	0.02	0.03	0.01	5	0.01	0.02	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	0.01	0.03	0.01	4	0.01	0.03	0.01	4	0.00	0.02	0.01	4	0.02	0.04	0.01	4	0.01	0.03	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.01	0.02	0.02	24	0.01	0.02	0.01	24	0.00	0.01	0.01	24	0.02	0.03	0.01	24	0.01	0.04	0.09
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	51	0.01	0.03	0.02	51	0.01	0.03	0.01	51	0.00	0.02	0.01	51	0.02	0.04	0.02	51	0.01	0.03	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	76	0.01	0.02	0.01	76	0.01	0.02	0.01	76	0.00	0.01	0.01	76	0.02	0.03	0.01	76	0.01	0.02	0.01
	Non-derivatized - MS/MS non-kit	18	0.01	0.03	0.02	18	0.01	0.03	0.02	18	0.00	0.02	0.02	18	0.02	0.04	0.02	18	0.01	0.03	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.01	0.04	0.04	6	0.01	0.04	0.04	6	0.00	0.04	0.05	6	0.02	0.07	0.06	6	0.01	0.05	0.05
Other	5	0.01	0.04	0.05	5	0.01	0.04	0.05	5	0.00	0.03	0.03	5	0.02	0.05	0.04	5	0.01	0.04	0.03	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.58	0.75	0.05	5	0.57	0.73	0.09	5	0.27	0.33	0.06	5	0.61	0.77	0.13	5	0.60	0.71	0.05
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.58	0.66	0.16	18	0.57	0.66	0.16	18	0.27	0.31	0.13	18	0.61	0.72	0.33	18	0.60	0.66	0.15
	Derivatized - MS/MS non-kit	58	0.58	0.74	0.16	58	0.57	0.75	0.16	57	0.27	0.37	0.13	57	0.61	0.76	0.18	57	0.60	0.72	0.13
	LC-MS/MS non-kit	5	0.58	0.67	0.10	5	0.57	0.62	0.06	5	0.27	0.31	0.06	5	0.61	0.65	0.08	5	0.60	0.65	0.02
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.58	0.76	0.07	3	0.57	0.69	0.07	3	0.27	0.34	0.03	3	0.61	0.70	0.09	3	0.60	0.73	0.06
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.58	0.67	0.22	27	0.57	0.65	0.13	27	0.27	0.30	0.08	27	0.61	0.63	0.11	27	0.60	0.62	0.09
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	49	0.58	0.70	0.09	49	0.57	0.70	0.08	49	0.27	0.33	0.06	49	0.61	0.71	0.09	49	0.60	0.69	0.09
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	75	0.58	0.79	0.17	75	0.57	0.80	0.16	75	0.27	0.37	0.09	75	0.61	0.78	0.17	75	0.60	0.78	0.15
	Non-derivatized - MS/MS non-kit	20	0.58	0.67	0.14	20	0.57	0.67	0.11	20	0.27	0.33	0.09	20	0.61	0.68	0.13	20	0.60	0.62	0.18
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.58	0.61	0.07	6	0.57	0.61	0.11	6	0.27	0.29	0.04	6	0.61	0.62	0.09	6	0.60	0.60	0.10
Other	5	0.58	0.76	0.27	5	0.57	0.78	0.31	5	0.27	0.42	0.16	5	0.61	0.73	0.11	5	0.60	0.70	0.08	
C16OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.01	0.01	0.00	5	0.01	0.01	0.01	5	0.00	0.01	0.01	5	0.01	0.01	0.01	5	0.01	0.01	0.00
	Derivatized - MS/MS MassChrom® Chromsystems	17	0.01	0.01	0.01	17	0.01	0.01	0.01	18	0.00	0.02	0.03	17	0.01	0.02	0.01	17	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	58	0.01	0.02	0.02	58	0.01	0.02	0.02	57	0.00	0.02	0.02	57	0.01	0.02	0.02	57	0.01	0.02	0.02
	LC-MS/MS non-kit	4	0.01	0.01	0.01	4	0.01	0.01	0.01	4	0.00	0.01	0.01	4	0.01	0.01	0.01	4	0.01	0.01	0.01
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.01	0.00	0.00	3	0.01	0.00	0.00	3	0.00	0.00	0.00	3	0.01	0.00	0.00	3	0.01	0.00	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	25	0.01	0.01	0.03	25	0.01	0.01	0.04	24	0.00	0.01	0.01	24	0.01	0.01	0.01	23	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	50	0.01	0.01	0.00	50	0.01	0.01	0.01	50	0.00	0.01	0.01	50	0.01	0.01	0.00	50	0.01	0.01	0.00
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	77	0.01	0.01	0.01	77	0.01	0.01	0.00	77	0.00	0.01	0.01	77	0.01	0.01	0.01	77	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	18	0.01	0.02	0.01	18	0.01	0.01	0.02	18	0.00	0.01	0.02	18	0.01	0.01	0.01	18	0.01	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.01	0.00	0.01	6	0.01	0.01	0.01	6	0.00	0.01	0.01	6	0.01	0.01	0.01	6	0.01	0.01	0.01
