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Commissioner



Sue Kelly
Executive Deputy Commissioner

Therapeutic Substance Monitoring/Quantitative Toxicology Proficiency Testing – September 12, 2011

Enclosed is a statistical summary of participant data for the five Therapeutic Substance Monitoring proficiency survey specimens (**T56, T57, T58, T59, T60**) shipped September 12, 2011. Test specimens were prepared by the quantitative transfer of constituents to a pooled human serum base. This material was subsequently sterile-filtered, dispensed into aliquots, stored at –80°C and distributed to each participant for analysis. Results for individual instrument and reagent systems where the number of laboratories using those systems is three or greater are provided. Mean and Standard Deviation (± 1 SD) values shown on the attached sheets are calculated by a robust statistical technique that does not assume a Gaussian distribution. These statistical reports are also available on the internet at:

<http://www.wadsworth.org/chemheme>

Outlined below is a description of the process utilized in the evaluation of your laboratory's proficiency test results. A summary of your laboratory's performance for the three most recent surveys is also included with your report.

Target value

In general, targets utilized are derived from all-participant mean values calculated by robust statistical technique. In some cases, however, it is recognized that reagent and/or instrument specific targets may be required and "peer group" specific targets are used where appropriate. Should an alternate target be required to evaluate your laboratory's data, an asterisk will be placed adjacent to the reagent and/or instrument listing(s) corresponding to the peer group utilized.

Acceptable ranges

Limits of acceptable performance were established using criteria specified by CLIA'88 regulations and the New York State Department of Health, allowing for rounding to appropriate significant digits. Results falling within acceptable range are scored as 100%. Laboratories must achieve an overall analyte score $\geq 80\%$ in order to meet performance criteria for that analyte.

Range plots

Plots show relative distance of your laboratory's results (represented by an "x") from the target for each sample analyzed. Any result exceeding the high or low limit by $> 20\%$ of the acceptable range is indicated by an asterisk (*).

Disclaimer

The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

Should you have any questions regarding this report, please contact the Therapeutic Substance Monitoring Section at (518) 474-0005.

Summary of Participant Performance (Mean and Standard Deviation)

Acetaminophen (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
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32.39 ± 1.97 29.8	44.20 ± 2.00 41.2	150.76 ± 11.45 146.4	120.78 ± 6.70 116.5	104.06 ± 9.79 100.1	n = 215	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
27.40 ± 0.79	37.60 ± 0.79	134.71 ± 2.33	106.12 ± 1.33	92.34 ± 0.72	n = 6	[ABJ] Abbott Architect c System
31.56 ± 1.91	43.16 ± 1.84	144.35 ± 11.73	121.34 ± 7.01	102.33 ± 6.71	n = 9	[ABB] Abbott AxSym
30.12 ± 0.95	40.20 ± 1.59	141.15 ± 7.11	111.07 ± 3.28	96.24 ± 3.93	n = 13	[OLC] Beckman Coulter AU Chemistry System
31.50 ± 1.32	42.80 ± 1.98	148.67 ± 6.17	118.64 ± 2.54	102.96 ± 0.19	n = 6	[BCX] Beckman Coulter LX-20
31.94 ± 0.69	44.05 ± 2.01	155.31 ± 6.40	123.50 ± 4.86	104.72 ± 3.84	n = 12	[BCG] Beckman Coulter UniCel Dx C 600
30.87 ± 1.91	43.86 ± 2.11	153.35 ± 5.73	120.39 ± 3.18	105.04 ± 3.65	n = 17	[BCH] Beckman Coulter UniCel Dx C 800
32.00 ± 0.75	44.69 ± 0.90	161.16 ± 1.27	124.71 ± 5.24	113.35 ± 1.58	n = 4	[JJE] Ortho Vitros 250/350/950
32.83 ± 0.59	44.90 ± 0.91	161.70 ± 2.22	128.32 ± 1.32	114.43 ± 1.53	n = 19	[JJF] Ortho Vitros 5,1FS
33.00 ± 0.00	45.00 ± 0.00	161.82 ± 1.82	128.14 ± 1.75	114.89 ± 1.85	n = 10	[JJG] Ortho Vitros 5600
19.61 ± 0.78	29.21 ± 0.99	117.41 ± 2.74	91.97 ± 2.82	80.10 ± 1.70	n = 13	[ROC] Roche cobas c501
23.60 ± 0.79	31.49 ± 1.44	112.49 ± 4.68	89.07 ± 3.37	77.70 ± 3.20	n = 11	[ROT] Roche Cobas INTEGRA
17.97 ± 0.76	25.91 ± 0.73	97.96 ± 1.83	77.39 ± 2.89	68.00 ± 1.30	n = 9	[ROD] Roche MODULAR D/P
32.89 ± 1.22	44.54 ± 1.86	155.44 ± 4.10	123.56 ± 2.09	106.79 ± 3.15	n = 7	[BYE] Siemens ADVIA 1800
32.49 ± 2.64	44.19 ± 3.98	150.41 ± 18.91	120.04 ± 12.89	104.97 ± 10.48	n = 3	[BYB] Siemens ADVIA 2400
33.42 ± 1.67	44.64 ± 0.63	151.79 ± 0.45	120.15 ± 2.64	105.25 ± 1.51	n = 7	[DUE] Siemens Dimension EXL
33.67 ± 1.52	45.16 ± 1.40	151.26 ± 2.69	120.49 ± 2.14	106.23 ± 2.21	n = 23	[DUR] Siemens Dimension RxL
33.58 ± 0.83	44.72 ± 0.96	150.26 ± 2.01	120.07 ± 1.71	105.29 ± 1.60	n = 29	[DUT] Siemens Dimension Vista
32.79 ± 1.28	44.19 ± 1.53	150.62 ± 1.49	120.55 ± 1.50	104.81 ± 1.59	n = 10	[DUX] Siemens Dimension Xpand
<Reagents>						
29.86 ± 2.79	40.84 ± 3.32	139.00 ± 8.68	114.97 ± 9.75	97.60 ± 6.78	n = 15	[AB1] Abbott
31.45 ± 1.59	43.73 ± 2.08	153.50 ± 6.56	121.21 ± 4.41	104.62 ± 3.82	n = 39	[BC1] Beckman Coulter
30.29 ± 0.69	39.27 ± 1.10	138.14 ± 6.08	109.68 ± 2.31	95.33 ± 4.52	n = 8	[OL1] Beckman Coulter AU Series
32.79 ± 0.61	44.85 ± 0.82	161.53 ± 2.03	127.95 ± 1.63	114.31 ± 1.77	n = 34	[JJ1] Ortho Clinical Diagnostics
19.61 ± 0.78	29.21 ± 0.99	117.41 ± 2.74	91.97 ± 2.82	80.10 ± 1.70	n = 13	[R04] Roche cobas c311/c501/c502/c701
17.96 ± 0.76	25.91 ± 0.73	97.96 ± 1.82	77.38 ± 2.87	68.00 ± 1.30	n = 8	[R02] Roche Hitachi and Modular D/P
23.60 ± 0.79	31.49 ± 1.44	112.49 ± 4.68	89.07 ± 3.37	77.70 ± 3.20	n = 11	[R01] Roche Integra and MIRA
33.02 ± 1.21	44.88 ± 1.79	155.68 ± 5.06	123.31 ± 3.49	107.05 ± 3.66	n = 10	[BY1] Siemens ADVIA/ADVIA Centaur
33.50 ± 1.25	44.77 ± 1.20	150.69 ± 2.18	120.25 ± 1.98	105.50 ± 1.87	n = 68	[DA5] Siemens Dimension
29.47 ± 0.50	39.88 ± 1.58	145.96 ± 5.50	107.15 ± 8.10	96.39 ± 2.57	n = 3	[SY5] Syva Emit tox

Summary of Participant Performance (Mean and Standard Deviation)

