

Newborn Screening Quality Assurance Program Biochemical Proficiency Testing Program Report 2024 Quarter 1 Report

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AMENDED REPORT

This amended report replaces amended report replaces the Newborn Screening Quality Assurance Program Biochemical Proficiency Testing Program Report, Volume 5, No. 1a. This report corrects the expected clinical assessment table for biotinidase that was previously illegible.

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 2024 Quarter 1 Newborn Screening Quality Assurance Program's (NSQAP) PT event. Data were collected in the NSQAP participant portal. <https://nbs.dynamics365portals.us/>

On January 9, 2024, 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), creatine (Cre), guanidinoacetic acid (GUAC), guanidinoacetate methyltransferase deficiency ratio (GAMTr), leucine (Leu), methionine (Met), phenylalanine (Phe), succinylacetone (SUAC), tyrosine (Tyr), and valine (Val). The acylcarnitine panel contained low free carnitine (C0(L)), low acylcarnitine (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 uridylyltransferase (GALT) deficiency, glucose-6-phosphate dehydrogenase (G6PD) deficiency, and immunoreactive trypsinogen (IRT) were sent to participating laboratories. We processed data from 441 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 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. The NSQAP PT Committee closely reviews all specimen data. Specimens that were not evaluated are considered educational.

All specimens met the 80% criteria for the 2024 Q1 Biochemistry PT event.

Evaluations

NSQAP evaluated each specimen 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 produces PT specimens from adult donor blood products and purchased umbilical cord blood, adjusted to 50% hematocrit before applying to filter paper. NSQAP tests PT specimens for homogeneity, accuracy, stability, and suitability for newborn screening assays.

- **Amino acid and acylcarnitine specimens** were enriched with commercially available standards. Small variances in enrichments and recoveries might result from impurities in the purchased materials.
 - **C0(L) and C2(L) PT deficient specimens** were produced by washing fresh RBCs at least six times then combining with charcoal-stripped plasma.
- **Congenital hypothyroid PT specimens** were enriched with measured amounts of T4 and TSH after reconstituting washed RBCs with purchased T4-depleted charcoal-stripped plasma.
- **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 charcoal-stripped plasma 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 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: 2024 Quarter: 1**

**Program: Amino Acids
Expected Values**

	Specimen				
	20241005001	20241005002	20241005003	20241005004	20241005005
Analyte	Expected Value				
Arg (µmol/L blood)	6.6	9.4	8.1	4.7	206.6
CRE	408.9	313.0	337.8	312.7	291.6
Cit (µmol/L blood)	12.4	5.8	11.1	214.5	11.4
GAMTr	2.9	3.2	3.3	4.2	4.5
GUAC	1.2	1.0	1.1	1.3	1.3
Leu (µmol/L blood)	27.6	632.1	26.2	21.3	17.0
Met (µmol/L blood)	2.4	1.6	203.4	1.3	1.1
Phe (µmol/L blood)	259.8	6.5	9.5	6.3	5.1
SUAC (µmol/L blood)	0.2	0.2	0.2	0.2	0.2
Tyr (µmol/L blood)	17.9	13.9	18.3	11.9	11.7
Val (µmol/L blood)	50.0	655.9	47.8	42.3	31.2

**Program: Amino Acids
Expected Clinical Assessments**

	Specimen				
	20241005001	20241005002	20241005003	20241005004	20241005005
Analyte	Expected Assessment				
Arg (µmol/L blood)	1	1	1	1	2
CRE	1	1	1	1	1
Cit (µmol/L blood)	1	1	1	2	1
GAMTr	1	1	1	1	1
GUAC	1	1	1	1	1
Leu (µmol/L blood)	1	2	1	1	1
Met (µmol/L blood)	1	1	2	1	1
Phe (µmol/L blood)	2	1	1	1	1
SUAC (µmol/L blood)	1	1	1	1	1
Tyr (µmol/L blood)	1	1	1	1	1
Val (µmol/L blood)	1	2	1	1	1

Note: Expected Value = sum of endogenous and enrichment values

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2024 Quarter: 1**

**Program: Acylcarnitines
Expected Values**

	Specimen				
	20241006001	20241006002	20241006003	20241006004	20241006005
Analyte	Expected Value				
C0(L) (µmol/L blood)	41.70	41.54	41.39	37.86	43.45
C2(L) (µmol/L blood)	26.75	26.67	26.86	24.32	26.28
C3 (µmol/L blood)	0.43	0.43	0.42	0.34	0.32
C3DC (µmol/L blood)	0.02	0.02	0.02	12.02	0.03
C3DC+C4OH (µmol/L blood)	0.04	0.04	4.04	12.02	0.03
C4 (µmol/L blood)	0.03	0.03	0.03	0.04	4.04
C4OH (µmol/L blood)	0.05	0.05	4.05	0.03	0.04
C5 (µmol/L blood)	0.03	0.02	0.03	0.03	4.03
C5:1 (µmol/L blood)	0.01	0.01	0.01	0.01	0.01
C5DC (µmol/L blood)	0.01	0.01	0.01	0.01	0.01
C5OH (µmol/L blood)	0.20	0.20	0.20	0.20	0.36
C6 (µmol/L blood)	0.01	2.01	0.01	0.01	0.01
C8 (µmol/L blood)	0.01	5.01	0.01	0.01	0.01
C10 (µmol/L blood)	0.01	4.01	0.01	0.01	0.01
C10:1 (µmol/L blood)	0.00	2.00	0.01	0.01	0.00
C10:2 (µmol/L blood)	2.00	0.00	0.00	0.00	0.00
C14 (µmol/L blood)	0.04	0.03	0.04	0.02	3.02
C14:1 (µmol/L blood)	0.01	0.01	0.01	0.01	0.01
C16 (µmol/L blood)	0.65	0.64	0.64	0.29	25.60
C16OH (µmol/L blood)	0.01	0.01	0.01	0.01	0.01
C18 (µmol/L blood)	0.53	0.52	0.52	0.25	7.78
C18:1 (µmol/L blood)	0.52	0.52	0.58	0.32	0.42
C18OH (µmol/L blood)	0.01	0.00	0.01	0.00	0.01

Note: Expected Value = sum of endogenous and enrichment values

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2024 Quarter: 1**

**Program: Acylcarnitines
Expected Clinical Assessments**

Analyte	Specimen				
	20241006001	20241006002	20241006003	20241006004	20241006005
Expected Assessment	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	1	1	1
C3DC (μmol/L blood)	1	1	1	2	1
C3DC+C4OH (μmol/L blood)	1	1	2	2	1
C4 (μmol/L blood)	1	1	1	1	2
C4OH (μmol/L blood)	1	1	2	1	1
C5 (μmol/L blood)	1	1	1	1	2
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	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)	2	1	1	1	1
C14 (μmol/L blood)	1	1	1	1	2
C14:1 (μmol/L blood)	1	1	1	1	1
C16 (μmol/L blood)	1	1	1	1	2
C16OH (μmol/L blood)	1	1	1	1	1
C18 (μmol/L blood)	1	1	1	1	2
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: 2024 Quarter: 1**

**Program: HORMPT
Expected Values**

	Specimen				
	20241001001	20241001002	20241001003	20241001004	20241001005
Analyte	Expected Value				
T4 (µg/dL serum)	15.4	15.5	8.2	16.0	15.4
TSH (µIU/mL serum)	1.4	1.5	91.6	1.2	1.4
17OHP (ng/mL serum)	0.4	0.9	0.9	0.9	86.3
TGal (mg/dL blood)	0.0	0.0	0.9	25.0	0.0

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

	Specimen				
	20241001001	20241001002	20241001003	20241001004	20241001005
Analyte	Expected Assessment				
T4 (µg/dL serum)	1	1	1	1	1
TSH (µIU/mL serum)	1	1	2	1	1
17OHP (ng/mL serum)	1	1	1	1	2
TGal (mg/dL blood)	1	1	1	2	1

Note: Expected Value = sum of endogenous and enrichment values

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2024 Quarter: 1**

**Program: Immunoreactive Trypsinogen
Expected Values**

	Specimen				
	20241008001	20241008002	20241008003	20241008004	20241008005
Analyte	Expected Value				
IRT (ng/mL blood)	5.5	10.5	249.6	14.0	133.8

**Program: Immunoreactive Trypsinogen
Specimen Certification**

	Specimen				
	20241008001	20241008002	20241008003	20241008004	20241008005
Analyte	Expected Assessment				
IRT (ng/mL blood)	1	1	2	1	2

**Newborn Screening Quality Assurance Program
Specimen Certification
Year: 2024 Quarter: 1**

**Program: Biotinidase
Expected Clinical Assessments**

	Specimen				
	20241007001	20241007002	20241007003	20241007004	20241007005
Analyte	Expected Assessment				
BIOT	1	2	1	1	1

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

	Specimen				
	20241009001	20241009002	20241009003	20241009004	20241009005
Analyte	Expected Assessment				
GALT	1	1	1	2	1

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

	Specimen				
	20241003001	20241003002	20241003003	20241003004	20241003005
Analyte	Expected Assessment				
G6PD	1	1	1	1	2

Analyte	Specimen Number									
	20241006001		20241006002		20241006003		20241006004		20241006005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	0	46	0	46	0	46	0	46	0	46
C2(L)	0	20	0	20	0	20	0	20	0	20
C3	0	46	0	46	0	46	0	46	0	46
C3DC	0	10	0	10	0	10	10	0	0	10
C3DC+C4OH	0	29	0	29	29	0	29	0	0	29
C4	0	42	0	42	0	42	0	42	42	0
C4OH	0	8	0	8	8	0	0	8	0	8
C5	0	46	0	46	0	46	0	46	46	0
C5:1	0	45	0	45	0	45	0	45	0	45
C5DC	0	44	0	44	0	44	0	44	0	44
C5OH	0	44	0	44	0	44	0	44	0	44
C6	0	40	40	0	0	40	0	40	0	40
C8	0	46	46	0	0	46	0	46	0	46
C10	0	40	40	0	0	40	0	40	0	40
C10:1	0	38	38	0	0	38	0	38	0	38
C10:2	25	0	0	25	0	25	0	25	0	25
C14	0	40	0	40	0	40	0	40	39	1
C14:1	0	46	0	46	0	46	0	46	0	46
C16	0	45	0	45	0	45	0	45	45	0
C16OH	0	46	0	46	0	46	0	46	1	45
C18	0	37	0	37	0	37	0	37	37	0
C18:1	0	39	0	39	0	39	0	39	0	39
C18OH	0	35	0	35	0	35	0	35	0	35

Analyte	Specimen Number									
	20241006001		20241006002		20241006003		20241006004		20241006005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
C0(L)	4	260	2	262	2	262	2	262	3	261
C2(L)	3	210	1	212	1	212	1	212	0	213
C3	2	256	2	256	2	256	1	257	1	257
C3DC	1	66	1	66	5	62	64	3	1	66
C3DC+C4OH	0	111	0	111	108	3	105	6	0	111
C4	4	233	3	234	2	235	2	235	228	9
C4OH	1	64	0	65	63	2	6	59	4	61
C5	2	266	2	266	2	266	2	266	261	7
C5:1	1	223	3	221	4	220	3	221	4	220
C5DC	1	249	1	249	0	250	2	248	1	249
C5OH	1	213	3	211	3	211	1	213	14	200
C6	1	243	235	9	0	244	0	244	1	243
C8	2	269	266	5	1	270	1	270	3	268
C10	2	258	255	5	1	259	1	259	2	258
C10:1	2	220	216	6	1	221	1	221	2	220
C10:2	150	9	2	157	1	158	2	157	1	158
C14	4	243	4	243	3	244	3	244	238	9
C14:1	2	242	1	243	1	243	1	243	3	241
C16	2	245	0	247	1	246	2	245	238	9
C16OH	0	249	1	248	0	249	2	247	6	243
C18	1	234	1	234	1	234	3	232	223	12
C18:1	0	223	0	223	0	223	1	222	2	221
C18OH	2	198	2	198	1	199	2	198	4	196