Other	4	0.01	0.01	0.00	4	0.01	0.01	0.01	4	0.00	0.00	0.01	4	0.01	0.01	0.00	4	0.01	0.01	0.00	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.52	0.44	0.23	5	0.50	0.57	0.04	5	0.21	0.25	0.06	5	0.50	0.55	0.08	5	0.53	0.59	0.07
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.52	0.56	0.14	18	0.50	0.58	0.11	18	0.21	0.26	0.06	18	0.50	0.60	0.16	18	0.53	0.58	0.11
	Derivatized - MS/MS non-kit	55	0.52	0.59	0.19	55	0.50	0.59	0.14	54	0.21	0.28	0.09	54	0.50	0.56	0.16	54	0.53	0.59	0.14
	LC-MS/MS non-kit	4	0.52	0.53	0.06	4	0.50	0.55	0.04	4	0.21	0.24	0.04	4	0.50	0.51	0.07	4	0.53	0.59	0.09
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.52	0.60	0.05	3	0.50	0.56	0.04	3	0.21	0.24	0.01	3	0.50	0.52	0.05	3	0.53	0.58	0.04
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	0.52	0.71	0.49	27	0.50	0.70	0.46	27	0.21	0.29	0.21	27	0.50	0.56	0.14	27	0.53	0.59	0.14
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	48	0.52	0.60	0.06	48	0.50	0.60	0.05	48	0.21	0.25	0.03	48	0.50	0.57	0.06	48	0.53	0.59	0.05
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	68	0.52	0.62	0.10	68	0.50	0.63	0.10	68	0.21	0.26	0.03	68	0.50	0.57	0.08	68	0.53	0.61	0.08
	Non-derivatized - MS/MS non-kit	19	0.52	0.59	0.15	19	0.50	0.58	0.13	19	0.21	0.26	0.08	19	0.50	0.54	0.13	19	0.53	0.58	0.17
	Non-derivatized Labsystems Neomass AAAC Plus	7	0.52	0.51	0.07	7	0.50	0.50	0.07	7	0.21	0.24	0.07	7	0.50	0.52	0.07	7	0.53	0.49	0.09
Other	4	0.52	0.61	0.17	4	0.50	0.61	0.13	4	0.21	0.28	0.05	4	0.50	0.57	0.09	4	0.53	0.60	0.11	
C18:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.59	0.70	0.33	5	0.57	0.74	0.33	5	0.36	0.41	0.21	5	0.72	0.90	0.51	5	0.64	0.73	0.32
	Derivatized - MS/MS MassChrom® Chromsystems	18	0.59	0.63	0.22	18	0.57	0.67	0.21	18	0.36	0.43	0.24	18	0.72	0.80	0.18	18	0.64	0.72	0.14
	Derivatized - MS/MS non-kit	54	0.59	0.65	0.19	54	0.57	0.65	0.18	53	0.36	0.38	0.13	53	0.72	0.76	0.23	53	0.64	0.64	0.21
	LC-MS/MS non-kit	4	0.59	0.71	0.06	4	0.57	0.70	0.06	4	0.36	0.41	0.03	4	0.72	0.84	0.07	4	0.64	0.75	0.13
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.59	0.70	0.03	3	0.57	0.64	0.04	3	0.36	0.36	0.02	3	0.72	0.77	0.06	3	0.64	0.67	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.59	0.69	0.63	24	0.57	0.69	0.54	24	0.36	0.38	0.35	24	0.72	0.72	0.23	24	0.64	0.59	0.16
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	48	0.59	0.65	0.07	48	0.57	0.68	0.18	48	0.36	0.36	0.05	48	0.72	0.79	0.10	48	0.64	0.64	0.06
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	66	0.59	0.68	0.19	66	0.57	0.70	0.20	66	0.36	0.37	0.08	66	0.72	0.82	0.12	66	0.64	0.68	0.13
	Non-derivatized - MS/MS non-kit	18	0.59	0.71	0.28	18	0.57	0.72	0.30	18	0.36	0.40	0.16	18	0.72	0.84	0.33	18	0.64	0.71	0.31
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.59	0.52	0.07	6	0.57	0.52	0.11	6	0.36	0.29	0.05	6	0.72	0.67	0.09	6	0.64	0.50	0.08
Other	4	0.59	0.93	0.56	4	0.57	0.94	0.56	4	0.36	0.46	0.14	4	0.72	0.85	0.12	4	0.64	0.78	0.21	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20224006001				20224006002				20224006003				20224006004				20224006005			
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	5	0.00	0.00	0.01	5	0.00	0.01	0.01	5	0.00	0.00	0.01	5	0.00	0.01	0.00	5	0.00	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	16	0.00	0.01	0.01	16	0.00	0.01	0.01	16	0.00	0.01	0.01	16	0.00	0.02	0.01	16	0.00	0.01	0.01
	Derivatized - MS/MS non-kit	40	0.00	0.02	0.02	41	0.00	0.02	0.02	40	0.00	0.01	0.01	40	0.00	0.02	0.02	41	0.00	0.02	0.02