Carbamazepine (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
5.31 ± 0.49 5.5	14.32 ± 1.29 14.7	3.74 ± 0.38 3.9	7.62 ± 0.58 7.7	6.57 ± 0.51 6.7	n = 236	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
5.70 ± 0.36	16.04 ± 0.47	3.95 ± 0.22	8.09 ± 0.36	6.88 ± 0.41	n = 5	[ABJ] Abbott Architect c System
5.32 ± 0.22	13.98 ± 0.95	3.81 ± 0.17	7.59 ± 0.38	6.52 ± 0.30	n = 9	[ABB] Abbott AxSym
5.41 ± 0.33	14.68 ± 0.98	3.80 ± 0.34	7.51 ± 0.43	6.58 ± 0.30	n = 15	[OLC] Beckman Coulter AU Chemistry System
5.33 ± 0.23	14.33 ± 0.05	3.75 ± 0.19	7.95 ± 0.27	6.73 ± 0.23	n = 3	[BCS] Beckman Coulter CX
5.19 ± 0.17	13.57 ± 0.42	3.75 ± 0.19	7.55 ± 0.28	6.55 ± 0.19	n = 6	[BCX] Beckman Coulter LX-20
5.02 ± 0.26	13.53 ± 0.80	3.64 ± 0.14	7.36 ± 0.19	6.44 ± 0.26	n = 10	[BCG] Beckman Coulter UniCel DxC 600
5.14 ± 0.14	13.72 ± 0.50	3.70 ± 0.08	7.63 ± 0.08	6.57 ± 0.24	n = 20	[BCH] Beckman Coulter UniCel DxC 800
3.89 ± 0.21	11.94 ± 0.50	3.00 ± 0.00	5.44 ± 0.31	4.54 ± 0.27	n = 16	[JJF] Ortho Vitros 5,1FS
3.86 ± 0.50	11.77 ± 0.74	3.00 ± 0.00	5.30 ± 0.39	4.47 ± 0.41	n = 10	[JJG] Ortho Vitros 5600
5.89 ± 0.49	14.85 ± 0.66	4.42 ± 0.42	8.23 ± 0.54	7.13 ± 0.52	n = 17	[ROC] Roche cobas c501
5.34 ± 0.15	14.85 ± 0.42	3.70 ± 0.11	7.48 ± 0.17	6.54 ± 0.18	n = 14	[ROT] Roche Cobas INTEGRA
5.76 ± 0.21	15.09 ± 0.32	4.33 ± 0.11	8.25 ± 0.10	7.16 ± 0.18	n = 12	[ROD] Roche MODULAR D/P
5.99 ± 0.27	14.85 ± 1.19	3.83 ± 0.15	7.85 ± 0.27	6.72 ± 0.27	n = 4	[BYE] Siemens ADVIA 1800
5.73 ± 0.27	16.79 ± 0.74	3.93 ± 0.19	8.25 ± 0.30	7.18 ± 0.42	n = 14	[COB] Siemens ADVIA Centaur
5.35 ± 0.23	14.52 ± 0.33	3.71 ± 0.17	7.48 ± 0.21	6.31 ± 0.18	n = 7	[DUE] Siemens Dimension EXL
5.29 ± 0.23	14.77 ± 0.64	3.70 ± 0.18	7.52 ± 0.27	6.43 ± 0.23	n = 24	[DUR] Siemens Dimension RxL
5.23 ± 0.29	14.19 ± 0.65	3.68 ± 0.20	7.30 ± 0.37	6.30 ± 0.34	n = 31	[DUT] Siemens Dimension Vista
5.32 ± 0.27	14.82 ± 0.30	3.82 ± 0.14	7.74 ± 0.21	6.46 ± 0.36	n = 6	[DUX] Siemens Dimension Xpand
<Reagents>						
5.43 ± 0.31	14.79 ± 1.36	3.85 ± 0.19	7.77 ± 0.44	6.64 ± 0.39	n = 14	[AB1] Abbott
5.14 ± 0.18	13.73 ± 0.59	3.70 ± 0.14	7.54 ± 0.27	6.55 ± 0.23	n = 41	[BC1] Beckman Coulter
5.34 ± 0.28	15.28 ± 0.97	3.68 ± 0.20	7.44 ± 0.49	6.63 ± 0.30	n = 6	[OL1] Beckman Coulter AU Series
5.73 ± 0.27	14.85 ± 0.38	4.34 ± 0.15	8.13 ± 0.26	7.05 ± 0.29	n = 10	[MG1] Microgenics CEDIA
3.89 ± 0.29	11.88 ± 0.57	3.00 ± 0.00	5.39 ± 0.33	4.52 ± 0.32	n = 27	[JJ1] Ortho Clinical Diagnostics
5.86 ± 0.49	14.88 ± 0.70	4.38 ± 0.45	8.20 ± 0.56	7.14 ± 0.55	n = 16	[R04] Roche cobas c311/c501/c502/c701
5.69 ± 0.25	15.02 ± 0.35	4.30 ± 0.10	8.25 ± 0.10	7.11 ± 0.17	n = 9	[R02] Roche Hitachi and Modular D/P
5.34 ± 0.15	14.85 ± 0.42	3.70 ± 0.11	7.48 ± 0.17	6.54 ± 0.18	n = 14	[R01] Roche Integra and MIRA
5.76 ± 0.43	16.86 ± 0.79	3.92 ± 0.24	8.27 ± 0.40	7.18 ± 0.51	n = 16	[BY1] Siemens ADVIA/ADVIA Centaur
5.65 ± 0.41	14.40 ± 1.03	3.82 ± 0.14	7.70 ± 0.32	6.56 ± 0.29	n = 8	[BY5] Siemens ADVIA/Syva Emit 2000
5.26 ± 0.26	14.45 ± 0.65	3.69 ± 0.19	7.44 ± 0.33	6.36 ± 0.30	n = 66	[DA5] Siemens Dimension
5.25 ± 0.42	13.91 ± 1.11	3.63 ± 0.34	7.29 ± 0.34	6.26 ± 0.35	n = 4	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Digoxin (µg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
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1.109 ± 0.100	1.314 ± 0.115	0.693 ± 0.110	2.951 ± 0.203	1.936 ± 0.164	n = 289	[---] All Methods & Instruments
1.1	1.3	0.7	3.1	2.0		[---] Weigh-in value
<Instruments>						
1.194 ± 0.043	1.458 ± 0.072	0.738 ± 0.046	2.989 ± 0.064	2.080 ± 0.061	n = 4	[ABJ] Abbott Architect c System
1.177 ± 0.176	1.257 ± 0.039	0.745 ± 0.057	2.848 ± 0.130	1.961 ± 0.099	n = 5	[ABH] Abbott Architect i System
1.066 ± 0.115	1.250 ± 0.085	0.738 ± 0.109	2.929 ± 0.124	1.892 ± 0.067	n = 9	[ABB] Abbott AxSym
1.152 ± 0.055	1.367 ± 0.086	0.788 ± 0.068	3.034 ± 0.159	2.057 ± 0.064	n = 12	[SAA] Beckman Coulter ACCESS
1.023 ± 0.098	1.209 ± 0.087	0.667 ± 0.111	2.924 ± 0.184	1.848 ± 0.153	n = 17	[OLC] Beckman Coulter AU Chemistry System
1.100 ± 0.150	1.336 ± 0.231	0.713 ± 0.113	2.931 ± 0.265	1.921 ± 0.196	n = 4	[BCS] Beckman Coulter CX
0.975 ± 0.139	1.199 ± 0.079	0.631 ± 0.099	2.789 ± 0.139	1.694 ± 0.066	n = 4	[BCX] Beckman Coulter LX-20
1.079 ± 0.090	1.280 ± 0.084	0.647 ± 0.068	2.810 ± 0.103	1.885 ± 0.073	n = 15	[BCG] Beckman Coulter UniCel DxC 600
1.067 ± 0.097	1.280 ± 0.107	0.681 ± 0.092	2.862 ± 0.093	1.901 ± 0.098	n = 17	[BCH] Beckman Coulter UniCel DxC 800
1.169 ± 0.139	1.422 ± 0.184	0.844 ± 0.183	3.103 ± 0.303	2.122 ± 0.277	n = 4	[BCU] Beckman Coulter UniCel DxI 800
0.674 ± 0.137	0.900 ± 0.090	0.328 ± 0.051	2.580 ± 0.236	1.626 ± 0.137	n = 3	[JJE] Ortho Vitros 250/350/950
0.992 ± 0.085	1.152 ± 0.110	0.522 ± 0.113	2.801 ± 0.129	1.814 ± 0.094	n = 19	[JJF] Ortho Vitros 5,1FS
0.976 ± 0.151	1.196 ± 0.121	0.523 ± 0.097	2.853 ± 0.157	1.866 ± 0.136	n = 10	[JJG] Ortho Vitros 5600
1.111 ± 0.098	1.348 ± 0.096	0.772 ± 0.130	3.034 ± 0.147	1.927 ± 0.126	n = 19	[ROC] Roche cobas c501
1.112 ± 0.060	1.337 ± 0.049	0.766 ± 0.048	3.032 ± 0.111	1.972 ± 0.081	n = 9	[ROT] Roche Cobas INTEGRA
1.095 ± 0.075	1.323 ± 0.077	0.723 ± 0.075	2.916 ± 0.150	1.931 ± 0.100	n = 15	[ROD] Roche MODULAR D/P
1.115 ± 0.041	1.385 ± 0.041	0.615 ± 0.041	2.915 ± 0.041	2.000 ± 0.000	n = 4	[BYE] Siemens ADVIA 1800
1.159 ± 0.084	1.399 ± 0.081	0.727 ± 0.077	3.065 ± 0.102	2.075 ± 0.089	n = 20	[COB] Siemens ADVIA Centaur
1.126 ± 0.076	1.383 ± 0.079	0.710 ± 0.044	3.039 ± 0.052	1.960 ± 0.098	n = 4	[BYP] Siemens ADVIA Centaur CP
1.112 ± 0.066	1.315 ± 0.064	0.705 ± 0.064	3.162 ± 0.096	2.033 ± 0.070	n = 8	[DUE] Siemens Dimension EXL
1.184 ± 0.054	1.400 ± 0.060	0.736 ± 0.059	3.122 ± 0.118	2.062 ± 0.054	n = 25	[DUR] Siemens Dimension RxL
1.107 ± 0.021	1.276 ± 0.035	0.612 ± 0.017	2.742 ± 0.063	1.728 ± 0.037	n = 31	[DUT] Siemens Dimension Vista
1.142 ± 0.061	1.353 ± 0.062	0.721 ± 0.049	3.124 ± 0.135	2.059 ± 0.089	n = 14	[DUX] Siemens Dimension Xpand
1.199 ± 0.073	1.427 ± 0.040	0.837 ± 0.078	3.211 ± 0.172	2.061 ± 0.070	n = 6	[DPD] Siemens Immulite 2000
<Reagents>						
1.120 ± 0.127	1.301 ± 0.124	0.736 ± 0.078	2.926 ± 0.129	1.959 ± 0.114	n = 18	[AB1] Abbott
1.094 ± 0.107	1.300 ± 0.116	0.699 ± 0.107	2.887 ± 0.175	1.917 ± 0.146	n = 57	[BC1] Beckman Coulter
1.049 ± 0.102	1.226 ± 0.085	0.692 ± 0.089	3.018 ± 0.152	1.897 ± 0.156	n = 10	[OL1] Beckman Coulter AU Series
1.024 ± 0.080	1.163 ± 0.055	0.624 ± 0.080	2.751 ± 0.083	1.737 ± 0.055	n = 5	[MG2] Microgenics DRI
0.969 ± 0.135	1.140 ± 0.141	0.508 ± 0.116	2.799 ± 0.162	1.812 ± 0.126	n = 33	[JJ1] Ortho Clinical Diagnostics
1.116 ± 0.098	1.345 ± 0.094	0.768 ± 0.126	3.027 ± 0.142	1.923 ± 0.120	n = 20	[R04] Roche cobas c311/c501/c502/c701
1.137 ± 0.043	1.402 ± 0.004	0.753 ± 0.054	3.496 ± 0.064	2.278 ± 0.041	n = 4	[R03] Roche Elecsys/Modular E/e601/e411
1.099 ± 0.068	1.331 ± 0.090	0.732 ± 0.087	2.924 ± 0.125	1.945 ± 0.105	n = 8	[R02] Roche Hitachi and Modular D/P
1.112 ± 0.060	1.337 ± 0.049	0.766 ± 0.048	3.032 ± 0.111	1.972 ± 0.081	n = 9	[R01] Roche Integra and MIRA
1.083 ± 0.107	1.295 ± 0.012	0.695 ± 0.012	2.910 ± 0.182	1.903 ± 0.108	n = 5	[R05] Roche Tina-quant
1.151 ± 0.076	1.394 ± 0.076	0.705 ± 0.082	3.033 ± 0.101	2.048 ± 0.087	n = 30	[BY1] Siemens ADVIA/ADVIA Centaur
1.149 ± 0.062	1.352 ± 0.081	0.708 ± 0.070	3.076 ± 0.191	2.026 ± 0.126	n = 57	[DA5] Siemens Dimension
1.104 ± 0.014	1.288 ± 0.019	0.612 ± 0.017	2.758 ± 0.064	1.734 ± 0.037	n = 20	[DA6] Siemens Dimension LOCI
1.198 ± 0.066	1.450 ± 0.068	0.849 ± 0.075	3.205 ± 0.153	2.089 ± 0.105	n = 7	[DP5] Siemens Immulite
0.974 ± 0.097	1.247 ± 0.077	0.667 ± 0.169	2.908 ± 0.112	1.861 ± 0.153	n = 3	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Ethanol (mg/dL)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
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132.29 ± 7.08 134.7	161.59 ± 7.52 167.2	113.98 ± 5.29 118.6	240.41 ± 10.20 242.6	208.93 ± 9.68 214.6	n = 227	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
134.50 ± 4.05	164.24 ± 4.60	115.52 ± 3.13	241.05 ± 6.07	209.97 ± 5.91	n = 7	[ABJ] Abbott Architect c System
136.97 ± 5.27	169.34 ± 4.63	120.86 ± 4.58	254.12 ± 10.84	218.88 ± 6.16	n = 3	[ABB] Abbott AxSym
134.67 ± 4.70	164.06 ± 5.27	115.16 ± 4.54	243.21 ± 9.32	210.89 ± 5.90	n = 12	[OLC] Beckman Coulter AU Chemistry System
130.78 ± 5.00	160.45 ± 5.94	109.04 ± 5.16	229.40 ± 21.87	201.10 ± 18.70	n = 3	[BCS] Beckman Coulter CX
135.43 ± 4.83	164.19 ± 5.90	115.56 ± 4.94	239.94 ± 6.19	209.06 ± 9.75	n = 8	[BCX] Beckman Coulter LX-20
135.13 ± 6.45	162.54 ± 7.08	114.81 ± 5.95	239.69 ± 14.55	209.96 ± 12.84	n = 13	[BCG] Beckman Coulter UniCel DxC 600
136.98 ± 5.42	166.08 ± 5.50	117.13 ± 4.72	242.23 ± 6.80	210.40 ± 6.87	n = 17	[BCH] Beckman Coulter UniCel DxC 800
132.85 ± 3.92	162.31 ± 3.70	113.39 ± 3.09	243.46 ± 5.19	211.46 ± 4.56	n = 12	[GCC] Gas Chromatograph
114.59 ± 2.83	145.50 ± 5.61	104.47 ± 2.17	218.31 ± 16.28	198.47 ± 5.52	n = 4	[JJE] Ortho Vitros 250/350/950
117.31 ± 5.41	147.06 ± 4.15	105.96 ± 2.62	226.66 ± 11.21	192.07 ± 10.51	n = 18	[JJF] Ortho Vitros 5,1FS
117.95 ± 3.67	149.28 ± 4.66	107.74 ± 3.84	229.92 ± 7.47	194.10 ± 9.03	n = 9	[JJG] Ortho Vitros 5600
132.39 ± 3.49	162.83 ± 4.93	114.98 ± 2.56	242.51 ± 6.64	210.63 ± 5.59	n = 14	[ROC] Roche cobas c501
129.81 ± 4.17	156.76 ± 1.80	112.68 ± 1.62	233.54 ± 9.62	206.38 ± 12.32	n = 7	[ROT] Roche Cobas INTEGRA
132.50 ± 3.16	162.92 ± 5.01	115.04 ± 3.92	242.91 ± 6.28	211.98 ± 8.48	n = 12	[ROD] Roche MODULAR D/P
137.10 ± 5.05	165.72 ± 2.56	117.58 ± 3.24	247.64 ± 6.31	216.92 ± 6.08	n = 8	[BYE] Siemens ADVIA 1800
136.63 ± 3.87	166.58 ± 5.58	118.63 ± 3.87	247.56 ± 9.11	215.30 ± 5.97	n = 3	[BYB] Siemens ADVIA 2400
129.60 ± 3.92	160.22 ± 5.13	112.95 ± 5.02	236.73 ± 5.72	205.09 ± 6.30	n = 6	[DUE] Siemens Dimension EXL
131.13 ± 3.57	160.62 ± 4.84	113.41 ± 3.98	239.88 ± 9.19	208.46 ± 6.37	n = 24	[DUR] Siemens Dimension RxL
133.45 ± 6.11	163.09 ± 5.29	115.22 ± 4.90	244.55 ± 7.18	212.12 ± 7.89	n = 30	[DUT] Siemens Dimension Vista
131.48 ± 2.72	161.41 ± 3.56	113.38 ± 1.91	236.19 ± 2.74	206.34 ± 3.85	n = 11	[DUX] Siemens Dimension Xpand
<Reagents>						
135.12 ± 4.52	165.70 ± 4.96	116.66 ± 4.25	243.34 ± 8.28	212.31 ± 7.13	n = 10	[AB1] Abbott
135.50 ± 5.78	164.01 ± 6.54	115.44 ± 5.52	239.95 ± 9.82	209.39 ± 9.45	n = 43	[BC1] Beckman Coulter
133.91 ± 4.16	164.10 ± 3.70	114.53 ± 3.56	241.89 ± 8.28	208.21 ± 2.33	n = 7	[OL1] Beckman Coulter AU Series
132.98 ± 4.08	162.35 ± 3.92	113.86 ± 2.77	243.42 ± 5.08	211.36 ± 4.51	n = 10	[IH1] In-House
117.02 ± 4.64	147.80 ± 4.93	106.52 ± 3.60	227.87 ± 11.81	193.83 ± 9.81	n = 32	[JJ1] Ortho Clinical Diagnostics
132.39 ± 3.49	162.83 ± 4.93	114.98 ± 2.56	242.51 ± 6.64	210.63 ± 5.59	n = 14	[R04] Roche cobas c311/c501/c502/c701
132.50 ± 3.16	162.92 ± 5.01	115.04 ± 3.92	242.91 ± 6.28	211.98 ± 8.48	n = 12	[R02] Roche Hitachi and Modular D/P
129.81 ± 4.17	156.76 ± 1.80	112.68 ± 1.62	233.54 ± 9.62	206.38 ± 12.32	n = 7	[R01] Roche Integra and MIRA
136.23 ± 4.09	165.73 ± 3.77	117.24 ± 2.84	248.17 ± 7.53	215.71 ± 5.21	n = 7	[BY1] Siemens ADVIA/ADVIA Centaur
139.76 ± 4.10	168.78 ± 4.11	121.22 ± 3.23	253.22 ± 5.90	220.48 ± 4.61	n = 3	[BY5] Siemens ADVIA/Syva Emit 2000
132.03 ± 4.74	161.74 ± 4.90	114.18 ± 4.27	241.13 ± 8.00	209.20 ± 7.28	n = 71	[DA5] Siemens Dimension
136.06 ± 4.57	165.31 ± 6.86	116.79 ± 5.23	246.50 ± 9.40	214.09 ± 5.97	n = 6	[SY2] Syva Emit

