

Clinical Chemistry Proficiency Testing – September 10, 2012

Enclosed are results from the clinical chemistry proficiency survey shipped September 10, 2012. Test samples were prepared in-house by the quantitative transfer of constituents to pooled human serum. The material was subsequently sterile filtered, dispensed into aliquots and stored frozen at -80 °C. Five specimens (**C76, C77, C78, C79, C80**) were distributed to each participant for analysis.

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 method, 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 method, reagent, and/or instrument listing(s) corresponding to the peer group utilized.

Acceptable Range: Represents limits established using criteria specified by CLIA '88 regulations, allowing for rounding to appropriate significant digits. Results falling within this range are scored as 100%. Any result exceeding these limits is considered unsatisfactory and receives a score of 0%. Laboratories must achieve an overall analyte score $\geq 80\%$ in order to meet performance criteria for that analyte.

Range Plots: Plots relative distance of your laboratory's result (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 (*).

Not Gradable: Results for graded analytes for a few laboratories using unique instrument, reagent, or instrument/reagent combinations were considered "not gradable". For these laboratories, pass credit (100%) has been issued. **If a laboratory is unable to participate in the NYS clinical chemistry proficiency test event as a graded participant for any analyte, it is the responsibility of that laboratory to establish alternate means to verify the accuracy and precision of the test system for any non-graded analyte(s).**

Troponin I, Troponin T, and Estimated Glomerular Filtration Rate: These analytes were included in the September 2012 test event for evaluation only. Although results were not graded, targets and acceptable ranges appropriate for your laboratory's methodology are provided.

The attached statistical report provides a summary of participant data for the five survey specimens. 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 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>

Should you have any questions regarding these reports or wish to obtain an additional copy, please contact the Clinical Chemistry Section at (518) 474-5582.