	LC-MS/MS non-kit	3	0.00	0.00	0.01	3	0.00	0.00	0.01	3	0.00	0.00	0.00	3	0.00	0.00	0.01	3	0.00	0.00	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	22	0.00	0.00	0.00	21	0.00	0.01	0.01	22	0.00	0.00	0.01	22	0.00	0.01	0.01	21	0.00	0.00	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	47	0.00	0.00	0.00	47	0.00	0.00	0.01	47	0.00	0.00	0.00	47	0.00	0.00	0.01	47	0.00	0.00	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	65	0.00	0.00	0.01	65	0.00	0.00	0.00	65	0.00	0.00	0.00	65	0.00	0.01	0.01	65	0.00	0.00	0.01
	Non-derivatized - MS/MS non-kit	14	0.00	0.01	0.01	14	0.00	0.01	0.01	14	0.00	0.01	0.01	14	0.00	0.01	0.01	14	0.00	0.01	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.00	0.00	0.01	6	0.00	0.00	0.01	6	0.00	0.00	0.01	6	0.00	0.00	0.01	6	0.00	0.01	0.01
Other	3	0.00	0.01	0.01	3	0.00	0.00	0.01	3	0.00	0.01	0.01	3	0.00	0.00	0.01	3	0.00	0.01	0.01	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20224005001				20224005002				20224005003				20224005004				20224005005			
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	5	23.5	15.0	4.3	5	24.1	15.5	4.1	5	14.1	7.6	1.6	5	20.0	14.5	4.4	5	20.6	16.6	4.0
	Derivatized - MS/MS MassChrom® Chromsystems	14	23.5	22.2	4.8	14	24.1	24.3	4.5	14	14.1	13.6	3.5	14	20.0	19.8	3.9	14	20.6	21.6	5.6
	Derivatized - MS/MS non-kit	51	23.5	19.8	11.0	51	24.1	20.2	10.3	51	14.1	10.2	8.0	51	20.0	21.7	12.3	51	20.6	23.2	14.5
	LC-MS/MS non-kit	4	23.5	14.6	1.0	4	24.1	15.1	1.2	4	14.1	8.6	0.5	4	20.0	13.5	1.5	4	20.6	13.1	1.8
	Non-derivatized - MS/MS MassChrom® Chromsystems	25	23.5	18.2	4.8	25	24.1	21.9	5.4	25	14.1	11.8	3.6	25	20.0	18.2	6.8	25	20.6	19.1	8.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	23.5	17.3	3.3	44	24.1	18.3	3.1	44	14.1	10.8	2.0	44	20.0	14.7	2.7	44	20.6	14.6	2.6
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	69	23.5	18.1	2.3	69	24.1	19.1	2.5	69	14.1	10.9	1.6	69	20.0	14.7	2.3	69	20.6	15.1	2.0
	Non-derivatized - MS/MS non-kit	15	23.5	21.7	8.1	15	24.1	22.2	7.2	15	14.1	13.9	7.6	15	20.0	21.0	10.2	15	20.6	21.8	11.1
	Non-derivatized Labsystems Neomass AAAC Plus	7	23.5	17.6	4.0	7	24.1	17.7	4.3	7	14.1	10.9	3.4	7	20.0	13.9	3.7	7	20.6	14.3	4.5
Other	5	23.5	26.5	15.2	5	24.1	24.6	11.4	5	14.1	14.8	7.0	5	20.0	27.6	20.2	4	20.6	20.0	4.4	
Cit (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	34.1	23.3	3.9	5	34.7	31.6	4.4	5	30.1	27.6	3.6	5	38.4	33.4	4.6	5	41.0	36.5	4.8
	Derivatized - MS/MS MassChrom® Chromsystems	14	34.1	31.4	4.5	14	34.7	31.1	5.5	14	30.1	27.4	3.7	14	38.4	33.1	8.5	14	41.0	33.9	6.0
	Derivatized - MS/MS non-kit	54	34.1	27.8	7.0	53	34.7	28.5	6.8	53	30.1	24.3	6.2	53	38.4	30.2	7.6	54	41.0	31.6	7.7
	LC-MS/MS non-kit	6	34.1	33.4	3.7	6	34.7	31.4	2.2	6	30.1	25.1	6.8	6	38.4	34.4	5.9	6	41.0	34.8	5.1
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	34.1	29.4	1.0	4	34.7	30.6	1.1	4	30.1	26.7	1.8	4	38.4	35.3	2.8	4	41.0	38.5	6.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	34.1	30.9	4.2	26	34.7	31.9	4.9	26	30.1	27.6	3.9	26	38.4	34.6	4.2	26	41.0	34.7	4.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	55	34.1	33.3	3.6	55	34.7	33.9	4.3	55	30.1	29.2	5.0	55	38.4	37.6	4.2	55	41.0	37.3	3.4
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	72	34.1	32.8	4.0	72	34.7	33.9	4.7	72	30.1	29.3	3.9	72	38.4	36.2	4.8	72	41.0	36.3	4.6
	Non-derivatized - MS/MS non-kit	18	34.1	32.1	7.8	18	34.7	31.0	8.2	18	30.1	28.6	8.1	18	38.4	35.1	7.8	18	41.0	34.9	8.6
	Non-derivatized Labsystems Neomass AAAC Plus	7	34.1	29.9	6.5	7	34.7	29.8	7.7	7	30.1	23.5	6.9	7	38.4	31.5	8.4	7	41.0	32.0	9.2
	Other	4	34.1	27.9	5.9	4	34.7	32.3	5.1	4	30.1	27.6	1.8	4	38.4	34.5	3.1	4	41.0	37.4	3.7