Summary of Participant Performance (Mean and Standard Deviation)

Ethosuximide (mg/L)

Specimen: T56 -----	Specimen: T57 -----	Specimen: T58 -----	Specimen: T59 -----	Specimen: T60 -----	Number -----	[Code] Instrument or Reagent System -----
46.03 ± 3.07 43.9	105.86 ± 4.65 99.6	88.26 ± 1.23 87.2	183.04 ± 11.08 176.3	36.84 ± 2.46 33.2	n = 6	[---] All Methods & Instruments [---] Weigh-in value
47.79 ± 3.11	107.97 ± 3.67	91.10 ± 4.52	183.55 ± 7.89	35.82 ± 2.12	n = 3	<Instruments> [OLC] Beckman Coulter AU Chemistry System
46.74 ± 2.91	107.18 ± 3.66	88.64 ± 1.11	181.13 ± 13.49	37.35 ± 2.44	n = 5	<Reagents> [SY2] Syva Emit

Summary of Participant Performance (Mean and Standard Deviation)

Gentamicin (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
3.08 ± 0.24 3.1	8.10 ± 0.75 8.2	12.46 ± 1.31 12.8	7.65 ± 0.75 7.6	5.60 ± 0.48 5.4	n = 176	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
2.81 ± 0.21	6.93 ± 0.18	11.06 ± 0.96	6.49 ± 0.13	4.77 ± 0.26	n = 5	[ABJ] Abbott Architect c System
2.79 ± 0.21	7.63 ± 0.36	12.25 ± 0.80	7.11 ± 0.37	5.21 ± 0.23	n = 10	[ABB] Abbott AxSym
3.24 ± 0.16	8.51 ± 0.56	13.13 ± 1.17	7.96 ± 0.64	5.87 ± 0.12	n = 9	[OLC] Beckman Coulter AU Chemistry System
3.00 ± 0.18	8.71 ± 0.35	13.43 ± 0.39	8.45 ± 0.23	5.85 ± 0.23	n = 4	[BCX] Beckman Coulter LX-20
3.10 ± 0.14	9.10 ± 0.25	13.01 ± 1.05	8.51 ± 0.27	6.12 ± 0.13	n = 9	[BCG] Beckman Coulter UniCel Dx C 600
3.07 ± 0.15	8.92 ± 0.21	13.19 ± 0.83	8.37 ± 0.16	5.99 ± 0.18	n = 12	[BCH] Beckman Coulter UniCel Dx C 800
3.41 ± 0.14	8.46 ± 0.35	14.84 ± 1.02	8.18 ± 0.51	6.20 ± 0.21	n = 11	[JJF] Ortho Vitros 5,1FS
3.49 ± 0.15	8.77 ± 0.31	14.24 ± 0.60	8.42 ± 0.25	6.35 ± 0.18	n = 9	[JJG] Ortho Vitros 5600
3.02 ± 0.27	7.81 ± 0.51	11.62 ± 0.34	7.34 ± 0.48	5.36 ± 0.35	n = 4	[ROC] Roche cobas c501
3.10 ± 0.13	7.11 ± 0.67	11.12 ± 0.89	6.67 ± 0.53	5.03 ± 0.30	n = 18	[ROT] Roche Cobas INTEGRA
3.06 ± 0.18	7.93 ± 0.29	11.82 ± 0.62	7.40 ± 0.36	5.52 ± 0.16	n = 9	[ROD] Roche MODULAR D/P
3.00 ± 0.09	8.02 ± 0.59	11.74 ± 1.39	7.69 ± 0.61	5.64 ± 0.47	n = 3	[BYE] Siemens ADVIA 1800
3.24 ± 0.26	8.42 ± 0.86	13.10 ± 1.62	8.25 ± 0.71	5.83 ± 0.41	n = 16	[COB] Siemens ADVIA Centaur
3.00 ± 0.08	7.44 ± 0.69	12.10 ± 0.33	7.30 ± 0.11	5.33 ± 0.08	n = 4	[DUE] Siemens Dimension EXL
3.01 ± 0.13	7.80 ± 0.19	12.21 ± 0.41	7.32 ± 0.16	5.42 ± 0.13	n = 17	[DUR] Siemens Dimension RxL
2.97 ± 0.16	7.91 ± 0.31	12.03 ± 0.63	7.41 ± 0.29	5.44 ± 0.22	n = 28	[DUT] Siemens Dimension Vista
3.12 ± 0.15	7.87 ± 0.05	12.28 ± 0.32	7.50 ± 0.09	5.53 ± 0.05	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
2.79 ± 0.21	7.40 ± 0.46	11.87 ± 1.14	6.88 ± 0.45	5.09 ± 0.31	n = 15	[AB1] Abbott
3.07 ± 0.16	8.95 ± 0.27	13.15 ± 0.91	8.44 ± 0.25	6.03 ± 0.19	n = 27	[BC1] Beckman Coulter
3.32 ± 0.19	8.81 ± 0.72	12.71 ± 1.57	8.40 ± 0.50	5.84 ± 0.13	n = 5	[OL1] Beckman Coulter AU Series
3.26 ± 0.10	8.27 ± 0.23	12.21 ± 0.74	7.61 ± 0.29	5.66 ± 0.10	n = 3	[MG1] Microgenics CEDIA
3.46 ± 0.16	8.64 ± 0.42	14.57 ± 0.89	8.35 ± 0.42	6.29 ± 0.24	n = 21	[JJ1] Ortho Clinical Diagnostics
3.02 ± 0.32	7.66 ± 0.62	11.62 ± 0.41	7.33 ± 0.59	5.31 ± 0.44	n = 3	[R04] Roche cobas c311/c501/c502/c701
2.99 ± 0.11	7.85 ± 0.19	11.53 ± 0.34	7.33 ± 0.29	5.47 ± 0.12	n = 6	[R02] Roche Hitachi and Modular D/P
3.10 ± 0.14	7.09 ± 0.68	11.20 ± 0.85	6.66 ± 0.55	5.01 ± 0.31	n = 17	[R01] Roche Integra and MIRA
3.24 ± 0.26	8.42 ± 0.86	13.10 ± 1.62	8.25 ± 0.71	5.83 ± 0.41	n = 16	[BY1] Siemens ADVIA/ADVIA Centaur
2.98 ± 0.08	7.88 ± 0.47	11.87 ± 1.43	7.50 ± 0.44	5.50 ± 0.39	n = 5	[BY5] Siemens ADVIA/Syva Emit 2000
2.99 ± 0.15	7.83 ± 0.23	12.12 ± 0.52	7.37 ± 0.24	5.43 ± 0.17	n = 51	[DA5] Siemens Dimension
3.18 ± 0.04	8.32 ± 0.27	13.23 ± 0.78	7.52 ± 0.34	5.76 ± 0.35	n = 4	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Lithium (mmol/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
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0.847 ± 0.076	0.342 ± 0.065	2.209 ± 0.102	1.828 ± 0.094	1.092 ± 0.072	n = 201	[---] All Methods & Instruments
0.9	0.4	2.4	1.9	1.2		[---] Weigh-in value
<Instruments>						
0.900 ± 0.030	0.395 ± 0.018	2.235 ± 0.064	1.877 ± 0.065	1.151 ± 0.048	n = 6	[ABJ] Abbott Architect c System
0.813 ± 0.021	0.334 ± 0.040	2.158 ± 0.052	1.793 ± 0.043	1.094 ± 0.014	n = 15	[OLC] Beckman Coulter AU Chemistry System
0.830 ± 0.030	0.332 ± 0.047	2.200 ± 0.008	1.795 ± 0.027	1.079 ± 0.031	n = 5	[BCX] Beckman Coulter LX-20
0.805 ± 0.008	0.303 ± 0.012	2.159 ± 0.072	1.797 ± 0.005	1.099 ± 0.054	n = 8	[BCG] Beckman Coulter UniCel DxC 600
0.820 ± 0.044	0.311 ± 0.033	2.169 ± 0.065	1.790 ± 0.063	1.069 ± 0.044	n = 16	[BCH] Beckman Coulter UniCel DxC 800
0.849 ± 0.020	0.360 ± 0.009	2.090 ± 0.018	1.761 ± 0.044	1.023 ± 0.032	n = 3	[ICP] ICP/MS
0.994 ± 0.010	0.506 ± 0.010	2.422 ± 0.041	2.050 ± 0.045	1.206 ± 0.010	n = 3	[NOS] NOVA 13
0.900 ± 0.090	0.300 ± 0.000	2.272 ± 0.051	1.900 ± 0.090	1.172 ± 0.051	n = 3	[JJE] Ortho Vitros 250/350/950
0.892 ± 0.065	0.321 ± 0.060	2.288 ± 0.091	1.935 ± 0.086	1.151 ± 0.080	n = 17	[JJF] Ortho Vitros 5,1FS
0.900 ± 0.000	0.350 ± 0.057	2.263 ± 0.055	1.920 ± 0.061	1.163 ± 0.055	n = 10	[JJG] Ortho Vitros 5600
0.889 ± 0.040	0.435 ± 0.054	2.295 ± 0.135	1.837 ± 0.066	1.079 ± 0.042	n = 7	[ROY] Roche 9180/9181
0.902 ± 0.008	0.383 ± 0.036	2.204 ± 0.054	1.852 ± 0.059	1.119 ± 0.049	n = 15	[ROC] Roche cobas c501
0.895 ± 0.014	0.402 ± 0.005	2.217 ± 0.060	1.789 ± 0.032	1.055 ± 0.045	n = 10	[ROT] Roche Cobas INTEGRA
0.908 ± 0.063	0.407 ± 0.064	2.207 ± 0.118	1.831 ± 0.047	1.115 ± 0.046	n = 8	[ROD] Roche MODULAR D/P
0.915 ± 0.035	0.402 ± 0.005	2.343 ± 0.071	1.939 ± 0.047	1.195 ± 0.042	n = 8	[BYE] Siemens ADVIA 1800
0.741 ± 0.054	0.277 ± 0.043	2.123 ± 0.067	1.735 ± 0.050	1.010 ± 0.052	n = 19	[DUR] Siemens Dimension RxL
0.798 ± 0.032	0.304 ± 0.032	2.230 ± 0.056	1.827 ± 0.044	1.075 ± 0.032	n = 28	[DUT] Siemens Dimension Vista
0.697 ± 0.032	0.247 ± 0.034	2.094 ± 0.010	1.692 ± 0.015	1.000 ± 0.000	n = 3	[DUX] Siemens Dimension Xpand
<Reagents>						
0.908 ± 0.031	0.398 ± 0.011	2.251 ± 0.061	1.895 ± 0.055	1.165 ± 0.038	n = 5	[AB1] Abbott
0.896 ± 0.006	0.423 ± 0.053	2.306 ± 0.143	1.844 ± 0.071	1.087 ± 0.042	n = 7	[AV1] AVL Scientific
0.821 ± 0.028	0.311 ± 0.026	2.179 ± 0.075	1.797 ± 0.065	1.081 ± 0.044	n = 23	[BC1] Beckman Coulter
0.807 ± 0.015	0.330 ± 0.042	2.155 ± 0.065	1.794 ± 0.049	1.097 ± 0.013	n = 13	[OL1] Beckman Coulter AU Series
0.882 ± 0.052	0.379 ± 0.030	2.184 ± 0.148	1.824 ± 0.133	1.089 ± 0.113	n = 4	[IH1] In-House
0.994 ± 0.010	0.506 ± 0.010	2.422 ± 0.041	2.050 ± 0.045	1.206 ± 0.010	n = 3	[N01] NOVA Biomedical
0.890 ± 0.056	0.333 ± 0.060	2.272 ± 0.069	1.926 ± 0.085	1.157 ± 0.070	n = 32	[JJ1] Ortho Clinical Diagnostics
0.900 ± 0.010	0.383 ± 0.036	2.202 ± 0.054	1.857 ± 0.054	1.120 ± 0.049	n = 15	[R04] Roche cobas c311/c501/c502/c701
0.895 ± 0.014	0.402 ± 0.005	2.217 ± 0.060	1.789 ± 0.032	1.055 ± 0.045	n = 10	[R01] Roche Integra and MIRA
0.911 ± 0.027	0.389 ± 0.024	2.337 ± 0.060	1.941 ± 0.050	1.188 ± 0.042	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
0.768 ± 0.055	0.292 ± 0.040	2.174 ± 0.096	1.781 ± 0.076	1.044 ± 0.056	n = 51	[DA5] Siemens Dimension
0.845 ± 0.067	0.349 ± 0.062	2.158 ± 0.060	1.794 ± 0.043	1.096 ± 0.017	n = 17	[TH1] Thermo Scientific

Summary of Participant Performance (Mean and Standard Deviation)