Note: 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

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
144.2 ± 3.67	92.5 ± 3.19	44.9 ± 2.20	113.5 ± 3.43	291.4 ± 6.86	n = 385	[---] All Methods & Instruments
<Instruments>						
146.7 ± 0.51	95.7 ± 0.51	48.7 ± 0.51	116.0 ± 0.90	291.0 ± 0.90	n = 3	[AXA] Abaxis Piccolo
142.3 ± 1.89	91.3 ± 1.31	43.3 ± 0.64	112.6 ± 1.44	294.7 ± 3.18	n = 22	[ABJ] Abbott Architect c System
142.8 ± 3.52	91.0 ± 2.31	44.5 ± 1.33	112.3 ± 2.87	289.1 ± 6.86	n = 57	[OLC] Beckman Coulter AU Chemistry System
144.4 ± 6.47	93.2 ± 5.71	44.3 ± 2.47	113.9 ± 8.55	291.0 ± 20.49	n = 4	[BCS] Beckman Coulter CX
145.8 ± 3.42	93.1 ± 2.35	45.7 ± 1.51	115.9 ± 4.25	293.1 ± 6.20	n = 4	[BCX] Beckman Coulter LX-20
144.3 ± 3.64	91.8 ± 2.65	44.8 ± 1.87	113.4 ± 2.36	290.8 ± 7.72	n = 17	[BCG] Beckman Coulter UniCel DxC 600
143.2 ± 2.01	90.6 ± 1.96	44.0 ± 1.47	113.4 ± 2.01	291.5 ± 5.69	n = 14	[BCH] Beckman Coulter UniCel DxC 800
141.5 ± 6.32	107.0 ± 4.51	63.2 ± 2.36	113.3 ± 4.96	311.4 ± 6.45	n = 3	[HEB] HemoCue B-Glucose
157.5 ± 9.45	125.2 ± 4.16	75.4 ± 3.79	132.9 ± 7.40	319.7 ± 5.24	n = 4	[HEC] HemoCue Glucose 201
144.0 ± 0.00	90.2 ± 0.73	43.5 ± 0.57	109.0 ± 0.55	290.6 ± 3.48	n = 6	[IAA] i-STAT
145.5 ± 3.47	91.9 ± 1.64	43.5 ± 1.81	112.9 ± 2.76	290.1 ± 5.21	n = 11	[JJE] Ortho Vitros 250/350/950
143.3 ± 2.73	90.8 ± 2.02	42.4 ± 1.03	110.8 ± 2.28	289.1 ± 4.36	n = 20	[JFF] Ortho Vitros 5,1FS
142.3 ± 3.00	89.9 ± 2.19	41.9 ± 1.16	110.1 ± 2.18	287.3 ± 6.66	n = 18	[JJG] Ortho Vitros 5600
144.3 ± 3.00	92.0 ± 1.83	44.9 ± 1.17	113.7 ± 2.65	293.5 ± 4.80	n = 17	[ROC] Roche cobas c501
143.3 ± 2.26	91.0 ± 0.90	44.3 ± 0.51	113.0 ± 0.90	292.1 ± 5.72	n = 3	[ROH] Roche cobas c701
142.8 ± 1.14	91.2 ± 1.20	44.7 ± 0.69	112.7 ± 0.94	290.1 ± 3.91	n = 8	[ROS] Roche Cobas INTEGRA 400
141.2 ± 3.10	89.1 ± 1.88	43.3 ± 0.82	110.5 ± 2.30	283.2 ± 6.56	n = 4	[ROT] Roche Cobas INTEGRA 800
144.6 ± 3.93	92.4 ± 2.45	45.0 ± 1.31	114.0 ± 2.98	293.9 ± 6.77	n = 31	[ROD] Roche MODULAR D/P
143.2 ± 2.63	92.4 ± 1.77	44.6 ± 0.97	112.9 ± 2.05	289.7 ± 5.55	n = 22	[BYE] Siemens ADVIA 1800
140.5 ± 1.86	90.7 ± 1.37	43.7 ± 0.51	110.8 ± 1.54	284.1 ± 2.86	n = 3	[BYB] Siemens ADVIA 2400
147.3 ± 1.78	96.4 ± 1.82	47.5 ± 1.13	117.3 ± 1.89	294.9 ± 4.56	n = 14	[DUE] Siemens Dimension EXL
149.1 ± 3.38	98.1 ± 2.46	48.5 ± 1.47	118.4 ± 3.23	296.9 ± 6.86	n = 24	[DUR] Siemens Dimension RxL
144.6 ± 2.77	94.9 ± 2.23	46.3 ± 1.20	114.9 ± 2.85	289.4 ± 5.58	n = 40	[DUT] Siemens Dimension Vista
146.8 ± 3.08	96.4 ± 1.99	47.3 ± 1.22	116.6 ± 2.21	292.3 ± 6.24	n = 21	[DUX] Siemens Dimension Xpand
<Reagents>						
146.7 ± 0.51	95.7 ± 0.51	48.7 ± 0.51	116.0 ± 0.90	291.0 ± 0.90	n = 3	[AX1] Abaxis
142.3 ± 1.89	91.3 ± 1.31	43.3 ± 0.64	112.6 ± 1.44	294.7 ± 3.18	n = 22	[AB1] Abbott
143.8 ± 3.14	91.3 ± 2.39	44.4 ± 1.81	113.3 ± 2.54	290.8 ± 7.16	n = 38	[BC1] Beckman Coulter
142.6 ± 3.31	90.9 ± 2.26	44.4 ± 1.21	112.2 ± 2.75	288.9 ± 6.83	n = 53	[OL1] Beckman Coulter AU Series
144.8 ± 6.95	95.0 ± 6.42	46.3 ± 1.37	116.6 ± 10.30	298.9 ± 18.79	n = 3	[CR1] Carolina