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

Analyte	Specimen Number									
	20241005001		20241005002		20241005003		20241005004		20241005005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	0	37	0	37	0	37	0	37	37	0
CIT	0	43	0	43	0	43	43	0	0	43
CRE	0	4	0	4	0	4	0	4	0	4
GAMTr	0	4	0	4	0	4	0	4	0	4
GUAC	0	6	0	6	0	6	0	6	0	6
LEU	0	44	44	0	0	44	0	44	0	44
MET	0	43	0	43	43	0	0	43	0	43
PHE	50	1	0	51	0	51	0	51	0	51
SUAC	0	42	0	42	0	42	0	42	0	42
TYR	1	48	1	48	1	48	1	48	1	48
VAL	1	29	29	1	0	30	0	30	0	30

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

Analyte	Specimen Number									
	20241005001		20241005002		20241005003		20241005004		20241005005	
	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
ARG	1	211	0	212	2	210	2	210	206	6
CIT	1	235	2	234	1	235	232	4	0	236
CRE	0	7	0	7	0	7	1	6	1	6
GAMTr	0	2	0	2	0	2	0	2	0	2
GUAC	0	10	0	10	0	10	0	10	0	10
LEU	0	266	256	10	1	265	0	266	0	266
MET	1	260	3	258	257	4	1	260	1	260
PHE	309	15	2	322	0	324	2	322	1	323
SUAC	1	135	2	134	0	136	2	134	1	135
TYR	1	259	0	260	0	260	0	260	0	260
VAL	0	244	239	5	0	244	0	244	0	244

**Program: Biotinidase (BIOTPT)
Domestic**

	Specimen Number									
	20241007001		20241007002		20241007003		20241007004		20241007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	41	41	0	0	41	0	41	0	41

**Program: Biotinidase (BIOTPT)
International**

	Specimen Number									
	20241007001		20241007002		20241007003		20241007004		20241007005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
BIOT	0	182	182	0	0	182	0	182	0	182

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

	Specimen Number									
	20241009001		20241009002		20241009003		20241009004		20241009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	0	42	0	42	0	42	42	0	0	42

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

	Specimen Number									
	20241009001		20241009002		20241009003		20241009004		20241009005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
GALT	0	108	0	108	0	108	108	0	0	108

	Specimen Number									
	20241003001		20241003002		20241003003		20241003004		20241003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	0	2	0	2	0	2	0	2	2	0

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

	Specimen Number									
	20234003001		20234003002		20234003003		20234003004		20234003005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
G6PD	0	104	0	104	1	103	1	103	102	2

	Specimen Number									
	20241001001		20241001002		20241001003		20241001004		20241001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	20	0	20	0	20	20	0	0	20
T4	0	18	0	18	1	17	0	18	0	18
TSH	0	42	0	42	42	0	0	42	0	42
17OHP	0	41	0	41	0	41	0	41	41	0

**Program: Hormones and Total Galactose (HORMPT)
International**

	Specimen Number									
	20241001001		20241001002		20241001003		20241001004		20241001005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
TGAL	0	164	0	164	1	163	163	1	0	164
T4	1	39	0	40	4	36	0	40	0	40
TSH	0	293	1	292	291	2	0	293	0	293
17OHP	1	247	0	248	0	248	0	248	245	3

	Specimen Number									
	20241008001		20241008002		20241008003		20241008004		20241008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	0	42	0	42	42	0	0	42	41	1

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

	Specimen Number									
	20241008001		20241008002		20241008003		20241008004		20241008005	
Analyte	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL	ONL	WNL
IRT	0	198	1	197	195	3	0	198	194	4

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C0(L) (µmol/L blood)	20241006001	313	41.70	36.36	5.93	18.54	52.80	
	20241006002	312	41.54	36.64	5.72	17.68	50.90	
	20241006003	312	41.39	36.07	5.54	20.04	52.34	
	20241006004	313	37.86	34.58	5.73	16.21	54.00	
	20241006005	312	43.45	38.25	6.79	18.85	63.33	
C2(L) (µmol/L blood)	20241006001	233	26.75	22.58	3.91	11.89	35.90	
	20241006002	235	26.67	22.85	4.23	11.78	38.50	
	20241006003	234	26.86	22.59	3.93	11.63	35.08	
	20241006004	234	24.32	21.14	3.91	10.28	35.00	
	20241006005	236	26.28	21.74	4.15	7.81	37.00	
C3 (µmol/L blood)	20241006001	302	0.43	0.42	0.09	0.22	0.76	
	20241006002	300	0.43	0.42	0.08	0.24	0.71	
	20241006003	300	0.42	0.42	0.09	0.23	0.71	
	20241006004	304	0.34	0.33	0.08	0.16	0.67	
	20241006005	299	0.32	0.31	0.07	0.17	0.59	
C3DC (µmol/L blood)	20241006001	73	0.02	0.03	0.02	0.00	0.11	
	20241006002	75	0.02	0.03	0.02	0.00	0.11	
	20241006003	72	0.02	0.03	0.03	0.00	0.11	
	20241006004	79	12.02	6.80	4.03	0.06	20.32	
	20241006005	77	0.03	0.06	0.05	0.00	0.23	
C3DC+C4OH (µmol/L blood)	20241006001	139	0.04	0.04	0.02	0.00	0.11	
	20241006002	139	0.04	0.04	0.02	0.00	0.10	
	20241006003	141	4.04	2.07	0.63	0.00	4.27	
	20241006004	141	12.02	2.24	0.97	0.00	4.48	
	20241006005	139	0.03	0.08	0.03	0.00	0.19	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C4 (μmol/L blood)	20241006001	277	0.03	0.04	0.02	0.00	0.14	
	20241006002	271	0.03	0.05	0.04	0.01	0.21	
	20241006003	276	0.03	0.04	0.02	0.00	0.13	
	20241006004	274	0.04	0.05	0.02	0.00	0.14	
	20241006005	281	4.04	2.87	0.47	1.05	4.32	
C4OH (μmol/L blood)	20241006001	71	0.05	0.05	0.02	0.02	0.14	
	20241006002	73	0.05	0.06	0.03	0.02	0.16	
	20241006003	72	4.05	2.11	0.72	0.01	3.51	
	20241006004	68	0.03	0.14	0.20	0.04	1.56	
	20241006005	70	0.04	0.12	0.06	0.03	0.26	
C5 (μmol/L blood)	20241006001	309	0.03	0.03	0.02	0.00	0.10	
	20241006002	308	0.02	0.03	0.02	0.00	0.10	
	20241006003	309	0.03	0.03	0.02	0.00	0.10	
	20241006004	309	0.03	0.03	0.02	0.00	0.10	
	20241006005	315	4.03	3.74	0.55	2.38	5.89	
C5:1 (μmol/L blood)	20241006001	263	0.01	0.01	0.01	0.00	0.05	
	20241006002	266	0.01	0.01	0.01	0.00	0.06	
	20241006003	259	0.01	0.01	0.01	0.00	0.05	
	20241006004	262	0.01	0.01	0.01	0.00	0.05	
	20241006005	258	0.01	0.01	0.01	0.00	0.10	
C5DC (μmol/L blood)	20241006001	294	0.01	0.03	0.03	0.00	0.14	
	20241006002	295	0.01	0.04	0.03	0.00	0.14	
	20241006003	297	0.01	0.04	0.03	0.00	0.15	
	20241006004	299	0.01	0.10	0.07	0.00	0.39	
	20241006005	292	0.01	0.03	0.03	0.00	0.15	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C5OH (μmol/L blood)	20241006001	262	0.20	0.27	0.11	0.00	0.71	
	20241006002	263	0.20	0.29	0.11	0.00	0.67	
	20241006003	263	0.20	0.28	0.11	0.00	0.66	
	20241006004	262	0.20	0.25	0.08	0.00	0.51	
	20241006005	263	0.36	0.37	0.12	0.00	0.78	
C6 (μmol/L blood)	20241006001	280	0.01	0.01	0.01	0.00	0.05	
	20241006002	284	2.01	1.63	0.25	0.28	2.54	
	20241006003	277	0.01	0.02	0.01	0.00	0.06	
	20241006004	283	0.01	0.01	0.01	0.00	0.06	
	20241006005	277	0.01	0.01	0.01	0.00	0.05	
C8 (μmol/L blood)	20241006001	303	0.01	0.01	0.01	0.00	0.05	
	20241006002	317	5.01	4.05	0.69	1.84	6.74	
	20241006003	306	0.01	0.02	0.01	0.00	0.06	
	20241006004	309	0.01	0.01	0.01	0.00	0.05	
	20241006005	310	0.01	0.01	0.01	0.00	0.12	
C10 (μmol/L blood)	20241006001	297	0.01	0.02	0.01	0.00	0.07	
	20241006002	300	4.01	3.59	0.70	1.38	6.42	
	20241006003	288	0.01	0.02	0.01	0.00	0.07	
	20241006004	281	0.01	0.01	0.01	0.00	0.04	
	20241006005	290	0.01	0.02	0.02	0.00	0.10	
C10:1 (μmol/L blood)	20241006001	251	0.00	0.03	0.02	0.01	0.12	
	20241006002	258	2.00	1.45	0.46	0.06	3.29	
	20241006003	254	0.01	0.02	0.02	0.00	0.08	
	20241006004	253	0.01	0.01	0.01	0.00	0.07	
	20241006005	247	0.00	0.02	0.02	0.00	0.25	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C10:2 (µmol/L blood)	20241006001	187	2.00	0.96	0.42	0.00	2.43	
	20241006002	185	0.00	0.01	0.01	0.00	0.06	
	20241006003	188	0.00	0.01	0.01	0.00	0.06	
	20241006004	183	0.00	0.01	0.01	0.00	0.04	
	20241006005	182	0.00	0.01	0.01	0.00	0.04	
C14 (µmol/L blood)	20241006001	273	0.04	0.04	0.12	0.00	2.00	
	20241006002	273	0.03	0.03	0.01	0.00	0.07	
	20241006003	279	0.04	0.03	0.01	0.00	0.08	
	20241006004	271	0.02	0.02	0.01	0.00	0.05	
	20241006005	287	3.02	2.60	0.44	1.17	4.34	
C14:1 (µmol/L blood)	20241006001	292	0.01	0.02	0.02	0.00	0.08	
	20241006002	288	0.01	0.02	0.01	0.00	0.08	
	20241006003	288	0.01	0.02	0.02	0.00	0.08	
	20241006004	284	0.01	0.02	0.01	0.00	0.06	
	20241006005	284	0.01	0.03	0.02	0.00	0.12	
C16 (µmol/L blood)	20241006001	295	0.65	0.69	0.12	0.43	1.11	
	20241006002	294	0.64	0.69	0.12	0.32	1.07	
	20241006003	293	0.64	0.68	0.13	0.26	1.06	
	20241006004	296	0.29	0.32	0.07	0.02	0.58	
	20241006005	295	25.60	20.00	3.43	6.07	33.33	
C16OH (µmol/L blood)	20241006001	288	0.01	0.01	0.01	0.00	0.03	
	20241006002	295	0.01	0.01	0.01	0.00	0.04	
	20241006003	293	0.01	0.01	0.01	0.00	0.04	
	20241006004	290	0.01	0.01	0.01	0.00	0.03	
	20241006005	292	0.01	0.04	0.02	0.01	0.10	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
C18 (μmol/L blood)	20241006001	274	0.53	0.53	0.09	0.22	0.82	
	20241006002	276	0.52	0.53	0.09	0.00	0.86	
	20241006003	276	0.52	0.52	0.09	0.00	0.82	
	20241006004	273	0.25	0.25	0.05	0.00	0.40	
	20241006005	273	7.78	5.80	0.93	0.00	8.71	
C18:1 (μmol/L blood)	20241006001	264	0.52	0.51	0.12	0.05	1.00	
	20241006002	263	0.52	0.51	0.11	0.11	0.93	
	20241006003	262	0.58	0.52	0.11	0.13	0.93	
	20241006004	259	0.32	0.32	0.07	0.04	0.59	
	20241006005	262	0.42	0.38	0.10	0.01	0.75	
C18OH (μmol/L blood)	20241006001	235	0.01	0.01	0.01	0.00	0.03	
	20241006002	233	0.00	0.01	0.01	0.00	0.03	
	20241006003	233	0.01	0.00	0.01	0.00	0.03	
	20241006004	234	0.00	0.00	0.01	0.00	0.03	
	20241006005	232	0.01	0.02	0.01	0.00	0.05	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
Arg (µmol/L blood)	20241005001	245	6.6	4.6	1.8	0.0	15.1	
	20241005002	250	9.4	9.1	2.6	0.0	19.6	
	20241005003	248	8.1	6.0	1.9	1.7	12.6	
	20241005004	239	4.7	2.9	1.3	1.0	7.9	
	20241005005	256	206.6	154.8	43.6	5.4	306.0	
Cre (µmol/L blood)	20241005001	12	408.9	427.1	92.3	336.4	643.2	
	20241005002	12	313.0	329.6	63.4	263.0	467.6	
	20241005003	12	337.8	329.1	71.9	193.0	464.1	
	20241005004	12	312.7	317.4	62.7	251.2	448.0	
	20241005005	12	291.6	312.9	68.2	261.0	461.1	
Cit (µmol/L blood)	20241005001	281	12.4	12.7	2.4	5.8	21.4	
	20241005002	277	5.8	5.9	1.3	1.7	11.2	
	20241005003	278	11.1	10.6	2.1	5.0	18.8	
	20241005004	283	214.5	190.1	30.2	102.3	283.2	
	20241005005	282	11.4	14.7	3.5	6.5	32.3	
GUAC (µmol/L blood)	20241005001	17	1.2	1.3	0.6	0.5	2.8	
	20241005002	17	1.0	1.3	0.8	0.2	3.4	
	20241005003	17	1.1	1.2	0.6	0.3	3.0	
	20241005004	17	1.3	1.3	0.6	0.4	2.9	
	20241005005	17	1.3	1.5	0.8	0.3	3.2	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
Leu (µmol/L blood)	20241005001	307	27.6	30.1	6.9	12.3	58.2	
	20241005002	313	632.1	531.6	76.7	306.1	762.8	
	20241005003	303	26.2	25.4	6.0	10.0	45.1	
	20241005004	309	21.3	22.8	12.8	7.4	223.0	
	20241005005	302	17.0	18.1	5.3	3.5	42.0	
Met (µmol/L blood)	20241005001	291	2.4	3.3	1.2	0.8	8.2	
	20241005002	282	1.6	2.1	0.8	0.0	5.2	
	20241005003	304	203.4	155.3	24.3	90.9	238.5	
	20241005004	288	1.3	2.3	1.1	0.0	6.3	
	20241005005	288	1.1	1.9	1.0	0.2	12.8	
Phe (µmol/L blood)	20241005001	377	259.8	222.8	34.6	95.0	346.7	
	20241005002	334	6.5	7.6	3.2	0.0	47.0	
	20241005003	351	9.5	9.9	3.2	0.0	28.8	
	20241005004	349	6.3	6.9	2.5	0.0	20.6	
	20241005005	343	5.1	8.0	38.5	0.0	715.0	
SUAC (µmol/L blood)	20241005001	181	0.2	0.4	0.4	0.0	1.8	
	20241005002	181	0.2	0.4	0.4	0.0	1.7	
	20241005003	178	0.2	0.4	0.3	0.0	1.6	
	20241005004	180	0.2	0.4	0.3	0.0	1.5	
	20241005005	180	0.2	0.4	0.3	0.0	1.6	
Tyr (µmol/L blood)	20241005001	306	17.9	20.3	3.8	8.0	35.0	
	20241005002	304	13.9	15.6	2.8	7.3	24.9	
	20241005003	307	18.3	18.6	3.3	8.6	32.0	
	20241005004	306	11.9	13.2	2.6	5.1	22.3	
	20241005005	304	11.7	13.5	2.7	4.9	24.4	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
Val (µmol/L blood)	20241005001	265	50.0	31.7	6.9	11.0	60.6	
	20241005002	279	655.9	513.7	91.2	235.4	783.7	
	20241005003	274	47.8	30.8	8.6	10.6	65.2	
	20241005004	265	42.3	25.0	5.5	8.0	44.8	
	20241005005	278	31.2	20.6	10.9	5.7	104.0	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
T4 (µg/dL serum)	20241001001	64	15.4	16.7	2.6	7.7	24.0	
	20241001002	64	15.5	16.8	3.2	7.5	26.2	
	20241001003	63	8.2	8.4	1.3	5.2	12.3	
	20241001004	64	16.0	16.7	2.2	12.7	24.2	
	20241001005	63	15.4	16.0	2.1	11.3	21.6	
TSH (µIU/mL serum)	20241001001	319	1.4	1.4	1.2	0.0	5.8	
	20241001002	321	1.5	1.4	1.0	0.0	6.2	
	20241001003	343	91.6	78.8	20.8	3.0	143.0	
	20241001004	327	1.2	1.2	1.1	0.0	5.4	
	20241001005	325	1.4	1.4	1.0	0.0	4.9	
17OHP (ng/mL serum)	20241001001	272	0.4	0.8	0.6	0.0	3.4	
	20241001002	278	0.9	1.5	1.1	0.3	6.0	
	20241001003	278	0.9	1.0	0.8	0.1	4.2	
	20241001004	258	0.9	1.3	0.6	0.3	3.6	
	20241001005	293	86.3	94.1	26.2	1.4	193.3	
TGal (mg/dL blood)	20241001001	187	0.0	1.5	1.6	0.0	7.0	
	20241001002	185	0.0	1.3	1.4	0.0	5.5	
	20241001003	186	0.9	1.5	1.5	0.0	7.4	
	20241001004	187	25.0	23.2	5.5	10.0	44.1	
	20241001005	186	0.0	1.4	1.6	0.0	7.3	