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20224005001				20224005002				20224005003				20224005004				20224005005			
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	5	162.4	158.7	32.1	5	164.1	158.8	29.2	5	707.8	603.5	73.6	5	144.6	116.6	16.3	5	149.4	123.6	13.3
	Derivatized - MS/MS MassChrom® Chromsystems	14	162.4	148.6	21.4	14	164.1	155.5	21.0	14	707.8	501.0	109.0	14	144.6	121.9	24.9	14	149.4	119.7	34.4
	Derivatized - MS/MS non-kit	53	162.4	151.2	36.0	53	164.1	154.2	30.5	53	707.8	540.3	94.0	53	144.6	119.5	29.3	53	149.4	121.0	27.9
	LC-MS/MS non-kit	6	162.4	142.3	23.8	6	164.1	146.5	30.4	6	707.8	539.4	99.1	6	144.6	130.7	22.0	6	149.4	130.7	19.3
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	162.4	171.8	16.7	4	164.1	170.0	5.3	4	707.8	683.1	30.9	4	144.6	160.5	11.8	4	149.4	161.5	9.6
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	162.4	164.2	29.0	27	164.1	169.1	28.0	27	707.8	584.2	80.2	27	144.6	145.4	25.5	27	149.4	144.2	22.4
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	56	162.4	178.4	18.1	56	164.1	182.8	16.8	56	707.8	662.2	57.5	56	144.6	160.2	16.2	56	149.4	158.7	14.8
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	79	162.4	163.1	18.2	79	164.1	168.3	18.4	79	707.8	597.8	60.8	79	144.6	147.2	17.2	79	149.4	146.8	15.8
	Non-derivatized - MS/MS non-kit	24	162.4	168.4	28.5	24	164.1	175.0	26.6	24	707.8	613.2	86.3	24	144.6	150.0	23.7	24	149.4	151.2	29.7
	Non-derivatized Labsystems Neomass AAAC Plus	7	162.4	144.1	40.9	7	164.1	143.9	43.4	7	707.8	511.2	164.7	7	144.6	118.9	40.1	7	149.4	122.3	37.0
Other	11	162.4	155.9	53.8	10	164.1	160.6	44.2	11	707.8	600.7	103.0	11	144.6	140.1	46.4	11	149.4	144.0	51.2	
Met (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	25.2	24.4	4.5	5	175.4	147.7	20.3	5	38.4	33.1	5.6	5	22.1	18.5	3.4	5	20.3	19.1	1.6
	Derivatized - MS/MS MassChrom® Chromsystems	14	25.2	22.5	10.8	13	175.4	124.0	27.7	14	38.4	27.2	10.2	14	22.1	16.6	5.1	14	20.3	17.3	4.6
	Derivatized - MS/MS non-kit	53	25.2	25.1	5.9	53	175.4	134.4	22.8	54	38.4	34.5	6.8	53	22.1	18.5	4.5	53	20.3	19.1	4.1
	LC-MS/MS non-kit	6	25.2	22.6	4.8	6	175.4	136.8	32.8	6	38.4	32.2	6.5	6	22.1	18.4	4.4	6	20.3	18.1	4.2
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	25.2	24.4	1.4	4	175.4	144.3	6.1	4	38.4	36.8	2.5	4	22.1	19.4	2.2	4	20.3	20.7	2.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	25.2	21.8	8.2	26	175.4	125.2	26.4	26	38.4	31.0	10.1	26	22.1	17.7	8.1	26	20.3	17.0	7.1
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	56	25.2	24.3	6.9	56	175.4	140.0	16.8	56	38.4	33.6	4.3	56	22.1	18.3	2.4	56	20.3	18.7	2.5
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	75	25.2	21.4	2.7	75	175.4	130.3	12.8	75	38.4	30.4	3.3	75	22.1	16.5	2.0	75	20.3	16.6	2.0
	Non-derivatized - MS/MS non-kit	23	25.2	25.5	5.7	23	175.4	156.7	33.0	23	38.4	36.9	8.3	23	22.1	20.4	5.1	22	20.3	20.6	5.2
	Non-derivatized Labsystems Neomass AAAC Plus	7	25.2	16.6	6.0	7	175.4	101.8	25.9	7	38.4	25.8	9.9	7	22.1	12.5	4.5	7	20.3	13.4	4.7
Other	5	25.2	25.7	5.0	6	175.4	144.8	24.7	5	38.4	37.3	5.7	6	22.1	21.3	6.6	6	20.3	19.5	3.7	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20224005001				20224005002				20224005003				20224005004				20224005005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
Phe (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	67.0	72.1	9.2	6	69.0	68.7	5.2	6	68.9	69.9	3.8	6	60.6	58.9	5.2	6	313.0	305.9	26.6
	Derivatized - MS/MS MassChrom® Chromsystems	14	67.0	71.2	13.5	14	69.0	73.7	15.8	14	68.9	73.2	13.1	14	60.6	65.2	14.9	14	313.0	254.1	63.2
	Derivatized - MS/MS non-kit	56	67.0	67.7	10.8	57	69.0	68.7	11.7	56	68.9	68.6	10.8	56	60.6	59.9	9.9	56	313.0	277.1	36.3
	GSP® Phe Neonatal PerkinElmer	11	67.0	89.5	11.5	11	69.0	77.0	12.1	11	68.9	81.0	10.8	11	60.6	71.0	8.3	11	313.0	311.9	15.5
	LC-MS/MS non-kit	7	67.0	70.1	5.4	7	69.0	68.6	4.3	7	68.9	69.3	4.3	7	60.6	62.4	5.2	7	313.0	290.2	31.3
	NeoLISA® Phe Interscientifica	5	67.0	144.8	53.9	5	69.0	79.3	21.6	5	68.9	98.9	36.7	5	60.6	64.6	19.4	5	313.0	229.8	18.9
	Neonatal Phe LabSystems	10	67.0	90.9	27.8	10	69.0	79.4	29.0	10	68.9	122.5	38.1	9	60.6	70.4	22.5	10	313.0	301.0	60.8
	Neonatal® Phe Kit PerkinElmer	15	67.0	86.5	20.4	15	69.0	73.8	20.6	15	68.9	71.4	20.3	15	60.6	64.2	24.9	15	313.0	263.0	26.7
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	67.0	74.3	8.5	4	69.0	71.6	4.7	4	68.9	76.6	5.6	4	60.6	67.3	5.3	4	313.0	322.4	19.8
	Non-derivatized - MS/MS MassChrom® Chromsystems	34	67.0	72.5	9.1	34	69.0	73.2	8.8	34	68.9	72.2	8.9	34	60.6	64.8	8.9	34	313.0	298.1	36.4
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	56	67.0	70.1	7.1	56	69.0	69.9	6.8	56	68.9	69.2	7.2	56	60.6	61.9	6.6	56	313.0	287.1	24.9
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	80	67.0	63.0	6.8	80	69.0	63.6	7.2	80	68.9	62.3	7.2	80	60.6	56.4	6.6	80	313.0	260.3	27.9
	Non-derivatized - MS/MS non-kit	28	67.0	71.1	8.9	28	69.0	71.5	8.1	28	68.9	70.5	8.3	28	60.6	63.3	7.2	28	313.0	292.9	44.3
	Non-derivatized Labsystems Neomass AAAC Plus	7	67.0	56.5	15.8	7	69.0	54.8	15.8	7	68.9	55.3	15.4	7	60.6	47.9	15.2	7	313.0	233.8	57.0
Other	16	67.0	126.8	77.4	17	69.0	89.1	37.6	15	68.9	137.9	74.3	16	60.6	79.7	36.9	16	313.0	303.3	64.5	
SUAC (µmol/L blood)	Derivatized - MS/MS MassChrom® Chromsystems	13	50.2	23.6	8.5	13	0.2	0.8	0.5	13	0.1	0.8	0.4	13	0.2	0.7	0.5	13	0.1	0.7	0.4
	Derivatized - MS/MS non-kit	24	50.2	34.4	21.0	25	0.2	1.3	1.7	25	0.1	1.3	1.9	25	0.2	1.2	1.6	25	0.1	1.2	1.6
	Non-derivatized - MS/MS MassChrom® Chromsystems	13	50.2	21.6	6.6	13	0.2	0.7	0.3	13	0.1	0.6	0.3	13	0.2	0.6	0.3	13	0.1	0.5	0.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	39	50.2	20.2	4.2	39	0.2	0.7	0.3	39	0.1	0.9	1.4	39	0.2	0.7	0.4	39	0.1	0.7	0.4
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	56	50.2	17.1	3.8	56	0.2	0.3	0.2	56	0.1	0.3	0.2	56	0.2	0.2	0.2	56	0.1	0.3	0.2
	Non-derivatized - MS/MS non-kit	13	50.2	38.3	23.6	13	0.2	1.0	0.7	13	0.1	1.0	0.8	13	0.2	1.0	0.8	13	0.1	1.7	2.3
	Non-derivatized Labsystems Neomass AAAC Plus	4	50.2	21.4	7.4	4	0.2	1.2	1.0	4	0.1	1.2	1.4	4	0.2	1.4	1.6	4	0.1	1.4	1.4