150.2 ± 11.59	117.6 ± 10.71	70.0 ± 7.44	124.3 ± 12.28	315.9 ± 7.17	n = 7	[HE1] HemoCue
144.0 ± 0.00	90.2 ± 0.73	43.5 ± 0.57	109.0 ± 0.55	290.6 ± 3.48	n = 6	[IA1] i-STAT
143.4 ± 3.27	90.8 ± 2.17	42.4 ± 1.25	111.1 ± 2.64	288.9 ± 5.60	n = 50	[JJ1] Ortho Clinical Diagnostics
144.0 ± 2.76	91.7 ± 1.69	44.7 ± 1.09	113.5 ± 2.31	292.9 ± 4.92	n = 22	[R04] Roche cobas c311/c501/c502/c701
144.6 ± 3.93	92.4 ± 2.45	45.0 ± 1.31	114.0 ± 2.98	293.9 ± 6.77	n = 31	[R02] Roche Hitachi and Modular D/P
142.2 ± 2.08	90.6 ± 1.71	44.4 ± 1.01	112.1 ± 1.91	288.1 ± 6.09	n = 12	[R01] Roche Integra and MIRA
143.1 ± 3.10	92.4 ± 2.03	44.6 ± 1.05	112.7 ± 2.31	289.2 ± 6.17	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
146.5 ± 3.45	96.2 ± 2.50	47.1 ± 1.57	116.4 ± 3.03	292.7 ± 6.90	n = 99	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
19.2 ± 1.31	10.9 ± 0.72	26.9 ± 1.45	52.1 ± 2.69	22.3 ± 1.49	n = 368	[---] All Methods & Instruments
<Instruments>						
19.0 ± 0.00	11.3 ± 0.51	25.7 ± 0.51	52.7 ± 1.37	21.7 ± 0.51	n = 3	[AXA] Abaxis Piccolo
19.3 ± 0.51	11.0 ± 0.00	27.1 ± 0.54	52.8 ± 1.10	22.5 ± 0.57	n = 21	[ABJ] Abbott Architect c System
19.5 ± 0.84	11.1 ± 0.43	27.5 ± 0.94	52.4 ± 1.79	22.7 ± 0.80	n = 55	[OLC] Beckman Coulter AU Chemistry System
20.0 ± 0.75	11.2 ± 1.46	27.9 ± 1.13	53.4 ± 3.54	23.1 ± 1.13	n = 4	[BCS] Beckman Coulter CX
18.2 ± 1.27	9.1 ± 1.13	25.0 ± 0.75	48.7 ± 2.43	19.9 ± 1.88	n = 4	[BCX] Beckman Coulter LX-20
19.8 ± 0.88	11.5 ± 0.57	27.6 ± 0.96	52.8 ± 1.58	22.9 ± 1.08	n = 16	[BCG] Beckman Coulter UniCel DxC 600
18.5 ± 1.08	9.9 ± 0.58	25.6 ± 1.02	50.0 ± 0.00	20.7 ± 0.82	n = 15	[BCH] Beckman Coulter UniCel DxC 800
22.0 ± 0.00	11.0 ± 0.00	28.4 ± 0.79	59.0 ± 0.90	26.5 ± 0.57	n = 6	[IAA] i-STAT
16.0 ± 0.60	10.0 ± 0.00	24.0 ± 0.79	47.0 ± 0.95	19.7 ± 0.76	n = 11	[JJE] Ortho Vitros 250/350/950
15.6 ± 0.55	9.8 ± 0.48	23.3 ± 0.52	46.4 ± 0.86	18.8 ± 0.54	n = 20	[JJF] Ortho Vitros 5,1FS
15.6 ± 0.63	9.8 ± 0.46	23.7 ± 0.61	46.2 ± 0.79	18.8 ± 0.65	n = 18	[JJG] Ortho Vitros 5600
19.1 ± 0.61	11.0 ± 0.00	27.1 ± 0.92	52.2 ± 1.49	22.4 ± 0.69	n = 17	[ROC] Roche cobas c501
18.7 ± 0.51	11.0 ± 0.00	27.0 ± 0.90	52.7 ± 0.51	22.7 ± 0.51	n = 3	[ROH] Roche cobas c701
19.3 ± 0.72	11.0 ± 0.00	26.9 ± 0.59	52.9 ± 1.82	22.3 ± 0.72	n = 6	[ROS] Roche Cobas INTEGRA 400
19.0 ± 0.00	10.8 ± 0.41	26.8 ± 0.41	53.0 ± 0.00	22.0 ± 0.00	n = 4	[ROT] Roche Cobas INTEGRA 800
19.6 ± 0.82	11.4 ± 0.63	27.5 ± 0.82	52.8 ± 1.14	23.1 ± 0.86	n = 30	[ROD] Roche MODULAR D/P
19.9 ± 0.59	11.0 ± 0.00	27.5 ± 0.61	53.0 ± 1.13	22.5 ± 0.73	n = 22	[BYE] Siemens ADVIA 1800
20.0 ± 0.00	11.0 ± 0.00	27.3 ± 0.51	53.7 ± 0.51	23.0 ± 0.00	n = 3	[BYB] Siemens ADVIA 2400
19.4 ± 0.73	11.0 ± 0.00	27.0 ± 0.00	52.5 ± 1.13	22.5 ± 0.75	n = 14	[DUE] Siemens Dimension EXL
19.6 ± 0.70	11.0 ± 0.71	27.6 ± 1.14	53.4 ± 1.99	22.7 ± 1.09	n = 24	[DUR] Siemens Dimension RxL
19.0 ± 0.67	11.0 ± 0.00	26.9 ± 0.75	52.4 ± 1.52	22.4 ± 0.79	n = 40	[DUT] Siemens Dimension Vista