Analyte	Specimen Number	N	EV	Mean	SD	Min	Max	Comment
IRT (ng/mL blood)	20241008001	229	5.5	6.6	2.8	0.0	17.4	
	20241008002	235	10.5	11.7	3.5	1.6	25.0	
	20241008003	238	249.6	227.4	45.4	86.6	366.0	
	20241008004	237	14.0	14.9	5.8	2.0	38.1	
	20241008005	244	133.8	129.5	26.5	58.6	220.8	

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	6	41.70	38.37	7.92	6	41.54	38.54	8.14	6	41.39	40.37	6.40	6	37.86	37.60	6.44	5	43.45	42.62	8.86
	Derivatized - MS/MS MassChrom® Chromsystems	12	41.70	34.23	6.41	13	41.54	34.30	7.68	13	41.39	33.67	7.24	13	37.86	32.24	5.63	13	43.45	35.87	9.32
	Derivatized - MS/MS non-kit	64	41.70	36.97	6.61	63	41.54	38.28	6.38	63	41.39	37.10	5.90	63	37.86	35.30	6.19	64	43.45	41.75	7.96
	LC-MS/MS non-kit	3	41.70	40.83	6.26	.				.				3	37.86	40.91	11.42	.			
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	41.70	39.70	4.44	3	41.54	39.58	2.64	3	41.39	37.54	1.83	3	37.86	37.69	2.85	3	43.45	40.80	1.35
	Non-derivatized - MS/MS MassChrom® Chromsystems	37	41.70	37.52	6.16	37	41.54	37.02	5.61	37	41.39	36.60	5.24	37	37.86	34.56	5.35	37	43.45	38.06	6.31
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	43	41.70	36.10	5.90	43	41.54	36.24	4.50	43	41.39	35.34	5.41	43	37.86	33.72	5.71	43	43.45	36.70	5.39
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	102	41.70	36.91	4.90	102	41.54	37.00	4.67	102	41.39	36.70	4.69	102	37.86	35.24	4.90	102	43.45	38.18	5.26
	Non-derivatized - MS/MS non-kit	25	41.70	34.84	5.90	25	41.54	35.80	6.46	25	41.39	35.01	6.25	25	37.86	34.09	6.48	25	43.45	36.55	7.27
	Non-derivatized Labsystems Neomass AAAC Plus	10	41.70	28.35	4.06	10	41.54	28.70	5.01	10	41.39	28.64	4.15	10	37.86	27.50	4.92	10	43.45	30.03	5.21
Other	8	41.70	34.27	3.56	8	41.54	33.52	4.29	8	41.39	34.65	3.27	8	37.86	33.89	3.15	8	43.45	35.73	4.38	
C2(L) (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	26.75	25.55	2.95	6	26.67	25.53	5.92	6	26.86	24.76	3.74	6	24.32	23.13	5.05	6	26.28	23.17	3.67
	Derivatized - MS/MS MassChrom® Chromsystems	10	26.75	21.40	2.80	11	26.67	23.10	5.95	11	26.86	22.33	3.21	11	24.32	21.49	4.47	11	26.28	21.88	4.83
	Derivatized - MS/MS non-kit	52	26.75	25.09	5.27	52	26.67	25.30	5.46	51	26.86	24.89	4.76	51	24.32	22.85	4.67	52	26.28	24.14	5.09
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	26.75	20.67	2.43	24	26.67	20.96	2.45	24	26.86	20.93	3.19	24	24.32	19.21	2.49	24	26.28	19.58	2.41
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	35	26.75	21.72	2.31	35	26.67	22.18	2.55	35	26.86	21.82	2.65	35	24.32	20.38	2.34	35	26.28	20.95	2.48
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	71	26.75	21.30	2.05	71	26.67	21.32	2.07	71	26.86	21.13	2.19	71	24.32	19.97	2.17	71	26.28	20.47	2.05
	Non-derivatized - MS/MS non-kit	19	26.75	24.27	4.66	19	26.67	24.58	4.51	19	26.86	24.39	4.46	19	24.32	23.19	5.00	20	26.28	22.79	5.93
	Non-derivatized Labsystems Neomass AAAC Plus	8	26.75	18.99	1.77	8	26.67	18.64	1.83	8	26.86	18.67	2.62	8	24.32	17.35	2.14	8	26.28	18.18	2.51
	Other	6	26.75	26.16	4.36	6	26.67	25.46	3.92	6	26.86	26.50	4.87	6	24.32	25.26	4.83	6	26.28	25.20	3.75