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20224005001				20224005002				20224005003				20224005004				20224005005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
Tyr (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	859.4	703.0	84.0	5	60.6	64.8	10.0	5	103.6	94.4	8.1	5	48.9	44.9	1.5	5	51.0	47.9	5.9
	Derivatized - MS/MS MassChrom® Chromsystems	14	859.4	703.2	100.1	15	60.6	73.6	19.2	15	103.6	109.1	27.0	14	48.9	54.5	6.6	14	51.0	52.4	7.8
	Derivatized - MS/MS non-kit	55	859.4	673.1	116.6	55	60.6	64.3	11.6	55	103.6	99.8	16.3	56	48.9	48.9	9.1	55	51.0	50.1	10.6
	LC-MS/MS non-kit	7	859.4	719.9	57.1	7	60.6	63.6	5.7	7	103.6	105.4	11.1	7	48.9	51.3	8.0	7	51.0	55.3	8.5
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	859.4	730.3	88.8	4	60.6	61.4	5.7	4	103.6	106.1	9.3	4	48.9	51.0	4.9	4	51.0	52.9	3.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	32	859.4	770.8	104.4	32	60.6	69.8	11.5	32	103.6	112.2	17.0	32	48.9	55.7	10.5	32	51.0	56.3	8.6
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	55	859.4	781.8	91.5	55	60.6	69.3	7.6	55	103.6	111.5	12.2	55	48.9	55.0	5.8	55	51.0	54.8	5.7
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	77	859.4	686.6	75.1	77	60.6	61.5	6.7	77	103.6	98.6	14.0	77	48.9	48.4	7.1	77	51.0	48.6	5.2
	Non-derivatized - MS/MS non-kit	26	859.4	740.3	111.0	26	60.6	65.9	10.2	26	103.6	107.5	15.5	26	48.9	53.8	10.2	25	51.0	53.0	10.6
	Non-derivatized Labsystems Neomass AAAC Plus	7	859.4	636.4	94.1	7	60.6	59.1	15.7	7	103.6	102.5	23.4	7	48.9	47.5	11.6	7	51.0	49.0	13.4
Other	6	859.4	763.7	175.7	6	60.6	76.8	24.9	6	103.6	107.5	25.3	6	48.9	61.8	20.8	6	51.0	66.8	20.5	
Val (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	153.5	138.0	46.2	5	172.2	135.3	39.4	5	642.8	453.4	112.3	5	134.9	114.2	39.1	5	134.6	122.8	30.7
	Derivatized - MS/MS MassChrom® Chromsystems	14	153.5	135.0	30.4	14	172.2	141.6	32.0	14	642.8	448.1	157.9	14	134.9	126.6	31.6	14	134.6	131.6	35.8
	Derivatized - MS/MS non-kit	52	153.5	136.5	29.5	52	172.2	143.4	32.6	52	642.8	469.0	104.1	52	134.9	124.3	30.6	52	134.6	129.3	32.5
	LC-MS/MS non-kit	6	153.5	134.0	22.6	6	172.2	134.6	18.6	6	642.8	470.8	98.1	6	134.9	119.8	24.2	6	134.6	120.9	22.6
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	153.5	153.0	22.6	4	172.2	151.4	13.0	4	642.8	602.8	61.8	4	134.9	143.2	16.1	4	134.6	145.4	19.9
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	153.5	123.1	22.7	26	172.2	127.2	24.3	26	642.8	452.0	83.4	26	134.9	111.8	24.5	26	134.6	108.3	21.5
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	53	153.5	155.3	24.5	53	172.2	160.3	23.8	53	642.8	584.5	85.6	53	134.9	141.1	20.7	53	134.6	141.1	20.4
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	67	153.5	147.6	17.1	67	172.2	152.3	18.9	67	642.8	535.1	63.0	67	134.9	133.4	18.9	67	134.6	132.7	14.9
	Non-derivatized - MS/MS non-kit	17	153.5	138.0	27.4	17	172.2	140.1	29.0	17	642.8	500.0	96.4	16	134.9	122.7	22.5	17	134.6	121.8	26.7
	Non-derivatized Labsystems Neomass AAAC Plus	7	153.5	112.1	21.0	7	172.2	110.6	21.7	7	642.8	427.4	115.7	7	134.9	95.1	21.1	7	134.6	99.2	22.7
Other	7	153.5	154.2	53.4	7	172.2	148.2	43.1	7	642.8	550.1	141.7	7	134.9	133.6	36.1	7	134.6	144.0	38.5	