Phenobarbital (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
26.15 ± 1.99 26.2	35.71 ± 2.53 36.5	49.34 ± 3.25 51.1	43.49 ± 2.96 45.4	13.24 ± 1.08 13.5	n = 237	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
26.41 ± 1.30	37.20 ± 3.10	52.36 ± 2.11	45.42 ± 4.17	13.84 ± 0.90	n = 3	[ABJ] Abbott Architect c System
24.28 ± 1.50	33.77 ± 2.37	45.54 ± 1.44	41.54 ± 2.67	13.07 ± 0.41	n = 10	[ABB] Abbott AxSym
24.32 ± 1.63	34.43 ± 2.18	47.93 ± 2.98	41.32 ± 3.06	12.38 ± 0.58	n = 14	[OLC] Beckman Coulter AU Chemistry System
25.00 ± 0.08	32.80 ± 1.59	46.08 ± 1.82	41.96 ± 2.89	12.38 ± 1.01	n = 4	[BCS] Beckman Coulter CX
25.42 ± 1.13	33.65 ± 0.57	46.14 ± 1.33	39.99 ± 0.95	12.76 ± 0.64	n = 8	[BCX] Beckman Coulter LX-20
25.58 ± 1.14	33.51 ± 1.33	46.47 ± 1.67	40.84 ± 2.04	12.88 ± 0.59	n = 12	[BCG] Beckman Coulter UniCel DxC 600
25.84 ± 0.71	33.32 ± 1.59	45.84 ± 2.27	40.21 ± 1.49	12.79 ± 0.50	n = 19	[BCH] Beckman Coulter UniCel DxC 800
29.41 ± 1.26	38.49 ± 1.41	50.94 ± 1.37	46.32 ± 2.04	13.57 ± 1.03	n = 19	[JJF] Ortho Vitros 5,1FS
29.90 ± 1.81	38.78 ± 2.37	51.76 ± 2.55	46.09 ± 2.55	14.42 ± 0.50	n = 10	[JJG] Ortho Vitros 5600
25.17 ± 1.24	35.34 ± 1.25	49.27 ± 1.48	43.92 ± 1.59	12.85 ± 0.58	n = 19	[ROC] Roche cobas c501
24.29 ± 0.73	34.38 ± 0.72	48.91 ± 1.07	42.09 ± 0.73	12.54 ± 0.39	n = 13	[ROT] Roche Cobas INTEGRA
25.55 ± 0.87	36.08 ± 0.74	49.52 ± 1.41	44.16 ± 0.97	12.91 ± 0.47	n = 13	[ROD] Roche MODULAR D/P
23.98 ± 2.56	33.33 ± 2.24	45.88 ± 5.44	42.12 ± 2.74	12.73 ± 1.79	n = 3	[BYE] Siemens ADVIA 1800
27.00 ± 1.75	37.87 ± 2.86	54.48 ± 4.02	47.37 ± 3.38	14.48 ± 0.90	n = 13	[COB] Siemens ADVIA Centaur
26.55 ± 0.63	35.08 ± 3.60	52.51 ± 1.77	43.11 ± 0.97	13.36 ± 0.18	n = 4	[DUE] Siemens Dimension EXL
27.06 ± 1.51	37.32 ± 1.68	51.73 ± 2.53	44.94 ± 1.64	13.62 ± 1.05	n = 22	[DUR] Siemens Dimension RxL
27.05 ± 1.36	36.23 ± 1.39	49.71 ± 2.11	44.07 ± 1.49	14.42 ± 1.05	n = 31	[DUT] Siemens Dimension Vista
26.15 ± 2.05	36.21 ± 2.59	49.13 ± 2.42	43.25 ± 2.46	13.25 ± 1.13	n = 6	[DUX] Siemens Dimension Xpand
<Reagents>						
24.90 ± 1.70	34.76 ± 2.83	47.77 ± 4.07	42.43 ± 3.56	13.16 ± 0.49	n = 15	[AB1] Abbott
25.56 ± 0.96	33.31 ± 1.44	46.06 ± 1.92	40.37 ± 1.81	12.76 ± 0.64	n = 45	[BC1] Beckman Coulter
23.34 ± 1.45	33.59 ± 1.98	46.88 ± 4.12	41.76 ± 1.90	12.21 ± 0.65	n = 6	[OL1] Beckman Coulter AU Series
26.63 ± 1.59	36.16 ± 2.10	50.30 ± 2.50	44.98 ± 3.51	13.17 ± 0.77	n = 4	[MG1] Microgenics CEDIA
29.50 ± 1.45	38.51 ± 1.69	51.19 ± 1.85	46.22 ± 2.16	13.76 ± 1.09	n = 30	[JJ1] Ortho Clinical Diagnostics
25.09 ± 1.25	35.25 ± 1.28	49.18 ± 1.50	43.82 ± 1.61	12.81 ± 0.60	n = 20	[R04] Roche cobas c311/c501/c502/c701
25.39 ± 0.62	36.31 ± 0.38	50.47 ± 0.85	44.49 ± 0.51	13.26 ± 0.59	n = 4	[R02] Roche Hitachi and Modular D/P
24.29 ± 0.73	34.38 ± 0.72	48.91 ± 1.07	42.09 ± 0.73	12.54 ± 0.39	n = 13	[R01] Roche Integra and MIRA
25.72 ± 1.19	35.93 ± 0.87	49.02 ± 1.35	43.85 ± 1.20	12.78 ± 0.42	n = 9	[R06] Roche ONLINE
26.74 ± 1.70	37.59 ± 2.63	54.21 ± 3.71	47.14 ± 3.25	14.34 ± 0.98	n = 15	[BY1] Siemens ADVIA/ADVIA Centaur
25.39 ± 1.52	34.41 ± 2.12	49.23 ± 5.08	43.49 ± 2.21	12.74 ± 1.09	n = 6	[BY5] Siemens ADVIA/Syva Emit 2000
26.93 ± 1.39	36.61 ± 1.59	50.46 ± 2.52	44.23 ± 1.73	13.91 ± 1.12	n = 62	[DA5] Siemens Dimension
24.45 ± 1.35	36.09 ± 2.93	48.09 ± 2.14	39.75 ± 2.91	12.26 ± 0.45	n = 4	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Phenytoin (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
15.67 ± 1.36 16.0	23.62 ± 2.06 24.0	10.85 ± 1.04 11.0	20.26 ± 1.57 21.0	9.51 ± 0.91 10.0	n = 271	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
15.77 ± 0.32	24.98 ± 0.78	10.90 ± 0.27	21.44 ± 1.03	9.53 ± 0.32	n = 3	[ABJ] Abbott Architect c System
15.50 ± 0.40	23.83 ± 0.39	10.40 ± 0.00	19.95 ± 0.33	9.36 ± 0.13	n = 5	[ABH] Abbott Architect i System
16.01 ± 0.40	23.45 ± 0.67	11.07 ± 0.37	19.76 ± 0.61	9.76 ± 0.32	n = 9	[ABB] Abbott AxSym
15.19 ± 0.92	23.06 ± 1.66	10.61 ± 0.86	20.07 ± 1.42	9.22 ± 0.63	n = 24	[OLC] Beckman Coulter AU Chemistry System
15.15 ± 0.12	22.45 ± 1.04	10.96 ± 0.73	19.72 ± 0.72	9.96 ± 1.03	n = 4	[BCS] Beckman Coulter CX
14.73 ± 0.19	22.51 ± 0.83	10.47 ± 0.28	18.92 ± 0.84	9.06 ± 0.21	n = 7	[BCX] Beckman Coulter LX-20
15.09 ± 0.32	22.74 ± 0.58	10.53 ± 0.19	19.57 ± 0.64	9.27 ± 0.26	n = 14	[BCG] Beckman Coulter UniCel DxC 600
15.17 ± 0.28	22.95 ± 0.72	10.65 ± 0.31	19.40 ± 0.63	9.40 ± 0.29	n = 20	[BCH] Beckman Coulter UniCel DxC 800
13.78 ± 0.72	20.72 ± 1.32	8.84 ± 0.39	18.67 ± 1.13	7.83 ± 0.33	n = 20	[JJF] Ortho Vitros 5,1FS
13.68 ± 0.50	20.61 ± 0.57	8.91 ± 0.34	18.25 ± 0.56	7.96 ± 0.29	n = 10	[JJG] Ortho Vitros 5600
15.11 ± 0.68	22.62 ± 1.04	10.63 ± 0.54	19.38 ± 0.84	9.32 ± 0.43	n = 19	[ROC] Roche cobas c501
15.17 ± 0.55	23.35 ± 1.24	10.63 ± 0.59	19.68 ± 0.83	9.14 ± 0.41	n = 14	[ROT] Roche Cobas INTEGRA
15.90 ± 0.80	23.69 ± 1.01	11.13 ± 0.63	20.57 ± 0.82	9.81 ± 0.72	n = 16	[ROD] Roche MODULAR D/P
16.35 ± 1.15	24.48 ± 1.23	11.42 ± 0.32	21.91 ± 1.44	9.73 ± 0.42	n = 4	[BYE] Siemens ADVIA 1800
18.86 ± 1.20	30.02 ± 1.78	13.25 ± 0.77	25.32 ± 1.63	11.51 ± 0.76	n = 14	[COB] Siemens ADVIA Centaur
16.08 ± 0.22	24.93 ± 0.63	10.99 ± 0.52	21.12 ± 0.62	9.65 ± 0.34	n = 6	[DUE] Siemens Dimension EXL
16.70 ± 0.79	25.43 ± 1.39	11.43 ± 0.64	21.61 ± 0.97	9.79 ± 0.65	n = 24	[DUR] Siemens Dimension RxL
16.99 ± 0.65	25.09 ± 0.94	11.55 ± 0.49	21.54 ± 0.81	10.24 ± 0.40	n = 31	[DUT] Siemens Dimension Vista
16.66 ± 1.41	25.70 ± 1.27	11.11 ± 1.05	21.27 ± 0.93	9.89 ± 0.82	n = 12	[DUX] Siemens Dimension Xpand
<Reagents>						
15.79 ± 0.48	23.76 ± 0.74	10.81 ± 0.45	19.95 ± 0.69	9.58 ± 0.32	n = 17	[AB1] Abbott
15.10 ± 0.33	22.82 ± 0.74	10.56 ± 0.28	19.42 ± 0.73	9.30 ± 0.29	n = 47	[BC1] Beckman Coulter
14.63 ± 0.71	22.35 ± 1.37	10.28 ± 0.66	19.17 ± 1.01	8.91 ± 0.43	n = 10	[OL1] Beckman Coulter AU Series
15.58 ± 0.85	24.35 ± 1.79	11.49 ± 0.96	21.60 ± 0.33	10.20 ± 1.11	n = 6	[MG1] Microgenics CEDIA
13.76 ± 0.65	20.77 ± 1.21	8.87 ± 0.37	18.56 ± 0.97	7.87 ± 0.30	n = 32	[JJ1] Ortho Clinical Diagnostics
15.11 ± 0.71	22.58 ± 0.96	10.65 ± 0.55	19.35 ± 0.82	9.33 ± 0.41	n = 21	[R04] Roche cobas c311/c501/c502/c701
15.86 ± 0.34	23.77 ± 0.77	11.15 ± 0.49	20.51 ± 0.81	9.51 ± 0.22	n = 6	[R02] Roche Hitachi and Modular D/P
15.17 ± 0.55	23.35 ± 1.24	10.63 ± 0.59	19.68 ± 0.83	9.14 ± 0.41	n = 14	[R01] Roche Integra and MIRA
15.96 ± 1.05	23.71 ± 1.20	11.12 ± 0.73	20.62 ± 0.84	9.90 ± 0.79	n = 10	[R06] Roche ONLINE
18.73 ± 1.50	29.81 ± 2.57	13.06 ± 0.93	24.99 ± 2.36	11.39 ± 0.86	n = 18	[BY1] Siemens ADVIA/ADVIA Centaur
16.77 ± 0.84	24.80 ± 0.91	11.49 ± 0.29	21.52 ± 0.17	10.12 ± 0.30	n = 6	[BY5] Siemens ADVIA/Syva Emit 2000
16.76 ± 0.82	25.24 ± 1.13	11.41 ± 0.62	21.50 ± 0.88	10.01 ± 0.57	n = 72	[DA5] Siemens Dimension
15.77 ± 0.84	23.44 ± 1.79	10.74 ± 0.66	20.67 ± 1.31	9.46 ± 0.40	n = 7	[SY4] Syva Emit 2000

Free Phenytoin (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
1.99 ± 0.22	3.74 ± 0.52	1.82 ± 0.28	5.49 ± 0.51	2.09 ± 0.18	n = 30	[---] All Methods & Instruments
2.03 ± 0.23	3.80 ± 0.43	1.80 ± 0.20	5.35 ± 0.45	2.05 ± 0.14	n = 9	<Instruments>
1.97 ± 0.46	3.79 ± 0.78	1.88 ± 0.40	5.20 ± 0.21	2.06 ± 0.23	n = 6	[ABG] Abbott TDX FLX
2.01 ± 0.15	3.78 ± 0.25	1.94 ± 0.17	5.48 ± 0.33	2.09 ± 0.15	n = 7	[OLC] Beckman Coulter AU Chemistry System
						[ROT] Roche Cobas INTEGRA
						<Reagents>
2.02 ± 0.19	3.87 ± 0.36	1.84 ± 0.18	5.55 ± 0.56	2.09 ± 0.15	n = 13	[AB1] Abbott
1.87 ± 0.05	2.63 ± 0.23	1.23 ± 0.05	2.30 ± 0.18	1.17 ± 0.05	n = 3	[BC1] Beckman Coulter
2.01 ± 0.15	3.78 ± 0.25	1.94 ± 0.17	5.48 ± 0.33	2.09 ± 0.15	n = 7	[R01] Roche Integra and MIRA
1.99 ± 0.53	3.81 ± 0.89	1.85 ± 0.43	5.25 ± 0.43	2.02 ± 0.24	n = 5	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Primidone (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
-----	-----	-----	-----	-----	-----	-----
9.65 ± 0.40 9.4	5.34 ± 0.33 4.9	7.32 ± 0.42 6.9	16.16 ± 0.82 16.8	8.40 ± 0.26 8.4	n = 14	[---] All Methods & Instruments [---] Weigh-in value
9.68 ± 0.46 9.53 ± 0.33	5.48 ± 0.15 4.95 ± 0.12	7.62 ± 0.07 6.98 ± 0.15	15.94 ± 0.83 16.75 ± 0.58	8.32 ± 0.30 8.56 ± 0.19	n = 9 n = 4	<Instruments> [OLC] Beckman Coulter AU Chemistry System [ROT] Roche Cobas INTEGRA
9.53 ± 0.33 9.65 ± 0.39	4.95 ± 0.12 5.50 ± 0.21	6.98 ± 0.15 7.58 ± 0.07	16.75 ± 0.58 15.80 ± 0.67	8.56 ± 0.19 8.31 ± 0.30	n = 4 n = 9	<Reagents> [R01] Roche Integra and MIRA [SY2] Syva Emit