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	0.43	0.42	0.06	5	0.43	0.41	0.10	5	0.42	0.40	0.07	5	0.34	0.30	0.05	5	0.32	0.28	0.06
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.43	0.37	0.11	12	0.43	0.39	0.10	12	0.42	0.39	0.10	12	0.34	0.29	0.09	12	0.32	0.29	0.11
	Derivatized - MS/MS non-kit	61	0.43	0.45	0.11	60	0.43	0.45	0.10	61	0.42	0.45	0.10	63	0.34	0.38	0.10	59	0.32	0.34	0.08
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.43	0.39	0.03	3	0.43	0.39	0.01	3	0.42	0.37	0.04	3	0.34	0.31	0.02	3	0.32	0.28	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	33	0.43	0.35	0.06	33	0.43	0.35	0.05	32	0.42	0.35	0.05	33	0.34	0.27	0.04	33	0.32	0.26	0.05
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	43	0.43	0.37	0.05	43	0.43	0.37	0.04	43	0.42	0.36	0.04	43	0.34	0.28	0.04	43	0.32	0.26	0.04
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	101	0.43	0.44	0.06	101	0.43	0.44	0.06	101	0.42	0.44	0.06	101	0.34	0.35	0.05	101	0.32	0.32	0.05
	Non-derivatized - MS/MS non-kit	25	0.43	0.44	0.10	24	0.43	0.45	0.10	24	0.42	0.45	0.11	25	0.34	0.37	0.12	24	0.32	0.34	0.08
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.43	0.35	0.08	9	0.43	0.35	0.07	9	0.42	0.36	0.09	9	0.34	0.27	0.07	9	0.32	0.25	0.07
Other	8	0.43	0.44	0.09	8	0.43	0.42	0.09	8	0.42	0.44	0.10	8	0.34	0.34	0.09	8	0.32	0.32	0.07	
C3DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.02	0.05	0.04	5	0.02	0.04	0.04	5	0.02	0.04	0.04	5	12.02	6.53	4.22	4	0.03	0.03	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	10	0.02	0.04	0.03	10	0.02	0.04	0.02	10	0.02	0.05	0.03	11	12.02	11.43	5.84	11	0.03	0.08	0.05
	Derivatized - MS/MS non-kit	54	0.02	0.02	0.02	56	0.02	0.03	0.02	56	0.02	0.03	0.02	58	12.02	6.21	2.98	58	0.03	0.05	0.05
	Other	3	0.02	0.05	0.03	3	0.02	0.04	0.02	.				4	12.02	4.15	3.64	3	0.03	0.07	0.05
C3DC+C4OH (µmol/L blood)	Non-derivatized - MS/MS MassChrom® Chromsystems	10	0.04	0.03	0.01	11	0.04	0.03	0.02	11	4.04	1.38	0.76	12	12.02	1.50	0.95	10	0.03	0.06	0.04
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	29	0.04	0.04	0.01	29	0.04	0.04	0.01	29	4.04	2.02	0.39	29	12.02	1.64	0.30	29	0.03	0.07	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	80	0.04	0.05	0.01	80	0.04	0.05	0.01	80	4.04	2.23	0.49	80	12.02	2.73	0.86	80	0.03	0.08	0.02
	Non-derivatized - MS/MS non-kit	9	0.04	0.06	0.03	9	0.04	0.06	0.03	10	4.04	2.28	1.17	11	12.02	1.90	1.02	9	0.03	0.11	0.06
	Non-derivatized Labsystems Neomass AAAC Plus	6	0.04	0.02	0.02	6	0.04	0.03	0.02	6	4.04	1.33	0.57	6	12.02	1.06	0.60	6	0.03	0.05	0.03
	Other	4	0.04	0.07	0.04	3	0.04	0.05	0.03	4	4.04	1.75	0.22	3	12.02	1.37	0.51	4	0.03	0.11	0.05

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	0.03	0.04	0.03	5	0.03	0.07	0.05	5	0.03	0.05	0.04	6	0.04	0.07	0.04	6	4.04	3.19	1.15
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.03	0.04	0.03	9	0.03	0.10	0.04	11	0.03	0.04	0.02	12	0.04	0.05	0.03	12	4.04	2.70	0.29
	Derivatized - MS/MS non-kit	60	0.03	0.05	0.03	55	0.03	0.10	0.05	61	0.03	0.05	0.02	58	0.04	0.06	0.02	61	4.04	2.92	0.58
	LC-MS/MS non-kit	3	0.03	0.06	0.05	3	0.03	0.06	0.05	3	0.03	0.06	0.05	.				.			
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	0.03	0.05	0.04	26	0.03	0.04	0.03	26	0.03	0.04	0.03	26	0.04	0.06	0.03	27	4.04	2.87	0.32
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	40	0.03	0.05	0.02	41	0.03	0.05	0.02	40	0.03	0.05	0.02	40	0.04	0.06	0.02	41	4.04	2.90	0.32
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	90	0.03	0.03	0.01	91	0.03	0.03	0.01	90	0.03	0.03	0.01	90	0.04	0.04	0.01	90	4.04	2.80	0.31
	Non-derivatized - MS/MS non-kit	22	0.03	0.04	0.03	22	0.03	0.05	0.03	21	0.03	0.04	0.02	23	0.04	0.06	0.03	23	4.04	3.09	0.59
	Non-derivatized Labsystems Neomass AAAC Plus	10	0.03	0.05	0.03	10	0.03	0.04	0.03	10	0.03	0.05	0.03	9	0.04	0.06	0.03	10	4.04	2.32	0.60
Other	7	0.03	0.05	0.04	7	0.03	0.06	0.06	7	0.03	0.05	0.04	6	0.04	0.04	0.01	7	4.04	2.98	0.31	
C4OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	0.05	0.05	0.02	4	0.05	0.08	0.03	4	4.05	2.89	0.42	4	0.03	0.08	0.03	3	0.04	0.12	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	8	0.05	0.06	0.01	8	0.05	0.06	0.02	8	4.05	2.50	0.56	9	0.03	0.16	0.13	8	0.04	0.10	0.02
	Derivatized - MS/MS non-kit	51	0.05	0.06	0.03	53	0.05	0.06	0.03	52	4.05	2.12	0.65	53	0.03	0.14	0.22	51	0.04	0.13	0.06
	Other	5	0.05	0.04	0.01	5	0.05	0.04	0.02	5	4.05	1.18	0.59	.				5	0.04	0.08	0.03
C5 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.03	0.04	0.03	5	0.02	0.04	0.03	5	0.03	0.04	0.03	5	0.03	0.04	0.02	5	4.03	3.85	0.91
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.03	0.04	0.01	11	0.02	0.04	0.01	11	0.03	0.04	0.01	11	0.03	0.03	0.01	12	4.03	3.67	0.55
	Derivatized - MS/MS non-kit	64	0.03	0.04	0.02	61	0.02	0.04	0.02	62	0.03	0.04	0.02	62	0.03	0.04	0.02	63	4.03	3.84	0.69
	LC-MS/MS non-kit	4	0.03	0.04	0.04	4	0.02	0.04	0.04	4	0.03	0.04	0.04	4	0.03	0.04	0.04	4	4.03	4.19	0.19
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.03	0.02	0.00	3	0.02	0.02	0.01	3	0.03	0.02	0.00	3	0.03	0.02	0.00	3	4.03	4.23	0.22
	Non-derivatized - MS/MS MassChrom® Chromsystems	34	0.03	0.02	0.01	35	0.02	0.03	0.01	35	0.03	0.03	0.01	35	0.03	0.03	0.01	37	4.03	3.75	0.50
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	0.03	0.02	0.01	44	0.02	0.02	0.01	44	0.03	0.02	0.01	44	0.03	0.02	0.01	44	4.03	3.71	0.48
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	101	0.03	0.03	0.02	102	0.02	0.03	0.02	101	0.03	0.03	0.02	102	0.03	0.03	0.02	102	4.03	3.62	0.42

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	25	0.03	0.03	0.02	25	0.02	0.03	0.01	26	0.03	0.04	0.02	25	0.03	0.03	0.01	27	4.03	3.97	0.54
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.03	0.05	0.02	9	0.02	0.05	0.02	9	0.03	0.06	0.02	9	0.03	0.06	0.02	9	4.03	3.38	0.54
	Other	8	0.03	0.03	0.01	8	0.02	0.03	0.01	8	0.03	0.03	0.01	8	0.03	0.03	0.02	8	4.03	3.56	0.56
C5:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	3	0.01	0.01	0.01	4	0.01	0.02	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.01	0.02	0.01	11	0.01	0.02	0.01	11	0.01	0.01	0.01	12	0.01	0.02	0.01	12	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	55	0.01	0.02	0.01	57	0.01	0.02	0.01	55	0.01	0.02	0.01	56	0.01	0.02	0.01	54	0.01	0.02	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	23	0.01	0.01	0.01	23	0.01	0.01	0.01	22	0.01	0.01	0.01	23	0.01	0.01	0.01	22	0.01	0.02	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	42	0.01	0.00	0.01	42	0.01	0.00	0.01	42	0.01	0.01	0.01	42	0.01	0.00	0.01	42	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	87	0.01	0.01	0.01	88	0.01	0.01	0.01	87	0.01	0.01	0.01	87	0.01	0.01	0.01	86	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	22	0.01	0.01	0.01	22	0.01	0.01	0.02	20	0.01	0.01	0.01	20	0.01	0.01	0.01	20	0.01	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.01	0.01	0.01	9	0.01	0.01	0.01	9	0.01	0.01	0.01	9	0.01	0.01	0.01	9	0.01	0.01	0.01
	Other	7	0.01	0.00	0.01	7	0.01	0.01	0.01	7	0.01	0.01	0.01	7	0.01	0.01	0.01	7	0.01	0.01	0.00
C5DC (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.01	0.03	0.03	6	0.01	0.05	0.03	6	0.01	0.02	0.01	6	0.01	0.03	0.03	6	0.01	0.03	0.03
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.01	0.03	0.02	12	0.01	0.04	0.02	13	0.01	0.04	0.04	13	0.01	0.05	0.06	13	0.01	0.03	0.03
	Derivatized - MS/MS non-kit	66	0.01	0.02	0.02	65	0.01	0.03	0.02	66	0.01	0.02	0.02	66	0.01	0.02	0.02	66	0.01	0.02	0.02
	LC-MS/MS non-kit	3	0.01	0.05	0.05	3	0.01	0.05	0.05	3	0.01	0.06	0.04	3	0.01	0.15	0.10	3	0.01	0.05	0.05
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.01	0.03	0.00	3	0.01	0.03	0.00	3	0.01	0.02	0.01	3	0.01	0.19	0.03	3	0.01	0.02	0.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	34	0.01	0.06	0.03	35	0.01	0.06	0.03	34	0.01	0.07	0.03	36	0.01	0.21	0.07	34	0.01	0.06	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	39	0.01	0.04	0.02	39	0.01	0.04	0.02	39	0.01	0.04	0.02	39	0.01	0.13	0.02	37	0.01	0.04	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	90	0.01	0.03	0.01	91	0.01	0.03	0.02	91	0.01	0.03	0.02	91	0.01	0.09	0.04	89	0.01	0.03	0.02
	Non-derivatized - MS/MS non-kit	25	0.01	0.04	0.03	25	0.01	0.05	0.03	26	0.01	0.05	0.04	26	0.01	0.14	0.07	25	0.01	0.04	0.04
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.01	0.07	0.05	9	0.01	0.07	0.04	9	0.01	0.08	0.04	9	0.01	0.14	0.07	9	0.01	0.06	0.05

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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)	Other	6	0.01	0.04	0.03	6	0.01	0.05	0.03	6	0.01	0.05	0.03	6	0.01	0.16	0.08	6	0.01	0.05	0.04
C5OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.20	0.27	0.23	6	0.20	0.17	0.06	6	0.20	0.21	0.13	6	0.20	0.23	0.15	6	0.36	0.23	0.11
	Derivatized - MS/MS MassChrom® Chromsystems	13	0.20	0.17	0.04	13	0.20	0.21	0.08	13	0.20	0.19	0.05	13	0.20	0.18	0.05	13	0.36	0.29	0.07
	Derivatized - MS/MS non-kit	64	0.20	0.20	0.07	65	0.20	0.23	0.11	65	0.20	0.20	0.09	64	0.20	0.20	0.05	65	0.36	0.33	0.12
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.20	0.42	0.04	3	0.20	0.46	0.05	3	0.20	0.40	0.02	3	0.20	0.38	0.02	3	0.36	0.58	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	19	0.20	0.21	0.06	19	0.20	0.21	0.07	19	0.20	0.21	0.07	19	0.20	0.18	0.05	19	0.36	0.27	0.07
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	37	0.20	0.28	0.06	37	0.20	0.28	0.06	37	0.20	0.28	0.06	37	0.20	0.25	0.05	37	0.36	0.36	0.07
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	82	0.20	0.36	0.09	82	0.20	0.37	0.09	82	0.20	0.36	0.09	82	0.20	0.31	0.07	82	0.36	0.45	0.10
	Non-derivatized - MS/MS non-kit	23	0.20	0.31	0.10	23	0.20	0.34	0.11	23	0.20	0.31	0.11	23	0.20	0.28	0.08	23	0.36	0.41	0.14
	Non-derivatized Labsystems Neomass AAAC Plus	8	0.20	0.18	0.06	8	0.20	0.19	0.07	8	0.20	0.19	0.07	8	0.20	0.17	0.06	8	0.36	0.23	0.09
Other	6	0.20	0.30	0.11	6	0.20	0.30	0.11	6	0.20	0.30	0.11	6	0.20	0.28	0.10	6	0.36	0.41	0.14	
C6 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.01	0.02	0.02	6	2.01	1.43	0.36	5	0.01	0.01	0.01	6	0.01	0.01	0.01	6	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.01	0.02	0.01	13	2.01	1.41	0.40	10	0.01	0.02	0.01	12	0.01	0.03	0.02	11	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	59	0.01	0.02	0.01	59	2.01	1.58	0.32	59	0.01	0.02	0.01	60	0.01	0.02	0.01	58	0.01	0.02	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	0.01	0.01	0.01	28	2.01	1.67	0.14	26	0.01	0.01	0.01	26	0.01	0.01	0.01	27	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	41	0.01	0.01	0.01	40	2.01	1.67	0.15	41	0.01	0.01	0.01	41	0.01	0.01	0.01	41	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	95	0.01	0.01	0.00	94	2.01	1.68	0.18	94	0.01	0.01	0.01	95	0.01	0.01	0.01	94	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	24	0.01	0.02	0.01	24	2.01	1.70	0.30	23	0.01	0.02	0.01	24	0.01	0.02	0.02	22	0.01	0.01	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.01	0.01	0.01	9	2.01	1.39	0.35	9	0.01	0.01	0.01	9	0.01	0.01	0.01	9	0.01	0.01	0.02
	Other	6	0.01	0.01	0.01	7	2.01	1.55	0.17	7	0.01	0.02	0.02	7	0.01	0.02	0.02	6	0.01	0.01	0.01