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20224001001				20224001002				20224001003				20224001004				20224001005			
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)	AutoDELFIATM Neonatal T4 PerkinElmer	14	10.0	13.5	3.1	14	10.0	13.5	2.6	14	1.5	1.6	0.4	14	10.0	13.9	2.3	14	10.0	14.3	2.2
	DELFIATM Neonatal T4 PerkinElmer	8	10.0	18.7	8.3	8	10.0	17.7	5.8	8	1.5	1.8	0.9	8	10.0	19.0	6.4	8	10.0	19.5	7.4
	GSP® T4 Neonatal PerkinElmer	28	10.0	14.6	2.9	28	10.0	13.4	2.0	25	1.5	1.7	0.5	28	10.0	14.5	2.3	28	10.0	15.8	2.9
	NeoMAP® T4 Interscientifica	5	10.0	13.9	2.3	5	10.0	13.0	2.1	5	1.5	2.6	1.0	5	10.0	13.7	1.7	5	10.0	14.2	3.2
	Other	10	10.0	14.9	2.8	10	10.0	15.6	2.9	9	1.5	2.4	1.9	9	10.0	15.6	2.0	10	10.0	16.5	1.5
TSH (µIU/mL serum)	AutoDELFIATM Neonatal hTSH PerkinElmer	71	0.0	0.9	1.3	71	0.0	0.5	0.7	71	90.0	64.8	8.6	70	0.0	0.8	0.9	70	0.0	1.5	0.7
	DELFIATM Neonatal TSH PerkinElmer	55	0.0	1.8	1.9	55	0.0	1.3	1.6	55	90.0	61.0	15.9	55	0.0	1.9	2.1	55	0.0	2.9	3.7
	GSP® hTSH Neonatal PerkinElmer	114	0.0	1.2	0.6	114	0.0	0.7	0.7	121	90.0	54.8	10.4	114	0.0	1.1	0.6	116	0.0	1.9	0.5
	NeoMAP® TSH Interscientifica	5	0.0	1.1	0.2	5	0.0	0.9	0.5	5	90.0	69.2	12.0	5	0.0	1.2	0.1	5	0.0	1.4	0.1
	Neonatal TSH LabSystems	24	0.0	6.9	4.9	24	0.0	6.1	3.8	23	90.0	57.2	21.8	23	0.0	5.9	3.7	24	0.0	6.2	3.8
	Other	16	0.0	3.3	3.8	16	0.0	2.9	5.0	16	90.0	63.5	21.2	16	0.0	3.0	3.5	16	0.0	4.1	4.3
	Trimaris Neonatal TSH FEIA	4	0.0	1.0	0.5	4	0.0	0.9	0.6	4	90.0	67.8	13.0	4	0.0	1.4	0.1	4	0.0	2.0	0.3
	ZenTech ELISA Neonatal TSH	16	0.0	2.5	2.0	16	0.0	2.2	1.8	16	90.0	46.5	19.8	16	0.0	2.8	2.1	16	0.0	3.7	3.1
17OHP (ng/mL serum)	AutoDELFIATM Neonatal 17OHP PerkinElmer	59	0.0	1.8	0.6	60	0.0	1.8	1.2	60	0.0	0.4	0.3	60	85.0	94.3	17.3	59	0.0	1.6	0.5
	DELFIATM Neonatal 17OHP PerkinElmer	44	0.0	1.8	1.9	44	0.0	1.6	2.0	44	0.0	0.9	1.9	44	85.0	93.4	48.4	44	0.0	1.7	2.2
	GSP® 17OHP Neonatal PerkinElmer	100	0.0	1.4	0.6	100	0.0	1.1	0.5	99	0.0	0.5	0.6	107	85.0	82.1	17.3	99	0.0	1.0	0.5
	LC-MS/MS non-kit	4	0.0	1.7	0.9	4	0.0	1.5	1.0	4	0.0	1.1	1.3	4	85.0	76.8	3.8	4	0.0	1.5	1.1
	NeoMAP® 17OHP Interscientifica	4	0.0	1.4	0.6	4	0.0	0.6	0.4	4	0.0	0.3	0.2	4	85.0	66.9	5.3	4	0.0	0.7	0.2
	Neonatal 17OHP LabSystems	16	0.0	3.3	4.0	16	0.0	2.9	6.4	16	0.0	2.5	6.4	15	85.0	59.3	24.7	15	0.0	3.1	6.8
	Other	17	0.0	4.1	4.9	17	0.0	3.6	6.6	17	0.0	2.8	7.9	17	85.0	88.2	45.3	17	0.0	3.8	5.0
	ZenTech ELISA Neonatal 17OHP	15	0.0	6.7	5.1	15	0.0	5.2	4.6	15	0.0	2.7	2.8	15	85.0	91.7	50.5	15	0.0	4.0	2.3