Summary of Participant Performance (Mean and Standard Deviation)

Procainamide (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
-----	-----	-----	-----	-----	-----	-----
6.15 ± 0.24 6.3	11.03 ± 0.67 11.5	3.55 ± 0.13 3.5	14.84 ± 1.39 15.8	8.32 ± 0.43 8.8	n = 16	[---] All Methods & Instruments [---] Weigh-in value
6.04 ± 0.27	10.89 ± 0.83	3.57 ± 0.18	14.04 ± 1.46	8.16 ± 0.45	n = 5	<Instruments>
6.03 ± 0.23	10.83 ± 0.59	3.42 ± 0.32	15.34 ± 2.46	8.31 ± 0.37	n = 3	[OLC] Beckman Coulter AU Chemistry System
6.26 ± 0.11	11.25 ± 0.31	3.48 ± 0.08	15.67 ± 0.37	8.40 ± 0.08	n = 5	[ROC] Roche cobas c501 [ROT] Roche Cobas INTEGRA
6.03 ± 0.23	10.83 ± 0.59	3.42 ± 0.32	15.34 ± 2.46	8.31 ± 0.37	n = 3	<Reagents>
6.26 ± 0.11	11.25 ± 0.31	3.48 ± 0.08	15.67 ± 0.37	8.40 ± 0.08	n = 5	[R04] Roche cobas c311/c501/c502/c701
5.97 ± 0.30	10.55 ± 0.56	3.52 ± 0.20	14.48 ± 1.09	8.04 ± 0.35	n = 4	[R01] Roche Integra and MIRA [SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

N-Acetyl-Procaïnamide (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
-----	-----	-----	-----	-----	-----	-----
6.21 ± 0.18 6.1	19.71 ± 1.32 20.7	15.95 ± 0.71 16.1	4.75 ± 0.15 4.4	11.45 ± 0.59 11.6	n = 16	[---] All Methods & Instruments [---] Weigh-in value
6.15 ± 0.25	19.43 ± 2.05	16.16 ± 1.23	4.71 ± 0.22	11.78 ± 0.15	n = 5	<Instruments>
6.43 ± 0.51	20.63 ± 0.69	17.21 ± 2.39	4.71 ± 0.20	11.87 ± 0.50	n = 3	[OLC] Beckman Coulter AU Chemistry System
6.27 ± 0.14	19.38 ± 0.57	15.61 ± 0.43	4.80 ± 0.10	11.00 ± 0.15	n = 5	[ROC] Roche cobas c501 [ROT] Roche Cobas INTEGRA
6.43 ± 0.51	20.63 ± 0.69	17.21 ± 2.39	4.71 ± 0.20	11.87 ± 0.50	n = 3	<Reagents>
6.27 ± 0.14	19.38 ± 0.57	15.61 ± 0.43	4.80 ± 0.10	11.00 ± 0.15	n = 5	[R04] Roche cobas c311/c501/c502/c701
6.13 ± 0.27	19.35 ± 1.66	17.21 ± 2.59	4.67 ± 0.15	11.66 ± 0.69	n = 4	[R01] Roche Integra and MIRA [SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Quinidine (mg/L)

Specimen: T56 -----	Specimen: T57 -----	Specimen: T58 -----	Specimen: T59 -----	Specimen: T60 -----	Number -----	[Code] Instrument or Reagent System -----
2.93 ± 0.14 3.3	4.61 ± 0.17 5.0	5.98 ± 0.25 6.7	1.36 ± 0.08 1.7	1.64 ± 0.08 2.0	n = 16	[---] All Methods & Instruments [---] Weigh-in value
2.83 ± 0.09 2.95 ± 0.06	4.31 ± 0.30 4.60 ± 0.09	5.73 ± 0.39 5.98 ± 0.17	1.25 ± 0.06 1.38 ± 0.09	1.55 ± 0.06 1.60 ± 0.00	n = 4 n = 6	<Instruments> [OLC] Beckman Coulter AU Chemistry System [ROT] Roche Cobas INTEGRA
3.07 ± 0.14 2.95 ± 0.06	4.62 ± 0.15 4.60 ± 0.09	6.05 ± 0.19 5.98 ± 0.17	1.40 ± 0.00 1.38 ± 0.09	1.70 ± 0.00 1.60 ± 0.00	n = 3 n = 6	<Reagents> [R04] Roche cobas c311/c501/c502/c701 [R01] Roche Integra and MIRA

Summary of Participant Performance (Mean and Standard Deviation)