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
C8 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.01	0.01	0.01	5	5.01	3.57	1.45	6	0.01	0.02	0.01	5	0.01	0.01	0.01	5	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.01	0.01	0.01	12	5.01	3.03	0.36	12	0.01	0.03	0.02	11	0.01	0.01	0.01	12	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	54	0.01	0.02	0.01	64	5.01	4.29	0.88	58	0.01	0.02	0.01	60	0.01	0.02	0.01	59	0.01	0.02	0.01
	LC-MS/MS non-kit	.				3	5.01	4.83	0.14	.				3	0.01	0.01	0.01	.			
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.01	0.01	0.00	3	5.01	4.29	0.19	3	0.01	0.01	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	35	0.01	0.01	0.01	37	5.01	3.95	0.49	36	0.01	0.02	0.01	35	0.01	0.02	0.01	37	0.01	0.02	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	0.01	0.01	0.00	44	5.01	4.28	0.45	44	0.01	0.02	0.01	44	0.01	0.01	0.01	43	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	104	0.01	0.01	0.00	104	5.01	3.94	0.40	100	0.01	0.01	0.01	102	0.01	0.01	0.01	104	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	27	0.01	0.02	0.01	26	5.01	4.24	0.81	27	0.01	0.02	0.01	28	0.01	0.02	0.01	27	0.01	0.01	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	8	0.01	0.01	0.01	10	5.01	3.58	1.33	9	0.01	0.02	0.02	9	0.01	0.02	0.02	9	0.01	0.02	0.02
Other	8	0.01	0.01	0.00	8	5.01	3.98	0.37	8	0.01	0.02	0.01	8	0.01	0.01	0.01	8	0.01	0.01	0.01	
C10 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.01	0.01	0.01	5	4.01	2.77	0.65	5	0.01	0.01	0.02	5	0.01	0.01	0.01	5	0.01	0.01	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.01	0.02	0.02	12	4.01	2.70	0.47	13	0.01	0.03	0.02	12	0.01	0.01	0.01	13	0.01	0.04	0.02
	Derivatized - MS/MS non-kit	59	0.01	0.02	0.02	60	4.01	3.87	0.89	56	0.01	0.03	0.02	53	0.01	0.01	0.01	50	0.01	0.05	0.03
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.01	0.01	0.00	3	4.01	3.84	0.35	3	0.01	0.01	0.00	3	0.01	0.00	0.01	3	0.01	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	33	0.01	0.02	0.01	34	4.01	3.62	0.50	33	0.01	0.02	0.01	32	0.01	0.01	0.01	33	0.01	0.02	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	43	0.01	0.02	0.01	43	4.01	3.58	0.51	43	0.01	0.02	0.01	42	0.01	0.01	0.01	43	0.01	0.02	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	97	0.01	0.02	0.01	97	4.01	3.56	0.52	93	0.01	0.02	0.01	95	0.01	0.01	0.01	97	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	24	0.01	0.02	0.02	26	4.01	3.90	0.87	23	0.01	0.02	0.02	22	0.01	0.01	0.01	25	0.01	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	10	0.01	0.02	0.02	9	4.01	2.83	0.79	9	0.01	0.01	0.01	7	0.01	0.01	0.01	10	0.01	0.02	0.02
	Other	8	0.01	0.02	0.01	8	4.01	3.33	0.40	8	0.01	0.02	0.01	7	0.01	0.01	0.01	8	0.01	0.02	0.01

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
C10:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.00	0.04	0.01	5	2.00	1.20	0.59	5	0.01	0.01	0.00	5	0.01	0.02	0.02	4	0.00	0.03	0.03
	Derivatized - MS/MS MassChrom® Chromsystems	13	0.00	0.04	0.03	13	2.00	1.09	0.42	12	0.01	0.02	0.02	11	0.01	0.01	0.01	12	0.00	0.02	0.01
	Derivatized - MS/MS non-kit	52	0.00	0.05	0.02	56	2.00	1.90	0.59	57	0.01	0.03	0.02	56	0.01	0.02	0.02	53	0.00	0.02	0.02
	Non-derivatized - MS/MS MassChrom® Chromsystems	23	0.00	0.03	0.03	21	2.00	1.35	0.39	21	0.01	0.01	0.01	22	0.01	0.01	0.01	21	0.00	0.02	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	37	0.00	0.03	0.02	40	2.00	1.40	0.16	37	0.01	0.02	0.02	36	0.01	0.02	0.01	35	0.00	0.03	0.02
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	88	0.00	0.02	0.01	89	2.00	1.25	0.20	88	0.01	0.01	0.01	88	0.01	0.01	0.01	87	0.00	0.01	0.01
	Non-derivatized - MS/MS non-kit	19	0.00	0.03	0.03	20	2.00	1.52	0.45	20	0.01	0.01	0.02	20	0.01	0.01	0.02	20	0.00	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	8	0.00	0.02	0.01	8	2.00	1.31	0.33	8	0.01	0.01	0.01	8	0.01	0.02	0.01	8	0.00	0.02	0.01
	Other	5	0.00	0.03	0.01	5	2.00	1.77	0.85	5	0.01	0.01	0.01	5	0.01	0.01	0.01	5	0.00	0.02	0.02
C10:2 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	2.00	1.01	0.61	4	0.00	0.01	0.00	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	8	2.00	0.75	0.44	7	0.00	0.01	0.01	8	0.00	0.02	0.02	7	0.00	0.02	0.01	7	0.00	0.01	0.01
	Derivatized - MS/MS non-kit	39	2.00	1.45	0.45	39	0.00	0.02	0.01	39	0.00	0.02	0.01	38	0.00	0.01	0.01	38	0.00	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	8	2.00	0.98	0.33	8	0.00	0.02	0.01	9	0.00	0.03	0.02	7	0.00	0.02	0.01	7	0.00	0.02	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	32	2.00	0.80	0.17	32	0.00	0.01	0.01	32	0.00	0.01	0.01	31	0.00	0.00	0.01	31	0.00	0.00	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	69	2.00	0.78	0.15	70	0.00	0.01	0.01	70	0.00	0.00	0.01	70	0.00	0.00	0.01	70	0.00	0.00	0.01
	Non-derivatized - MS/MS non-kit	13	2.00	1.08	0.39	12	0.00	0.02	0.02	13	0.00	0.01	0.02	13	0.00	0.01	0.01	12	0.00	0.01	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	8	2.00	0.65	0.15	7	0.00	0.01	0.01	7	0.00	0.01	0.00	7	0.00	0.01	0.01	7	0.00	0.01	0.01
	Other	5	2.00	0.99	0.83	5	0.00	0.00	0.01	5	0.00	0.01	0.01	5	0.00	0.00	0.01	5	0.00	0.00	0.01

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	6	0.04	0.04	0.01	5	0.03	0.04	0.02	6	0.04	0.04	0.01	6	0.02	0.03	0.01	6	3.02	1.83	0.52
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.04	0.20	0.57	10	0.03	0.04	0.02	12	0.04	0.04	0.02	11	0.02	0.03	0.01	12	3.02	2.51	0.57
	Derivatized - MS/MS non-kit	51	0.04	0.04	0.01	52	0.03	0.04	0.01	55	0.04	0.04	0.01	52	0.02	0.02	0.01	59	3.02	2.69	0.48
	LC-MS/MS non-kit				3	3.02	2.94	0.30
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	0.04	0.03	0.01	28	0.03	0.03	0.01	28	0.04	0.03	0.01	28	0.02	0.02	0.01	27	3.02	2.43	0.48
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	40	0.04	0.03	0.01	41	0.03	0.03	0.01	41	0.04	0.03	0.01	40	0.02	0.02	0.01	40	3.02	2.64	0.28
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	92	0.04	0.03	0.01	92	0.03	0.03	0.01	92	0.04	0.03	0.01	91	0.02	0.02	0.01	93	3.02	2.60	0.33
	Non-derivatized - MS/MS non-kit	24	0.04	0.04	0.01	25	0.03	0.04	0.01	25	0.04	0.04	0.01	23	0.02	0.02	0.01	27	3.02	2.65	0.54
	Non-derivatized Labsystems Neomass AAAC Plus	10	0.04	0.03	0.01	10	0.03	0.03	0.01	10	0.04	0.03	0.01	10	0.02	0.02	0.01	10	3.02	2.43	0.53
Other	6	0.04	0.04	0.00	6	0.03	0.04	0.01	6	0.04	0.04	0.01	6	0.02	0.02	0.01	8	3.02	2.72	0.54	
C14:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.01	0.02	0.02	6	0.01	0.02	0.02	6	0.01	0.02	0.02	6	0.01	0.01	0.01	6	0.01	0.02	0.02
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.01	0.02	0.01	11	0.01	0.02	0.01	11	0.01	0.02	0.01	11	0.01	0.02	0.01	11	0.01	0.02	0.02
	Derivatized - MS/MS non-kit	63	0.01	0.02	0.02	61	0.01	0.02	0.02	61	0.01	0.02	0.02	61	0.01	0.02	0.01	61	0.01	0.02	0.02
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	0.01	0.00	0.01	3	0.01	0.01	0.01	3	0.01	0.01	0.01	3	0.01	0.00	0.01	3	0.01	0.01	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.01	0.02	0.02	24	0.01	0.02	0.02	24	0.01	0.02	0.02	23	0.01	0.02	0.01	23	0.01	0.03	0.03
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	43	0.01	0.03	0.02	43	0.01	0.03	0.02	43	0.01	0.03	0.02	41	0.01	0.02	0.01	41	0.01	0.04	0.03
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	101	0.01	0.01	0.01	101	0.01	0.01	0.01	100	0.01	0.01	0.01	101	0.01	0.01	0.01	100	0.01	0.02	0.02
	Non-derivatized - MS/MS non-kit	24	0.01	0.02	0.02	23	0.01	0.02	0.02	24	0.01	0.02	0.02	23	0.01	0.01	0.01	23	0.01	0.02	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.01	0.03	0.03	8	0.01	0.03	0.02	8	0.01	0.03	0.02	7	0.01	0.02	0.01	8	0.01	0.03	0.02
Other	7	0.01	0.02	0.01	7	0.01	0.02	0.01	7	0.01	0.02	0.01	7	0.01	0.02	0.01	7	0.01	0.03	0.02	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	6	0.65	0.64	0.08	5	0.64	0.66	0.07	6	0.64	0.64	0.12	5	0.29	0.34	0.12	6	25.60	19.68	5.55
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.65	0.56	0.07	12	0.64	0.57	0.07	11	0.64	0.56	0.08	12	0.29	0.27	0.06	12	25.60	16.82	1.82
	Derivatized - MS/MS non-kit	61	0.65	0.69	0.13	62	0.64	0.69	0.11	61	0.64	0.70	0.13	63	0.29	0.33	0.09	62	25.60	19.07	3.78
	LC-MS/MS non-kit	3	0.65	0.78	0.09	3	0.64	0.81	0.11	3	0.64	0.80	0.09	3	0.29	0.32	0.02	3	25.60	24.71	5.04
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	0.65	0.59	0.07	28	0.64	0.60	0.08	27	0.64	0.58	0.10	28	0.29	0.27	0.05	28	25.60	17.86	2.26
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	42	0.65	0.63	0.08	42	0.64	0.63	0.08	42	0.64	0.62	0.08	42	0.29	0.28	0.05	42	25.60	19.26	2.37
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	97	0.65	0.77	0.11	97	0.64	0.77	0.10	97	0.64	0.76	0.10	98	0.29	0.34	0.06	96	25.60	22.26	2.70
	Non-derivatized - MS/MS non-kit	26	0.65	0.68	0.09	25	0.64	0.69	0.09	26	0.64	0.68	0.10	25	0.29	0.34	0.08	26	25.60	19.39	2.68
	Non-derivatized Labsystems Neomass AAAC Plus	10	0.65	0.55	0.10	10	0.64	0.53	0.10	10	0.64	0.56	0.10	10	0.29	0.25	0.05	10	25.60	17.00	3.37
Other	8	0.65	0.72	0.09	8	0.64	0.69	0.09	8	0.64	0.74	0.11	8	0.29	0.35	0.09	8	25.60	20.64	1.35	
C16OH (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	5	0.01	0.01	0.01	6	0.01	0.01	0.01	6	0.01	0.01	0.01	6	0.01	0.01	0.01	6	0.01	0.04	0.03
	Derivatized - MS/MS MassChrom® Chromsystems	11	0.01	0.01	0.01	11	0.01	0.01	0.01	11	0.01	0.01	0.01	12	0.01	0.01	0.01	10	0.01	0.04	0.02
	Derivatized - MS/MS non-kit	57	0.01	0.01	0.01	61	0.01	0.01	0.01	58	0.01	0.01	0.01	55	0.01	0.01	0.01	61	0.01	0.04	0.02
	Non-derivatized - MS/MS MassChrom® Chromsystems	33	0.01	0.01	0.01	34	0.01	0.01	0.01	34	0.01	0.01	0.01	34	0.01	0.01	0.01	33	0.01	0.04	0.02
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	42	0.01	0.01	0.00	43	0.01	0.01	0.01	43	0.01	0.01	0.00	43	0.01	0.01	0.01	42	0.01	0.03	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	98	0.01	0.01	0.01	98	0.01	0.01	0.01	98	0.01	0.01	0.01	98	0.01	0.01	0.01	98	0.01	0.04	0.01
	Non-derivatized - MS/MS non-kit	23	0.01	0.01	0.01	23	0.01	0.01	0.01	24	0.01	0.01	0.01	23	0.01	0.01	0.01	23	0.01	0.04	0.02
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.01	0.00	0.01	9	0.01	0.00	0.01	9	0.01	0.00	0.00	9	0.01	0.01	0.01	9	0.01	0.03	0.02
	Other	7	0.01	0.00	0.01	7	0.01	0.01	0.01	7	0.01	0.01	0.01	7	0.01	0.00	0.01	7	0.01	0.03	0.01