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20224001001				20224001002				20224001003				20224001004				20224001005			
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	0.0	1.1	0.5	5	0.0	1.1	0.6	5	0.0	1.0	0.5	5	0.0	1.4	0.6	5	25.0	21.4	2.2
	Colorimetric -non-kit method	3	0.0	8.3	7.2	3	0.0	3.7	4.7	3	0.0	0.6	0.5	3	0.0	4.1	6.0	3	25.0	34.9	2.6
	Fluorescence TGal Neonatal PerkinElmer	38	0.0	0.8	0.6	38	0.0	1.6	1.4	37	0.0	2.0	1.6	37	0.0	1.0	1.0	37	25.0	23.1	3.7
	Fluorometric manual TGal - non-kit	11	0.0	3.7	3.4	11	0.0	3.9	3.6	11	0.0	3.2	3.4	11	0.0	3.2	3.4	12	25.0	26.6	7.8
	GSP® TGal Neonatal PerkinElmer	52	0.0	0.8	0.2	52	0.0	0.8	0.2	52	0.0	0.9	0.2	52	0.0	0.8	0.2	55	25.0	24.5	2.5
	NeoLISA® TGal Interscientifica	5	0.0	2.0	0.8	5	0.0	1.7	0.5	5	0.0	1.9	0.6	5	0.0	2.0	1.0	5	25.0	17.8	9.4
	Other	25	0.0	2.1	2.0	25	0.0	2.0	1.9	24	0.0	2.2	2.1	25	0.0	2.2	2.3	24	25.0	23.7	10.8
	UMTEST® TGal Neonatal TecnoSuma	3	0.0	1.7	0.5	3	0.0	1.8	0.3	3	0.0	2.1	1.1	3	0.0	4.2	3.9	3	25.0	29.4	3.8
	ZenTech Neonatal TGal Enzymatic Colorimetric	29	0.0	2.6	1.0	29	0.0	2.9	1.5	29	0.0	2.8	1.2	29	0.0	2.7	1.2	29	25.0	20.0	5.6