Salicylate (mg/dL)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
53.57 ± 2.02 51.7	35.59 ± 1.30 34.3	58.54 ± 1.81 57.1	18.77 ± 1.31 18.6	81.55 ± 3.25 80.0	n = 213	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
54.53 ± 1.04	35.48 ± 1.09	59.26 ± 1.75	17.66 ± 0.42	83.20 ± 2.58	n = 6	[ABJ] Abbott Architect c System
50.06 ± 3.02	33.48 ± 1.76	54.80 ± 1.97	17.45 ± 1.38	76.73 ± 3.62	n = 9	[ABB] Abbott AxSym
55.01 ± 3.48	36.45 ± 1.65	60.50 ± 2.33	19.77 ± 1.21	84.13 ± 6.23	n = 11	[OLC] Beckman Coulter AU Chemistry System
54.81 ± 1.29	35.74 ± 0.59	58.79 ± 1.05	17.04 ± 0.93	82.91 ± 1.77	n = 8	[BCX] Beckman Coulter LX-20
55.05 ± 2.06	35.61 ± 1.47	58.74 ± 1.48	17.45 ± 0.94	83.68 ± 2.48	n = 11	[BCG] Beckman Coulter UniCel DxC 600
55.02 ± 1.11	35.03 ± 0.88	58.86 ± 0.94	17.00 ± 0.77	83.59 ± 2.06	n = 17	[BCH] Beckman Coulter UniCel DxC 800
53.07 ± 3.04	36.95 ± 0.12	61.61 ± 0.73	20.15 ± 0.41	82.57 ± 3.36	n = 4	[JJE] Ortho Vitros 250/350/950
54.59 ± 1.67	36.98 ± 0.79	59.71 ± 1.19	20.03 ± 0.51	83.37 ± 3.08	n = 19	[JJF] Ortho Vitros 5,1FS
54.57 ± 0.72	36.84 ± 0.56	59.66 ± 1.30	20.21 ± 0.21	83.62 ± 4.25	n = 10	[JJG] Ortho Vitros 5600
54.50 ± 0.91	35.07 ± 1.00	59.64 ± 1.52	17.64 ± 0.35	82.64 ± 2.93	n = 11	[ROC] Roche cobas c501
50.45 ± 0.92	33.42 ± 0.57	55.25 ± 1.11	17.76 ± 0.50	76.96 ± 1.34	n = 11	[ROT] Roche Cobas INTEGRA
51.92 ± 0.93	34.89 ± 0.43	57.66 ± 0.62	18.83 ± 0.62	79.99 ± 1.43	n = 10	[ROD] Roche MODULAR D/P
55.37 ± 2.23	36.81 ± 1.21	60.48 ± 2.32	18.78 ± 1.23	84.98 ± 3.24	n = 7	[BYE] Siemens ADVIA 1800
55.74 ± 1.15	36.18 ± 0.78	60.67 ± 1.76	18.58 ± 0.49	85.36 ± 2.32	n = 3	[BYB] Siemens ADVIA 2400
52.72 ± 0.70	35.71 ± 0.36	58.10 ± 0.68	19.56 ± 0.35	80.75 ± 0.52	n = 7	[DUE] Siemens Dimension EXL
53.14 ± 0.63	35.70 ± 0.39	58.22 ± 0.44	19.53 ± 0.35	80.80 ± 0.82	n = 22	[DUR] Siemens Dimension RxL
52.34 ± 0.89	35.30 ± 0.61	57.69 ± 0.92	19.01 ± 0.37	79.94 ± 1.28	n = 30	[DUT] Siemens Dimension Vista
52.96 ± 0.63	35.77 ± 0.44	58.39 ± 0.56	19.53 ± 0.30	80.91 ± 0.92	n = 9	[DUX] Siemens Dimension Xpand
<Reagents>						
52.12 ± 3.38	34.37 ± 1.86	56.57 ± 2.96	17.52 ± 1.03	79.63 ± 4.83	n = 15	[AB1] Abbott
54.88 ± 1.46	35.23 ± 1.15	58.80 ± 1.26	17.14 ± 0.89	83.28 ± 2.05	n = 40	[BC1] Beckman Coulter
56.48 ± 2.76	37.38 ± 0.44	61.27 ± 2.35	19.94 ± 1.08	85.48 ± 5.77	n = 8	[OL1] Beckman Coulter AU Series
54.56 ± 1.42	36.95 ± 0.65	59.95 ± 1.34	20.10 ± 0.41	83.28 ± 3.44	n = 34	[JJ1] Ortho Clinical Diagnostics
54.49 ± 0.97	34.91 ± 0.86	59.42 ± 1.37	17.62 ± 0.38	82.37 ± 3.00	n = 10	[R04] Roche cobas c311/c501/c502/c701
51.92 ± 0.93	34.89 ± 0.43	57.66 ± 0.62	18.83 ± 0.62	79.99 ± 1.43	n = 10	[R02] Roche Hitachi and Modular D/P
50.45 ± 0.92	33.42 ± 0.57	55.25 ± 1.11	17.76 ± 0.50	76.96 ± 1.34	n = 11	[R01] Roche Integra and MIRA
55.55 ± 1.80	36.50 ± 1.12	60.52 ± 2.01	18.62 ± 1.03	85.29 ± 2.74	n = 11	[BY1] Siemens ADVIA/ADVIA Centaur
52.77 ± 0.79	35.56 ± 0.50	58.04 ± 0.69	19.32 ± 0.43	80.48 ± 1.01	n = 66	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Theophylline (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
7.85 ± 0.65 7.9	13.57 ± 1.10 13.6	33.26 ± 2.42 33.5	19.17 ± 1.24 19.4	9.21 ± 0.57 9.4	n = 222	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
8.05 ± 0.32	13.60 ± 0.54	32.62 ± 1.70	19.04 ± 0.73	9.11 ± 0.24	n = 8	[ABB] Abbott AxSym
7.72 ± 0.44	13.36 ± 0.46	32.20 ± 1.92	18.66 ± 1.07	8.98 ± 0.46	n = 13	[OLC] Beckman Coulter AU Chemistry System
7.40 ± 0.46	12.95 ± 1.08	31.87 ± 0.59	18.57 ± 1.06	8.87 ± 0.34	n = 3	[BCS] Beckman Coulter CX
7.61 ± 0.22	13.17 ± 0.42	32.53 ± 1.03	18.83 ± 0.71	9.39 ± 0.28	n = 6	[BCX] Beckman Coulter LX-20
7.71 ± 0.22	13.21 ± 0.19	32.93 ± 0.72	18.68 ± 0.24	9.44 ± 0.17	n = 13	[BCG] Beckman Coulter UniCel DxC 600
7.66 ± 0.25	13.28 ± 0.53	32.67 ± 1.09	18.95 ± 0.60	9.46 ± 0.37	n = 18	[BCH] Beckman Coulter UniCel DxC 800
10.44 ± 0.46	16.17 ± 0.80	40.42 ± 1.55	21.39 ± 0.89	12.16 ± 0.87	n = 18	[JJF] Ortho Vitros 5,1FS
10.48 ± 0.45	16.59 ± 0.58	41.20 ± 1.65	21.74 ± 0.79	12.32 ± 0.49	n = 10	[JJG] Ortho Vitros 5600
7.94 ± 0.62	13.75 ± 1.08	32.86 ± 0.82	19.17 ± 1.12	9.03 ± 0.41	n = 18	[ROC] Roche cobas c501
7.98 ± 0.17	13.61 ± 0.23	33.77 ± 0.54	18.81 ± 0.45	9.18 ± 0.17	n = 10	[ROT] Roche Cobas INTEGRA
7.84 ± 0.34	13.58 ± 0.55	33.39 ± 1.94	19.20 ± 0.81	9.20 ± 0.46	n = 12	[ROD] Roche MODULAR D/P
8.60 ± 0.36	14.13 ± 0.05	35.17 ± 0.50	20.43 ± 0.34	10.17 ± 0.34	n = 3	[BYE] Siemens ADVIA 1800
6.65 ± 0.51	12.10 ± 0.77	29.77 ± 0.64	17.36 ± 0.70	7.58 ± 0.61	n = 14	[COB] Siemens ADVIA Centaur
7.58 ± 0.37	12.75 ± 0.95	32.80 ± 1.49	18.60 ± 0.33	8.92 ± 0.20	n = 4	[DUE] Siemens Dimension EXL
8.31 ± 0.47	14.02 ± 0.74	34.61 ± 1.37	19.71 ± 0.77	9.52 ± 0.43	n = 19	[DUR] Siemens Dimension RxL
7.80 ± 0.35	13.45 ± 0.58	33.24 ± 1.37	18.95 ± 0.84	9.18 ± 0.46	n = 32	[DUT] Siemens Dimension Vista
7.95 ± 0.65	13.29 ± 0.78	33.56 ± 2.16	19.12 ± 0.73	9.12 ± 0.61	n = 6	[DUX] Siemens Dimension Xpand
<Reagents>						
8.01 ± 0.28	13.42 ± 0.65	33.12 ± 1.80	19.00 ± 0.63	9.05 ± 0.25	n = 12	[AB1] Abbott
7.66 ± 0.24	13.20 ± 0.47	32.64 ± 1.01	18.83 ± 0.56	9.39 ± 0.32	n = 41	[BC1] Beckman Coulter
7.73 ± 0.43	13.37 ± 0.57	32.59 ± 1.68	18.96 ± 1.24	9.02 ± 0.51	n = 8	[OL1] Beckman Coulter AU Series
10.46 ± 0.44	16.34 ± 0.73	40.63 ± 1.74	21.51 ± 0.86	12.21 ± 0.73	n = 29	[JJ1] Ortho Clinical Diagnostics
7.89 ± 0.65	13.67 ± 1.13	32.78 ± 0.94	19.08 ± 1.20	9.00 ± 0.45	n = 19	[R04] Roche cobas c311/c501/c502/c701
7.81 ± 0.26	13.39 ± 0.44	33.47 ± 1.51	19.24 ± 0.84	9.08 ± 0.39	n = 4	[R02] Roche Hitachi and Modular D/P
7.98 ± 0.17	13.61 ± 0.23	33.77 ± 0.54	18.81 ± 0.45	9.18 ± 0.17	n = 10	[R01] Roche Integra and MIRA
7.85 ± 0.38	13.70 ± 0.59	33.40 ± 2.21	19.18 ± 0.80	9.27 ± 0.48	n = 8	[R06] Roche ONLINE
6.72 ± 0.57	12.19 ± 0.88	29.77 ± 0.65	17.49 ± 0.86	7.66 ± 0.71	n = 15	[BY1] Siemens ADVIA/ADVIA Centaur
8.36 ± 0.33	13.87 ± 0.73	34.81 ± 2.14	19.75 ± 1.00	9.63 ± 0.27	n = 6	[BY5] Siemens ADVIA/Syva Emit 2000
7.94 ± 0.49	13.57 ± 0.73	33.65 ± 1.59	19.19 ± 0.84	9.27 ± 0.49	n = 60	[DA5] Siemens Dimension