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	6	0.53	0.50	0.10	6	0.52	0.50	0.14	6	0.52	0.50	0.09	6	0.25	0.26	0.08	5	7.78	5.45	0.45
	Derivatized - MS/MS MassChrom® Chromsystems	12	0.53	0.54	0.11	12	0.52	0.50	0.08	12	0.52	0.50	0.09	12	0.25	0.27	0.06	12	7.78	5.92	0.78
	Derivatized - MS/MS non-kit	56	0.53	0.53	0.12	57	0.52	0.53	0.10	57	0.52	0.54	0.11	55	0.25	0.26	0.05	56	7.78	5.45	1.00
	Non-derivatized - MS/MS MassChrom® Chromsystems	28	0.53	0.55	0.08	28	0.52	0.56	0.10	28	0.52	0.54	0.11	28	0.25	0.26	0.05	28	7.78	6.27	0.88
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	40	0.53	0.50	0.06	40	0.52	0.50	0.06	40	0.52	0.50	0.06	40	0.25	0.24	0.03	40	7.78	5.77	0.60
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	88	0.53	0.55	0.06	88	0.52	0.55	0.06	88	0.52	0.54	0.06	88	0.25	0.26	0.03	87	7.78	6.10	0.68
	Non-derivatized - MS/MS non-kit	24	0.53	0.52	0.08	25	0.52	0.51	0.13	25	0.52	0.50	0.14	24	0.25	0.24	0.07	25	7.78	5.49	1.50
	Non-derivatized Labsystems Neomass AAAC Plus	10	0.53	0.41	0.09	10	0.52	0.42	0.10	10	0.52	0.41	0.07	10	0.25	0.20	0.05	10	7.78	4.88	1.10
Other	7	0.53	0.52	0.05	7	0.52	0.51	0.02	7	0.52	0.54	0.04	7	0.25	0.26	0.03	7	7.78	5.78	0.34	
C18:1 (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	0.52	0.59	0.12	5	0.52	0.60	0.14	6	0.58	0.62	0.17	4	0.32	0.37	0.14	6	0.42	0.51	0.17
	Derivatized - MS/MS MassChrom® Chromsystems	13	0.52	0.59	0.20	11	0.52	0.50	0.11	11	0.58	0.47	0.11	11	0.32	0.29	0.06	11	0.42	0.36	0.12
	Derivatized - MS/MS non-kit	54	0.52	0.51	0.14	56	0.52	0.53	0.13	56	0.58	0.53	0.13	55	0.32	0.33	0.08	55	0.42	0.38	0.09
	Non-derivatized - MS/MS MassChrom® Chromsystems	23	0.52	0.48	0.21	23	0.52	0.48	0.20	21	0.58	0.52	0.19	22	0.32	0.31	0.11	23	0.42	0.36	0.16
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	40	0.52	0.49	0.07	40	0.52	0.49	0.06	40	0.58	0.49	0.07	40	0.32	0.30	0.05	40	0.42	0.35	0.07
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	87	0.52	0.53	0.08	87	0.52	0.53	0.08	87	0.58	0.53	0.06	87	0.32	0.33	0.05	86	0.42	0.39	0.07
	Non-derivatized - MS/MS non-kit	23	0.52	0.51	0.12	23	0.52	0.52	0.13	23	0.58	0.51	0.13	22	0.32	0.33	0.09	23	0.42	0.40	0.12
	Non-derivatized Labsystems Neomass AAAC Plus	9	0.52	0.42	0.12	9	0.52	0.42	0.11	9	0.58	0.44	0.12	9	0.32	0.27	0.07	9	0.42	0.33	0.12
Other	6	0.52	0.52	0.08	6	0.52	0.49	0.08	6	0.58	0.51	0.08	6	0.32	0.33	0.06	6	0.42	0.38	0.06	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Acylcarnitines (ACPT)