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

Newborn Screening Quality Assurance Program
Year: 2022, Quarter: 4
Mean Reported Concentrations Sorted by Method
Program: Immunoreactive Trypsinogen (IRTPT)

		Specimen Number																			
		20224008001				20224008002				20224008003				20224008004				20224008005			
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)	AutoDELFI [®] Neonatal IRT PerkinElmer	63	142.9	130.6	15.2	62	9.0	8.0	1.7	63	27.7	26.4	3.8	63	21.6	20.4	3.0	64	198.0	184.8	27.5
	DELFI [®] Neonatal IRT	34	142.9	116.7	19.5	34	9.0	8.2	1.9	33	27.7	25.0	3.8	34	21.6	18.8	2.8	33	198.0	161.2	27.1
	FEIA IRT Labsystems	10	142.9	202.8	50.4	9	9.0	9.4	3.1	9	27.7	46.6	14.1	10	21.6	27.4	12.3	10	198.0	245.6	63.0
	GSP [®] IRT Neonatal PerkinElmer, ng/mL blood	86	142.9	142.2	14.0	81	9.0	9.1	1.1	86	27.7	27.5	3.2	84	21.6	21.2	2.4	86	198.0	202.3	19.7
	NeoMAP [®] IRT Interscientifica	5	142.9	144.9	42.4	5	9.0	7.6	3.9	5	27.7	47.7	4.9	5	21.6	33.6	6.6	5	198.0	160.4	38.0
	Other	12	142.9	179.3	83.3	12	9.0	21.2	10.0	12	27.7	62.5	34.9	11	21.6	36.2	16.5	12	198.0	212.1	78.3
	ZenTech ELISA Neonatal IRT	11	142.9	182.8	28.8	10	9.0	15.9	7.7	11	27.7	71.5	22.3	11	21.6	43.0	12.7	11	198.0	189.7	35.4

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 Breyse, PhD

Director Division of Laboratory Sciences

James L. Pirkle, MD, PhD

Chief Newborn Screening and Molecular Biology Branch

Carla Cuthbert, PhD

Contributors

John Bernstein, MS

Christofer Brown, BS

Anthony Cervalli, BS

David Cobb, PhD

Alora Colvin, BS

Elya Courtney, MPH

Suzanne Cordovado, PhD

Paul Dantonio, MS

Katherine Duneman, MS

Ernesto Gonzales Reyes, PhD

Christopher Greene, PhD

Rosemary Hage, PhD

Laura Hancock, MS

Miyono Hendrix, MS

Samantha Isenberg, PhD

Jihyun Kim, MS

Francis Lee, PhD

LiXia Li, PhD

Timothy Lim, PhD

Elizabeth McCown, BS

Joanne Mei, PhD

Auriel Moseley, MS

Stanimila Nikolova, PhD

Ivy Onyechi, MS

Gyliann Peña, MS

Kostas Petritis, PhD

Daquille Peppers, MS

C. Austin Pickens, PhD

Blanche Temate, PhD

Robert Vogt, PhD

Irene Sofikitis Williams, MS

Golriz Yazdanpanah, MS

Sherri Zobel, BS

Production

Vinay Anumula, MS

Se'Von Mills, MS

Kizzy Stewart

ASSOCIATION OF PUBLIC HEALTH LABORATORIES SILVER SPRING, MD 20910

President

Denise Toney, PhD, HCLD(ABB)

Chairman, Newborn Screening Committee

Michele Caggana, Sc.D., FACMG and Joseph Orsini, Ph.D.

Chairman, Newborn Screening Quality Assurance Quality Control Subcommittee

Patrice Held, Ph.D

Chairman, Newborn Screening Molecular Subcommittee

Denise Kay, Ph.D and Richard Olney, MD, MPH

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