7.95 ± 0.69	13.46 ± 0.38	32.17 ± 2.23	18.54 ± 0.86	9.11 ± 0.63	n = 6	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Tobramycin (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
3.58 ± 0.51 3.7	1.59 ± 0.26 1.6	8.39 ± 1.03 8.7	10.38 ± 1.35 10.7	8.15 ± 1.04 8.1	n = 86	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
4.25 ± 0.16	1.85 ± 0.09	9.20 ± 0.62	11.91 ± 0.92	9.32 ± 0.60	n = 8	[ABB] Abbott AxSym
3.25 ± 0.15	1.51 ± 0.08	8.10 ± 0.24	9.54 ± 0.23	7.78 ± 0.20	n = 8	[OLC] Beckman Coulter AU Chemistry System
4.40 ± 0.08	1.85 ± 0.12	10.25 ± 0.19	12.42 ± 0.49	9.93 ± 0.15	n = 4	[BCG] Beckman Coulter UniCel DxC 600
4.33 ± 0.12	1.88 ± 0.07	10.16 ± 0.16	12.32 ± 0.51	9.79 ± 0.11	n = 6	[BCH] Beckman Coulter UniCel DxC 800
3.43 ± 0.14	1.60 ± 0.09	8.74 ± 0.26	11.36 ± 1.25	8.72 ± 0.77	n = 3	[JJF] Ortho Vitros 5,1FS
3.33 ± 0.05	1.57 ± 0.05	8.59 ± 0.20	10.77 ± 0.77	8.19 ± 0.20	n = 3	[JJG] Ortho Vitros 5600
3.33 ± 0.07	1.60 ± 0.08	8.32 ± 0.25	9.69 ± 0.27	7.87 ± 0.19	n = 7	[ROC] Roche cobas c501
3.39 ± 0.14	1.42 ± 0.08	7.62 ± 0.23	9.81 ± 0.13	7.54 ± 0.24	n = 10	[ROT] Roche Cobas INTEGRA
3.28 ± 0.13	1.72 ± 0.15	8.47 ± 0.42	9.49 ± 0.31	8.01 ± 0.40	n = 4	[ROD] Roche MODULAR D/P
4.16 ± 0.16	1.90 ± 0.09	9.14 ± 0.67	11.97 ± 1.22	8.89 ± 0.83	n = 6	[COB] Siemens ADVIA Centaur
3.24 ± 0.17	1.31 ± 0.13	7.70 ± 0.21	9.94 ± 0.14	7.58 ± 0.08	n = 5	[DUR] Siemens Dimension RxL
3.34 ± 0.16	1.34 ± 0.07	7.52 ± 0.32	9.40 ± 0.42	7.32 ± 0.41	n = 14	[DUT] Siemens Dimension Vista
<Reagents>						
4.25 ± 0.16	1.85 ± 0.09	9.20 ± 0.62	11.91 ± 0.92	9.32 ± 0.60	n = 8	[AB1] Abbott
4.38 ± 0.11	1.87 ± 0.08	10.24 ± 0.21	12.33 ± 0.47	9.84 ± 0.14	n = 12	[BC1] Beckman Coulter
3.17 ± 0.05	1.50 ± 0.00	7.95 ± 0.19	9.56 ± 0.10	7.76 ± 0.26	n = 3	[OL1] Beckman Coulter AU Series
3.36 ± 0.09	1.58 ± 0.07	8.65 ± 0.23	11.03 ± 1.08	8.30 ± 0.00	n = 6	[JJ1] Ortho Clinical Diagnostics
3.33 ± 0.07	1.60 ± 0.08	8.32 ± 0.25	9.69 ± 0.27	7.87 ± 0.19	n = 7	[R04] Roche cobas c311/c501/c502/c701
3.39 ± 0.14	1.42 ± 0.08	7.62 ± 0.23	9.81 ± 0.13	7.54 ± 0.24	n = 10	[R01] Roche Integra and MIRA
3.28 ± 0.13	1.72 ± 0.15	8.47 ± 0.42	9.49 ± 0.31	8.01 ± 0.40	n = 4	[R06] Roche ONLINE
4.16 ± 0.16	1.90 ± 0.09	9.14 ± 0.67	11.97 ± 1.22	8.89 ± 0.83	n = 6	[BY1] Siemens ADVIA/ADVIA Centaur
3.31 ± 0.15	1.34 ± 0.10	7.59 ± 0.31	9.61 ± 0.46	7.42 ± 0.34	n = 20	[DA5] Siemens Dimension
3.34 ± 0.20	1.54 ± 0.11	8.20 ± 0.24	9.56 ± 0.35	7.78 ± 0.17	n = 5	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Valproic Acid (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
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137.36 ± 9.20 137.1	60.47 ± 3.98 58.2	109.75 ± 11.53 109.2	75.06 ± 7.92 74.7	35.35 ± 4.02 34.2	n = 251	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
135.79 ± 1.91	60.64 ± 1.81	104.25 ± 1.82	73.56 ± 1.73	33.58 ± 0.59	n = 3	[ABJ] Abbott Architect c System
154.01 ± 11.01	75.23 ± 5.41	134.39 ± 8.61	96.36 ± 7.03	52.87 ± 4.80	n = 4	[ABH] Abbott Architect i System
134.32 ± 5.87	58.20 ± 1.96	108.67 ± 3.36	73.82 ± 3.20	34.38 ± 1.56	n = 11	[ABB] Abbott AxSym
148.19 ± 4.62	63.14 ± 2.74	117.34 ± 3.43	79.66 ± 3.80	37.29 ± 2.35	n = 23	[OLC] Beckman Coulter AU Chemistry System
132.23 ± 5.61	58.96 ± 2.64	87.36 ± 19.27	62.33 ± 13.90	28.33 ± 7.97	n = 4	[BCS] Beckman Coulter CX
127.28 ± 6.83	56.90 ± 2.06	76.79 ± 6.77	54.65 ± 3.26	24.82 ± 3.02	n = 9	[BCX] Beckman Coulter LX-20
131.00 ± 6.92	54.63 ± 2.80	72.17 ± 8.02	51.65 ± 6.21	22.71 ± 3.88	n = 11	[BCG] Beckman Coulter UniCel DxC 600
130.45 ± 5.33	56.84 ± 2.30	77.32 ± 9.32	55.59 ± 6.57	23.92 ± 4.41	n = 19	[BCH] Beckman Coulter UniCel DxC 800
142.10 ± 7.24	62.40 ± 3.95	117.89 ± 4.88	80.16 ± 4.70	37.69 ± 3.05	n = 13	[JJF] Ortho Vitros 5,1FS
140.23 ± 5.47	61.49 ± 3.98	116.06 ± 5.09	80.12 ± 3.82	37.20 ± 3.46	n = 10	[JJG] Ortho Vitros 5600
144.61 ± 7.30	61.73 ± 2.31	114.16 ± 5.07	77.15 ± 2.59	36.53 ± 1.50	n = 19	[ROC] Roche cobas c501
136.99 ± 1.60	56.98 ± 0.85	106.67 ± 2.45	72.01 ± 1.59	33.14 ± 0.91	n = 12	[ROT] Roche Cobas INTEGRA
137.00 ± 8.04	59.39 ± 2.95	109.23 ± 5.64	73.87 ± 2.88	33.86 ± 1.88	n = 12	[ROD] Roche MODULAR D/P
140.16 ± 7.63	66.01 ± 1.97	116.44 ± 4.40	80.74 ± 2.71	40.14 ± 0.61	n = 4	[BYE] Siemens ADVIA 1800
135.62 ± 8.28	60.28 ± 2.24	106.95 ± 5.85	73.03 ± 3.14	35.40 ± 0.84	n = 19	[COB] Siemens ADVIA Centaur
128.30 ± 3.50	59.88 ± 4.42	104.88 ± 2.96	73.46 ± 1.42	35.20 ± 0.75	n = 5	[DUE] Siemens Dimension EXL
133.19 ± 6.85	60.38 ± 2.56	108.02 ± 5.13	75.01 ± 3.40	35.44 ± 1.34	n = 22	[DUR] Siemens Dimension RxL
136.96 ± 7.01	63.00 ± 3.35	110.98 ± 4.69	77.35 ± 3.35	37.06 ± 1.96	n = 31	[DUT] Siemens Dimension Vista
131.17 ± 6.03	61.39 ± 2.19	108.85 ± 6.56	75.42 ± 3.20	34.82 ± 1.14	n = 8	[DUX] Siemens Dimension Xpand
<Reagents>						
136.60 ± 7.72	58.76 ± 2.29	107.71 ± 3.88	73.79 ± 2.92	34.14 ± 1.39	n = 18	[AB1] Abbott
130.06 ± 6.46	56.54 ± 2.65	76.23 ± 8.95	54.42 ± 6.47	23.95 ± 4.43	n = 45	[BC1] Beckman Coulter
147.03 ± 2.96	63.63 ± 3.55	117.09 ± 2.25	79.47 ± 4.32	37.61 ± 2.31	n = 11	[OL1] Beckman Coulter AU Series
141.60 ± 6.44	62.31 ± 4.17	117.31 ± 5.02	80.28 ± 4.18	37.65 ± 3.30	n = 24	[JJ1] Ortho Clinical Diagnostics
144.10 ± 7.44	61.56 ± 2.39	113.77 ± 5.21	76.95 ± 2.70	36.42 ± 1.54	n = 20	[R04] Roche cobas c311/c501/c502/c701
131.59 ± 10.59	58.06 ± 2.65	107.23 ± 5.54	71.83 ± 2.19	33.16 ± 1.48	n = 4	[R02] Roche Hitachi and Modular D/P
136.99 ± 1.60	56.98 ± 0.85	106.67 ± 2.45	72.01 ± 1.59	33.14 ± 0.91	n = 12	[R01] Roche Integra and MIRA
138.90 ± 6.04	60.16 ± 2.97	110.26 ± 5.49	74.97 ± 2.61	34.28 ± 1.91	n = 8	[R06] Roche ONLINE
136.43 ± 8.13	60.54 ± 2.40	107.83 ± 6.26	73.35 ± 3.17	35.45 ± 0.93	n = 21	[BY1] Siemens ADVIA/ADVIA Centaur
145.40 ± 8.89	65.29 ± 3.16	116.96 ± 4.81	80.82 ± 4.05	39.89 ± 1.87	n = 9	[BY5] Siemens ADVIA/Syva Emit 2000
134.30 ± 7.23	61.65 ± 3.17	109.33 ± 5.41	76.03 ± 3.49	36.02 ± 1.91	n = 65	[DA5] Siemens Dimension
150.57 ± 6.12	62.84 ± 1.72	118.52 ± 2.85	80.36 ± 2.35	37.18 ± 2.30	n = 9	[SY4] Syva Emit 2000