		Specimen Number																			
		20241006001				20241006002				20241006003				20241006004				20241006005			
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	6	0.01	0.01	0.01	6	0.00	0.01	0.01	6	0.01	0.01	0.01	6	0.00	0.01	0.01	5	0.01	0.02	0.01
	Derivatized - MS/MS MassChrom® Chromsystems	9	0.01	0.01	0.01	11	0.00	0.01	0.01	10	0.01	0.01	0.01	11	0.00	0.01	0.00	10	0.01	0.02	0.01
	Derivatized - MS/MS non-kit	40	0.01	0.01	0.01	37	0.00	0.01	0.01	37	0.01	0.01	0.01	38	0.00	0.01	0.01	39	0.01	0.02	0.01
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	0.01	0.01	0.01	24	0.00	0.00	0.01	24	0.01	0.00	0.01	24	0.00	0.01	0.01	24	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	41	0.01	0.00	0.01	41	0.00	0.00	0.01	41	0.01	0.00	0.00	41	0.00	0.00	0.01	40	0.01	0.01	0.01
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	83	0.01	0.00	0.01	83	0.00	0.00	0.00	83	0.01	0.00	0.00	83	0.00	0.00	0.00	83	0.01	0.01	0.01
	Non-derivatized - MS/MS non-kit	18	0.01	0.01	0.01	17	0.00	0.01	0.01	18	0.01	0.01	0.01	17	0.00	0.01	0.01	17	0.01	0.02	0.01
	Non-derivatized Labsystems Neomass AAAC Plus	8	0.01	0.01	0.01	8	0.00	0.01	0.01	8	0.01	0.01	0.01	8	0.00	0.01	0.01	8	0.01	0.02	0.01
Other	5	0.01	0.00	0.01	5	0.00	0.00	0.00	5	0.01	0.00	0.00	5	0.00	0.00	0.00	5	0.01	0.01	0.01	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20241005001				20241005002				20241005003				20241005004				20241005005			
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	6.6	3.2	1.0	6	9.4	8.1	4.0	6	8.1	5.3	3.6	5	4.7	2.1	0.6	6	206.6	105.4	38.5
	Derivatized - MS/MS MassChrom® Chromsystems	12	6.6	5.5	0.9	12	9.4	10.5	1.3	11	8.1	6.8	1.2	11	4.7	3.4	0.8	12	206.6	152.3	50.9
	Derivatized - MS/MS non-kit	44	6.6	5.2	2.8	45	9.4	8.4	3.7	44	8.1	6.0	2.4	40	4.7	3.7	1.6	48	206.6	125.6	53.7
	LC-MS/MS non-kit	3	6.6	6.6	4.0	3	9.4	9.7	4.4	3	8.1	6.8	3.0	.				3	206.6	195.8	93.8
	Non-derivatized - MS/MS MassChrom® Chromsystems	24	6.6	6.0	2.6	26	9.4	11.3	3.6	27	8.1	7.9	2.5	25	4.7	4.0	1.8	26	206.6	195.9	43.9
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	35	6.6	3.8	0.6	35	9.4	8.4	1.7	35	8.1	5.1	0.8	35	4.7	2.2	0.5	35	206.6	155.9	25.9
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	88	6.6	4.2	0.9	88	9.4	9.0	1.2	88	8.1	5.9	0.8	88	4.7	2.4	0.6	88	206.6	164.9	19.1
	Non-derivatized - MS/MS non-kit	16	6.6	4.4	1.1	17	9.4	8.9	3.0	16	8.1	5.7	1.6	16	4.7	3.0	1.2	19	206.6	136.0	52.4
	Non-derivatized Labsystems Neomass AAAC Plus	10	6.6	4.8	2.2	10	9.4	8.5	2.3	10	8.1	6.4	2.4	9	4.7	3.6	1.7	10	206.6	155.9	31.3
Other	7	6.6	4.6	1.3	7	9.4	8.9	2.1	7	8.1	5.9	1.2	7	4.7	2.6	0.9	8	206.6	157.0	34.2	
CRE	Derivatized - MS/MS non-kit	8	408.9	426.3	95.9	8	313.0	327.1	64.9	8	337.8	326.1	79.8	8	312.7	311.8	55.2	8	291.6	308.4	67.1
Cit (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	12.4	13.5	1.5	6	5.8	6.8	1.0	4	11.1	11.8	1.1	5	214.5	216.5	37.0	6	11.4	17.8	4.0
	Derivatized - MS/MS MassChrom® Chromsystems	12	12.4	12.7	2.0	12	5.8	6.2	1.7	11	11.1	10.3	1.6	11	214.5	179.1	33.7	12	11.4	13.0	2.2
	Derivatized - MS/MS non-kit	50	12.4	12.3	2.8	48	5.8	5.7	1.3	50	11.1	10.6	2.8	51	214.5	174.5	34.3	51	11.4	13.0	3.7
	LC-MS/MS non-kit	3	12.4	14.8	5.3	.				3	11.1	12.9	2.7	.				3	11.4	13.6	4.5
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	12.4	10.2	1.8	3	5.8	4.3	0.2	3	11.1	9.1	1.1	3	214.5	167.7	21.7	3	11.4	9.3	1.4
	Non-derivatized - MS/MS MassChrom® Chromsystems	26	12.4	14.2	2.8	27	5.8	6.8	1.9	27	11.1	12.4	2.2	28	214.5	212.0	27.9	28	11.4	16.5	4.8
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	12.4	12.9	2.0	44	5.8	5.9	1.1	44	11.1	10.3	1.5	44	214.5	197.9	19.0	44	11.4	14.9	1.9
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	96	12.4	12.6	1.6	95	5.8	5.7	1.0	96	11.1	10.4	1.6	96	214.5	188.5	21.1	96	11.4	14.8	2.8
	Non-derivatized - MS/MS non-kit	23	12.4	12.8	2.4	23	5.8	5.5	1.4	23	11.1	10.4	2.2	25	214.5	197.6	40.5	24	11.4	14.6	4.0
	Non-derivatized Labsystems Neomass AAAC Plus	10	12.4	11.3	4.4	9	5.8	5.4	1.7	9	11.1	8.4	2.2	10	214.5	168.1	38.7	7	11.4	19.0	4.9
Other	8	12.4	13.1	3.0	8	5.8	5.5	1.5	8	11.1	10.8	1.3	8	214.5	193.5	29.7	8	11.4	14.7	2.1	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20241005001				20241005002				20241005003				20241005004				20241005005			
Analyte	Method	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD	N	EV	Mean	SD
GUAC (µmol/L blood)	Derivatized - MS/MS non-kit	12	1.2	1.4	0.6	12	1.0	1.5	0.8	12	1.1	1.3	0.7	12	1.3	1.4	0.6	12	1.3	1.7	0.8
	Non-derivatized - MS/MS non-kit	3	1.2	1.3	0.6	3	1.0	1.1	0.6	3	1.1	1.2	0.7	3	1.3	1.2	0.5	3	1.3	1.4	0.8
Leu (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	27.6	32.9	14.6	6	632.1	525.7	126.1	4	26.2	26.8	10.6	4	21.3	24.7	11.3	3	17.0	20.9	11.7
	Derivatized - MS/MS MassChrom® Chromsystems	12	27.6	28.2	9.4	11	632.1	461.7	65.4	12	26.2	27.9	9.0	11	21.3	25.3	8.8	10	17.0	22.2	7.9
	Derivatized - MS/MS non-kit	45	27.6	27.7	7.1	50	632.1	528.9	89.0	45	26.2	25.5	7.8	45	21.3	21.5	6.1	45	17.0	19.2	6.2
	LC-MS/MS non-kit	6	27.6	29.2	14.8	5	632.1	559.0	85.6	6	26.2	22.1	9.4	6	21.3	20.1	10.6	6	17.0	16.9	9.0
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	27.6	25.8	4.2	3	632.1	559.8	63.1	3	26.2	19.7	4.6	3	21.3	16.9	3.7	3	17.0	13.4	4.3
	Non-derivatized - MS/MS MassChrom® Chromsystems	36	27.6	30.6	6.7	37	632.1	537.4	63.6	36	26.2	25.4	4.8	36	21.3	21.6	4.0	36	17.0	17.1	3.1
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	46	27.6	31.1	4.6	46	632.1	571.3	71.3	46	26.2	25.6	3.8	46	21.3	21.4	3.0	46	17.0	17.0	2.7
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	102	27.6	30.4	4.8	101	632.1	525.7	61.1	101	26.2	25.4	4.7	103	21.3	22.1	4.3	102	17.0	17.9	3.7
	Non-derivatized - MS/MS non-kit	28	27.6	30.1	8.4	27	632.1	501.9	83.1	28	26.2	25.3	7.0	29	21.3	29.0	37.9	28	17.0	19.1	7.5
	Non-derivatized Labsystems Neomass AAAC Plus	10	27.6	26.3	6.5	10	632.1	484.6	88.3	10	26.2	21.5	6.1	10	21.3	18.0	5.4	10	17.0	13.7	4.8
Other	12	27.6	35.4	11.6	14	632.1	572.2	79.4	9	26.2	26.3	8.6	13	21.3	28.3	11.6	10	17.0	21.3	9.7	
Met (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	4	2.4	3.2	1.2	4	1.6	1.8	0.5	5	203.4	146.0	17.8	4	1.3	2.9	2.4	4	1.1	1.5	0.5
	Derivatized - MS/MS MassChrom® Chromsystems	11	2.4	3.5	0.9	10	1.6	2.6	0.7	11	203.4	147.5	37.5	10	1.3	2.5	0.9	10	1.1	2.3	0.9
	Derivatized - MS/MS non-kit	44	2.4	3.4	1.4	42	1.6	2.3	1.0	48	203.4	166.2	24.4	42	1.3	2.3	1.3	42	1.1	2.0	1.9
	LC-MS/MS non-kit	4	2.4	2.6	1.1	4	1.6	1.5	0.6	5	203.4	181.2	48.6	4	1.3	1.5	0.7	4	1.1	1.3	0.7
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	2.4	2.6	0.4	3	1.6	1.7	0.4	3	203.4	161.4	12.7	3	1.3	1.2	0.7	3	1.1	1.1	0.5
	Non-derivatized - MS/MS MassChrom® Chromsystems	33	2.4	3.4	1.1	33	1.6	2.5	0.9	37	203.4	153.7	20.6	35	1.3	2.7	0.9	35	1.1	2.2	0.7
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	2.4	4.1	1.0	43	1.6	2.5	0.7	44	203.4	160.5	16.7	44	1.3	2.7	0.9	44	1.1	2.2	0.7
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	99	2.4	3.0	0.8	99	1.6	1.8	0.4	100	203.4	148.6	18.2	99	1.3	1.9	0.8	100	1.1	1.6	0.5	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																				
		20241005001				20241005002				20241005003				20241005004				20241005005				
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 - MS/MS non-kit	27	2.4	3.4	1.8	25	1.6	2.0	0.9	28	203.4	158.3	30.3	27	1.3	1.9	1.2	27	1.1	1.9	1.2	
	Non-derivatized Labsystems Neomass AAAC Plus	9	2.4	2.0	1.5	8	1.6	1.2	0.9	9	203.4	132.5	37.9	7	1.3	2.0	2.0	8	1.1	1.3	1.0	
	Other	10	2.4	4.0	1.5	8	1.6	2.5	0.4	11	203.4	169.9	19.3	10	1.3	3.0	1.5	8	1.1	2.1	0.7	
Phe (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	7	259.8	194.8	48.5	6	6.5	9.1	3.2	7	9.5	12.7	5.1	6	6.3	8.7	3.8	6	5.1	8.1	5.4	
	Derivatized - MS/MS MassChrom® Chromsystems	12	259.8	218.2	30.7	11	6.5	9.3	2.9	12	9.5	10.7	2.7	11	6.3	7.4	1.9	11	5.1	6.2	1.0	
	Derivatized - MS/MS non-kit	54	259.8	226.0	38.1	54	6.5	8.1	2.6	54	9.5	10.7	3.0	54	6.3	7.3	2.4	52	5.1	6.1	1.5	
	GSP® Phe Neonatal PerkinElmer	10	259.8	202.7	25.9	8	6.5	7.4	2.9	8	9.5	8.6	5.8	8	6.3	5.1	1.9	9	5.1	6.4	2.9	
	LC-MS/MS non-kit	6	259.8	216.1	33.9	6	6.5	8.9	3.5	7	9.5	10.2	3.0	7	6.3	7.5	3.0	7	5.1	6.0	2.7	
	NeoLISA® Phe Interscientifica	4	259.8	169.7	17.9			
	Neonatal Phe LabSystems	8	259.8	267.7	40.2	.					5	9.5	12.8	10.7	4	6.3	7.5	7.2	4	5.1	18.2	27.4
	Neonatal® Phe Kit PerkinElmer	14	259.8	215.1	26.2	4	6.5	5.6	6.1	3	9.5	9.3	8.4	5	6.3	8.1	9.0	7	5.1	108.6	267.4	
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4	259.8	214.1	20.7	4	6.5	6.5	1.2	4	9.5	8.9	1.2	4	6.3	5.8	0.8	4	5.1	5.0	0.7	
	Non-derivatized - MS/MS MassChrom® Chromsystems	38	259.8	250.0	29.0	38	6.5	8.4	1.7	38	9.5	11.0	2.0	38	6.3	7.6	1.5	37	5.1	6.3	1.1	
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	259.8	235.2	29.3	43	6.5	8.1	1.8	43	9.5	9.8	1.8	43	6.3	7.0	1.5	42	5.1	5.7	0.9	
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	105	259.8	209.7	21.4	105	6.5	6.7	1.5	107	9.5	9.0	1.9	106	6.3	6.2	1.1	106	5.1	5.2	0.9	
	Non-derivatized - MS/MS non-kit	32	259.8	230.7	34.6	30	6.5	7.4	2.5	32	9.5	10.2	2.0	32	6.3	7.6	2.5	30	5.1	7.1	5.9	
	Non-derivatized Labsystems Neomass AAAC Plus	10	259.8	204.2	40.4	10	6.5	5.5	1.9	10	9.5	7.7	2.6	10	6.3	5.3	2.1	10	5.1	4.5	1.8	
	Other	23	259.8	221.6	43.3	8	6.5	8.7	3.9	15	9.5	10.3	4.5	14	6.3	8.3	4.9	12	5.1	5.7	2.8	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20241005001				20241005002				20241005003				20241005004				20241005005			
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	9	0.2	0.4	0.1	9	0.2	0.5	0.2	9	0.2	0.5	0.1	9	0.2	0.5	0.2	9	0.2	0.6	0.2
	Derivatized - MS/MS non-kit	19	0.2	0.6	0.4	21	0.2	0.7	0.5	19	0.2	0.6	0.4	20	0.2	0.7	0.4	19	0.2	0.6	0.4
	Non-derivatized - MS/MS MassChrom® Chromsystems	21	0.2	0.7	0.4	20	0.2	0.6	0.2	20	0.2	0.6	0.3	20	0.2	0.6	0.2	21	0.2	0.6	0.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	34	0.2	0.6	0.3	34	0.2	0.7	0.4	34	0.2	0.6	0.3	34	0.2	0.6	0.3	34	0.2	0.6	0.3
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	75	0.2	0.2	0.1	75	0.2	0.2	0.1	74	0.2	0.2	0.1	75	0.2	0.2	0.1	75	0.2	0.2	0.1
	Non-derivatized - MS/MS non-kit	16	0.2	0.6	0.4	16	0.2	0.6	0.4	16	0.2	0.6	0.4	16	0.2	0.6	0.4	16	0.2	0.6	0.4
	Non-derivatized Labsystems Neomass AAAC Plus	4	0.2	0.5	0.6	3	0.2	0.3	0.5	3	0.2	0.7	0.3	3	0.2	0.5	0.5	3	0.2	0.6	0.7
Tyr (µmol/L blood)	Derivatized - MS/MS ClinSpot® Complete Kit RECIPE	6	17.9	19.1	6.1	6	13.9	14.9	4.1	6	18.3	17.5	4.6	5	11.9	10.8	2.4	5	11.7	12.9	6.7
	Derivatized - MS/MS MassChrom® Chromsystems	12	17.9	21.3	4.9	11	13.9	15.3	0.9	12	18.3	18.6	2.1	11	11.9	12.8	2.4	11	11.7	13.0	1.7
	Derivatized - MS/MS non-kit	52	17.9	19.2	3.2	52	13.9	14.7	2.8	51	18.3	17.8	3.1	52	11.9	12.4	2.7	52	11.7	12.7	2.8
	LC-MS/MS non-kit	6	17.9	18.0	3.4	6	13.9	14.0	3.1	6	18.3	14.5	1.3	6	11.9	11.3	1.7	6	11.7	11.9	1.8
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	17.9	15.9	1.8	3	13.9	12.7	1.2	3	18.3	15.1	1.5	3	11.9	10.2	0.5	3	11.7	10.2	1.2
	Non-derivatized - MS/MS MassChrom® Chromsystems	32	17.9	23.2	4.6	32	13.9	17.7	2.7	32	18.3	21.5	3.6	33	11.9	15.3	2.8	33	11.7	15.4	2.5
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	44	17.9	22.1	3.4	44	13.9	16.9	2.3	44	18.3	19.7	2.9	44	11.9	14.2	2.1	44	11.7	14.3	2.8
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	103	17.9	20.0	2.6	104	13.9	15.4	2.3	104	18.3	18.1	2.5	104	11.9	13.1	2.1	104	11.7	13.5	2.3
	Non-derivatized - MS/MS non-kit	27	17.9	19.2	4.5	25	13.9	14.8	3.2	27	18.3	18.2	3.5	27	11.9	13.2	2.7	25	11.7	12.8	1.7
	Non-derivatized Labsystems Neomass AAAC Plus	9	17.9	17.0	4.4	9	13.9	13.4	3.1	9	18.3	15.1	3.2	9	11.9	10.2	3.0	9	11.7	11.4	3.4
	Other	9	17.9	21.7	3.7	9	13.9	16.5	3.7	10	18.3	20.4	4.5	9	11.9	13.6	2.8	9	11.7	14.1	2.6