Summary of Participant Performance (Mean and Standard Deviation)

Vancomycin (mg/L)

Specimen: T56	Specimen: T57	Specimen: T58	Specimen: T59	Specimen: T60	Number	[Code] Instrument or Reagent System
7.49 ± 0.86 7.4	5.10 ± 0.69 5.2	30.57 ± 3.60 31.7	41.54 ± 4.68 43.8	10.35 ± 1.10 10.8	n = 216	[---] All Methods & Instruments [---] Weigh-in value
<Instruments>						
7.66 ± 0.47	5.39 ± 0.44	33.72 ± 1.32	46.43 ± 1.06	10.57 ± 0.05	n = 3	[ABJ] Abbott Architect c System
7.57 ± 0.25	5.03 ± 0.20	31.74 ± 1.34	41.54 ± 1.62	10.63 ± 0.49	n = 4	[ABH] Abbott Architect i System
8.08 ± 0.66	5.90 ± 0.52	32.51 ± 1.07	42.57 ± 1.26	11.16 ± 0.71	n = 10	[ABB] Abbott AxSym
6.49 ± 0.22	4.94 ± 0.26	27.62 ± 0.85	39.22 ± 2.05	9.41 ± 0.51	n = 13	[OLC] Beckman Coulter AU Chemistry System
8.48 ± 0.18	6.00 ± 0.73	35.74 ± 2.29	46.50 ± 4.09	11.43 ± 0.29	n = 6	[BCX] Beckman Coulter LX-20
7.92 ± 0.39	5.61 ± 0.61	34.78 ± 1.29	45.14 ± 2.29	10.88 ± 0.36	n = 11	[BCG] Beckman Coulter UniCel DxC 600
8.30 ± 0.59	5.83 ± 0.59	34.51 ± 1.13	46.43 ± 2.43	11.30 ± 0.79	n = 16	[BCH] Beckman Coulter UniCel DxC 800
7.11 ± 0.21	5.20 ± 0.36	29.73 ± 1.25	41.35 ± 1.80	10.35 ± 0.44	n = 11	[JJF] Ortho Vitros 5,1FS
7.44 ± 0.53	5.14 ± 0.26	30.84 ± 1.23	43.36 ± 1.19	10.78 ± 0.57	n = 9	[JJG] Ortho Vitros 5600
7.82 ± 0.48	5.27 ± 0.37	33.06 ± 1.51	46.22 ± 1.93	11.09 ± 0.55	n = 14	[ROC] Roche cobas c501
8.07 ± 0.43	5.42 ± 0.50	33.02 ± 0.69	45.13 ± 1.05	10.75 ± 0.39	n = 13	[ROT] Roche Cobas INTEGRA
8.07 ± 0.89	5.29 ± 0.33	34.12 ± 3.04	46.11 ± 3.99	11.63 ± 1.00	n = 11	[ROD] Roche MODULAR D/P
7.53 ± 0.51	5.25 ± 0.19	28.58 ± 0.32	38.07 ± 0.67	10.25 ± 0.54	n = 3	[BYE] Siemens ADVIA 1800
5.95 ± 0.60	4.00 ± 0.31	23.84 ± 1.35	33.00 ± 1.74	7.87 ± 0.58	n = 19	[COB] Siemens ADVIA Centaur
6.96 ± 0.45	4.60 ± 0.51	28.69 ± 0.85	38.79 ± 1.20	9.59 ± 0.33	n = 5	[DUE] Siemens Dimension EXL
7.17 ± 0.40	4.74 ± 0.36	29.27 ± 0.72	39.58 ± 1.11	9.76 ± 0.51	n = 19	[DUR] Siemens Dimension RxL
7.41 ± 0.53	4.89 ± 0.36	28.44 ± 1.31	38.47 ± 2.04	10.01 ± 0.42	n = 31	[DUT] Siemens Dimension Vista
7.44 ± 0.41	4.81 ± 0.38	29.26 ± 0.96	39.64 ± 0.96	9.98 ± 0.34	n = 8	[DUX] Siemens Dimension Xpand
<Reagents>						
7.84 ± 0.60	5.59 ± 0.59	32.56 ± 1.29	42.79 ± 2.10	10.87 ± 0.61	n = 17	[AB1] Abbott
8.25 ± 0.53	5.85 ± 0.67	34.66 ± 1.46	46.06 ± 2.80	11.10 ± 0.57	n = 35	[BC1] Beckman Coulter
6.49 ± 0.21	4.84 ± 0.35	27.71 ± 0.53	39.99 ± 1.99	9.40 ± 0.36	n = 7	[OL1] Beckman Coulter AU Series
7.27 ± 0.38	5.25 ± 0.40	30.29 ± 1.34	42.22 ± 1.98	10.58 ± 0.57	n = 21	[JJ1] Ortho Clinical Diagnostics
7.80 ± 0.46	5.24 ± 0.35	33.03 ± 1.44	46.20 ± 1.84	11.12 ± 0.52	n = 15	[R04] Roche cobas c311/c501/c502/c701
8.17 ± 0.46	5.22 ± 0.11	33.66 ± 2.64	44.49 ± 2.18	11.36 ± 0.64	n = 5	[R02] Roche Hitachi and Modular D/P
8.07 ± 0.43	5.42 ± 0.50	33.02 ± 0.69	45.13 ± 1.05	10.75 ± 0.39	n = 13	[R01] Roche Integra and MIRA
8.09 ± 1.20	5.51 ± 0.79	34.50 ± 3.30	48.12 ± 4.55	11.91 ± 1.20	n = 6	[R06] Roche ONLINE
5.97 ± 0.56	4.04 ± 0.35	23.68 ± 1.37	32.70 ± 2.00	7.81 ± 0.57	n = 21	[BY1] Siemens ADVIA/ADVIA Centaur
7.38 ± 0.75	5.08 ± 0.62	28.24 ± 1.71	37.48 ± 1.17	10.03 ± 0.84	n = 6	[BY5] Siemens ADVIA/Syva Emit 2000
7.31 ± 0.50	4.83 ± 0.37	28.88 ± 1.14	39.11 ± 1.69	9.91 ± 0.46	n = 62	[DA5] Siemens Dimension
6.49 ± 0.23	5.00 ± 0.19	27.48 ± 1.24	38.33 ± 1.93	9.54 ± 0.77	n = 6	[SY4] Syva Emit 2000