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Amino Acids (AAPT)

		Specimen Number																			
		20241005001				20241005002				20241005003				20241005004				20241005005			
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	50.0	32.4	15.1	6	655.9	465.5	157.7	5	47.8	40.9	17.1	4	42.3	28.5	11.7	6	31.2	36.9	21.5
	Derivatized - MS/MS MassChrom® Chromsystems	12	50.0	32.1	9.2	11	655.9	460.0	58.8	12	47.8	33.2	9.6	11	42.3	27.9	9.0	11	31.2	21.8	6.6
	Derivatized - MS/MS non-kit	40	50.0	36.0	8.9	47	655.9	476.7	89.8	42	47.8	35.5	9.8	40	42.3	28.6	6.3	45	31.2	27.9	14.2
	LC-MS/MS non-kit	5	50.0	31.9	6.2	5	655.9	543.1	77.0	5	47.8	26.8	2.9	5	42.3	24.2	4.2	5	31.2	17.2	4.9
	Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3	50.0	24.3	4.1	3	655.9	530.5	52.1	3	47.8	21.1	4.5	3	42.3	17.6	3.8	3	31.2	11.5	4.2
	Non-derivatized - MS/MS MassChrom® Chromsystems	27	50.0	28.5	6.8	28	655.9	469.8	70.6	28	47.8	26.9	6.1	28	42.3	22.4	4.6	28	31.2	15.6	3.3
	Non-derivatized - MS/MS NeoBase™ PerkinElmer	43	50.0	34.3	5.0	43	655.9	586.0	87.0	43	47.8	31.9	4.6	43	42.3	26.5	3.7	43	31.2	19.0	3.7
	Non-derivatized - MS/MS NeoBase™2 PerkinElmer	88	50.0	30.7	3.8	90	655.9	528.3	60.0	90	47.8	30.4	7.4	88	42.3	24.8	3.9	91	31.2	19.6	11.0
	Non-derivatized - MS/MS non-kit	25	50.0	28.2	7.9	25	655.9	457.0	90.9	25	47.8	26.1	9.3	24	42.3	21.4	5.3	25	31.2	17.0	5.6
	Non-derivatized Labsystems Neomass AAAC Plus	10	50.0	30.0	7.9	10	655.9	515.4	113.3	10	47.8	24.3	8.0	10	42.3	19.5	3.7	10	31.2	15.3	8.2
Other	8	50.0	32.8	8.1	10	655.9	582.1	116.7	10	47.8	35.3	12.0	8	42.3	25.2	6.3	10	31.2	25.5	14.1	

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20241001001				20241001002				20241001003				20241001004				20241001005			
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)	AutoDELFLIA® Neonatal T4 PerkinElmer	15	15.4	16.1	1.5	15	15.5	15.9	2.1	15	8.2	8.0	1.1	15	16.0	16.1	1.5	15	15.4	15.9	2.4
	DELFLIA® Neonatal T4 PerkinElmer	8	15.4	14.1	3.0	8	15.5	14.7	3.5	8	8.2	8.0	0.7	8	16.0	15.8	1.7	8	15.4	14.4	1.1
	GSP® T4 Neonatal PerkinElmer	27	15.4	17.1	1.6	27	15.5	17.3	2.3	27	8.2	8.4	0.9	27	16.0	16.7	2.2	27	15.4	15.9	1.8
	NeoMAP® T4 Interscientifica	4	15.4	16.9	1.1	4	15.5	16.6	1.2	4	8.2	11.8	0.4	4	16.0	17.0	1.2	4	15.4	16.7	0.7
	Other	10	15.4	18.6	4.1	10	15.5	18.8	5.2	9	8.2	7.8	1.5	10	16.0	18.4	3.1	9	15.4	17.9	2.7
TSH (µIU/mL serum)	AutoDELFLIA® Neonatal hTSH PerkinElmer	66	1.4	0.7	0.7	66	1.5	0.8	0.5	67	91.6	85.4	13.1	66	1.2	0.7	0.8	66	1.4	0.9	0.9
	DELFLIA® Neonatal TSH PerkinElmer	63	1.4	1.4	1.0	61	1.5	1.5	1.0	68	91.6	77.7	23.8	64	1.2	1.1	1.0	62	1.4	1.4	1.0
	GSP® hTSH Neonatal PerkinElmer	123	1.4	1.1	0.7	124	1.5	1.2	0.6	130	91.6	77.7	14.4	124	1.2	1.0	0.7	124	1.4	1.2	0.6
	NeoMAP® TSH Interscientifica	4	1.4	1.2	0.2	4	1.5	1.4	0.3	4	91.6	103.3	34.2	4	1.2	1.2	0.2	4	1.4	1.1	0.2
	Neonatal TSH LabSystems	21	1.4	2.8	1.2	20	1.5	2.7	1.1	24	91.6	76.6	28.8	21	1.2	2.8	1.2	22	1.4	2.6	1.2
	Other	18	1.4	2.6	1.3	18	1.5	2.6	1.3	21	91.6	78.5	28.4	19	1.2	2.0	1.3	19	1.4	2.0	1.0
	Trimaris Neonatal TSH FEIA	5	1.4	3.9	1.3	6	1.5	2.2	2.0	6	91.6	89.6	41.2	6	1.2	2.5	1.6	6	1.4	2.0	1.7
	ZenTech ELISA Neonatal TSH	17	1.4	2.8	1.2	20	1.5	2.2	0.9	21	91.6	64.4	26.1	21	1.2	2.3	1.0	20	1.4	2.1	0.8
17OHP (ng/mL serum)	AutoDELFLIA® Neonatal 17OHP PerkinElmer	61	0.4	0.7	0.4	62	0.9	1.3	0.8	62	0.9	0.7	0.4	60	0.9	1.4	0.4	62	86.3	97.7	17.7
	DELFLIA® Neonatal 17OHP PerkinElmer	49	0.4	0.7	0.4	52	0.9	1.4	0.7	51	0.9	0.8	0.6	51	0.9	1.3	0.6	51	86.3	96.4	29.3
	GSP® 17OHP Neonatal PerkinElmer	104	0.4	0.6	0.4	105	0.9	1.0	0.4	105	0.9	0.7	0.4	104	0.9	1.1	0.3	111	86.3	92.3	19.2
	LC-MS/MS non-kit	4	0.4	1.2	1.2	5	0.9	1.8	1.5	5	0.9	1.7	1.8	5	0.9	1.7	1.4	6	86.3	74.3	22.0
	NeoMAP® 17OHP Interscientifica	4	0.4	0.7	0.2	4	0.9	1.3	0.1	4	0.9	0.8	0.1	4	0.9	1.2	0.1	4	86.3	75.8	12.0
	Neonatal 17OHP LabSystems	18	0.4	1.4	1.0	18	0.9	2.7	1.8	19	0.9	1.9	1.2	15	0.9	1.7	0.9	19	86.3	89.8	44.5
	Other	17	0.4	1.5	1.0	20	0.9	2.5	1.6	19	0.9	1.5	1.0	14	0.9	1.6	1.0	23	86.3	91.2	31.3
	ZenTech ELISA Neonatal 17OHP	15	0.4	1.8	0.9	12	0.9	3.7	1.6	13	0.9	2.7	0.7	5	0.9	2.1	0.9	16	86.3	109.3	40.6

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Hormones and Total Galactose (HORMPT)

		Specimen Number																			
		20241001001				20241001002				20241001003				20241001004				20241001005			
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	4	0.0	2.1	1.0	4	0.0	2.1	0.9	4	0.9	2.1	1.3	4	25.0	26.0	5.2	4	0.0	2.2	1.5
	Colorimetric -non-kit method	3	0.0	2.0	1.5	3	0.0	2.1	1.5	3	0.9	3.2	3.4	.				3	0.0	3.7	3.2
	Fluorescence TGal Neonatal PerkinElmer	52	0.0	1.1	1.3	52	0.0	0.8	1.0	52	0.9	1.3	1.0	52	25.0	19.3	2.7	52	0.0	0.8	1.0
	Fluorometric manual TGal - non-kit	5	0.0	1.8	1.9	5	0.0	2.2	2.2	5	0.9	1.6	2.0	6	25.0	29.8	6.5	5	0.0	1.8	1.9
	GSP® TGal Neonatal PerkinElmer	64	0.0	0.6	0.3	64	0.0	0.6	0.3	64	0.9	0.6	0.3	66	25.0	24.9	2.5	65	0.0	0.6	0.3
	NeoLISA® TGal Interscientifica	4	0.0	2.3	0.5	4	0.0	2.0	0.2	4	0.9	1.7	0.6	4	25.0	16.3	4.1	4	0.0	2.2	0.4
	Other	24	0.0	1.3	1.3	24	0.0	1.5	1.6	24	0.9	1.3	1.4	22	25.0	26.5	8.8	23	0.0	1.2	1.5
	ZenTech Neonatal TGal Enzymatic Colorimetric	29	0.0	3.9	1.6	27	0.0	3.5	1.2	28	0.9	3.8	1.5	29	25.0	22.1	3.2	28	0.0	3.9	1.4

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

Newborn Screening Quality Assurance Program
Year: 2024, Quarter: 1
Mean Reported Concentrations Sorted by Method
Program: Immunoreactive Trypsinogen (IRTPT)

		Specimen Number																			
		20241008001				20241008002				20241008003				20241008004				20241008005			
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	59	5.5	5.6	1.8	59	10.5	11.0	2.0	61	249.6	227.2	29.2	60	14.0	13.8	2.5	62	133.8	129.2	16.4
	DELFIA® Neonatal IRT	38	5.5	4.6	2.4	38	10.5	11.2	3.0	36	249.6	189.2	39.0	39	14.0	11.5	3.6	39	133.8	95.7	19.8
	FEIA IRT Labsystems	10	5.5	6.0	2.2	13	10.5	11.4	7.3	13	249.6	259.4	63.5	13	14.0	19.7	11.7	13	133.8	161.5	26.7
	GSP® IRT Neonatal PerkinElmer, ng/mL blood	87	5.5	6.8	1.8	89	10.5	10.8	1.4	93	249.6	254.2	30.4	91	14.0	13.3	1.8	93	133.8	130.7	15.1
	NeoMAP® IRT Interscientifica	3	5.5	6.0	2.1	3	10.5	16.1	5.4	4	249.6	165.8	41.5	3	14.0	20.8	6.3	4	133.8	129.7	21.7
	Other	13	5.5	9.1	3.5	14	10.5	13.6	5.4	13	249.6	206.0	46.4	14	14.0	19.6	5.5	14	133.8	146.8	34.0
	ZenTech ELISA Neonatal IRT	18	5.5	11.0	3.8	18	10.5	17.4	3.9	17	249.6	172.3	26.3	16	14.0	27.2	6.7	18	133.8	158.0	29.8

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.

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