19.7 ± 0.94	11.1 ± 0.47	27.7 ± 1.18	53.8 ± 1.62	22.9 ± 1.01	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
19.0 ± 0.00	11.3 ± 0.51	25.7 ± 0.51	52.7 ± 1.37	21.7 ± 0.51	n = 3	[AX1] Abaxis
19.3 ± 0.51	11.0 ± 0.00	27.1 ± 0.54	52.8 ± 1.10	22.5 ± 0.57	n = 21	[AB1] Abbott
19.1 ± 1.13	10.5 ± 1.28	26.5 ± 1.52	50.9 ± 2.47	21.6 ± 1.66	n = 37	[BC1] Beckman Coulter
19.5 ± 0.84	11.1 ± 0.44	27.4 ± 0.95	52.4 ± 1.81	22.7 ± 0.81	n = 54	[OL1] Beckman Coulter AU Series
22.0 ± 0.00	11.0 ± 0.00	28.4 ± 0.79	59.0 ± 0.90	26.5 ± 0.57	n = 6	[IA1] i-STAT
15.7 ± 0.63	10.0 ± 0.00	23.6 ± 0.71	46.5 ± 0.99	19.0 ± 0.75	n = 51	[JJ1] Ortho Clinical Diagnostics
19.1 ± 0.62	11.0 ± 0.00	27.1 ± 0.87	52.2 ± 1.36	22.4 ± 0.67	n = 22	[RO4] Roche cobas c311/c501/c502/c701
19.6 ± 0.82	11.4 ± 0.63	27.5 ± 0.82	52.8 ± 1.14	23.1 ± 0.86	n = 30	[RO2] Roche Hitachi and Modular D/P
19.0 ± 0.00	11.0 ± 0.00	27.0 ± 0.00	52.9 ± 1.21	22.0 ± 0.00	n = 10	[RO1] Roche Integra and MIRA
19.9 ± 0.49	11.0 ± 0.00	27.5 ± 0.61	53.1 ± 1.06	22.5 ± 0.71	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
19.3 ± 0.80	11.0 ± 0.51	27.2 ± 0.95	52.9 ± 1.70	22.6 ± 0.93	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Creatinine (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
2.12 ± 0.13	1.17 ± 0.14	2.41 ± 0.12	5.19 ± 0.24	1.11 ± 0.15	n = 373	[---] All Methods & Instruments
2.12 ± 0.14	1.15 ± 0.14	2.39 ± 0.13	5.19 ± 0.27	1.08 ± 0.14	n = 206	[---] All IDMS Traceable Methods
2.13 ± 0.11	1.20 ± 0.13	2.43 ± 0.11	5.20 ± 0.21	1.16 ± 0.15	n = 164	[---] All Non-IDMS Traceable Methods
2.12 ± 0.09	1.22 ± 0.12	2.43 ± 0.10	5.19 ± 0.16	1.19 ± 0.12	n = 136	[-G-] Alkaline picrate/Jaffe
2.08 ± 0.09	1.18 ± 0.15	2.35 ± 0.09	5.12 ± 0.18	1.12 ± 0.13	n = 139	[-H-] Alkaline picrate/Jaffe-IDMS calibration
2.22 ± 0.24	1.09 ± 0.12	2.48 ± 0.18	5.42 ± 0.41	0.98 ± 0.13	n = 28	[-I-] Enzymatic
2.24 ± 0.21	1.09 ± 0.11	2.49 ± 0.16	5.45 ± 0.36	0.98 ± 0.12	n = 67	[-J-] Enzymatic-IDMS-traceable calibration
<Instruments>						
1.97 ± 0.14	1.08 ± 0.16	2.30 ± 0.09	5.01 ± 0.07	0.88 ± 0.03	n = 3	[AXA] Abaxis Piccolo
2.21 ± 0.05	1.36 ± 0.05	2.36 ± 0.05	5.40 ± 0.09	1.35 ± 0.05	n = 21	[ABJ] Abbott Architect c System
2.08 ± 0.05	1.18 ± 0.05	2.37 ± 0.06	5.08 ± 0.14	1.09 ± 0.03	n = 57	[OLC] Beckman Coulter AU Chemistry System
2.09 ± 0.05	1.15 ± 0.06	2.45 ± 0.06	5.20 ± 0.15	1.20 ± 0.08	n = 4	[BCS] Beckman Coulter CX
2.05 ± 0.06	1.11 ± 0.02	2.40 ± 0.07	5.23 ± 0.09	1.05 ± 0.05	n = 4	[BCX] Beckman Coulter LX-20
2.08 ± 0.07	0.98 ± 0.07	2.34 ± 0.10	5.14 ± 0.18	0.98 ± 0.07	n = 17	[BCG] Beckman Coulter UniCel DxS 600
2.06 ± 0.05	1.10 ± 0.00	2.39 ± 0.05	5.21 ± 0.06	1.06 ± 0.08	n = 15	[BCH] Beckman Coulter UniCel DxS 800
2.40 ± 0.00	1.14 ± 0.06	2.82 ± 0.08	6.00 ± 0.32	1.00 ± 0.00	n = 5	[IAA] i-STAT
2.39 ± 0.06	1.16 ± 0.05	2.58 ± 0.05	5.72 ± 0.10	1.06 ± 0.05	n = 11	[JJE] Ortho Vitros 250/350/950
2.36 ± 0.11	1.12 ± 0.08	2.58 ± 0.12	5.64 ± 0.24	1.02 ± 0.09	n = 20	[JJF] Ortho Vitros 5,1FS
2.34 ± 0.10	1.11 ± 0.10	2.55 ± 0.11	5.58 ± 0.16	1.02 ± 0.11	n = 18	[JJG] Ortho Vitros 5600
2.06 ± 0.08	0.99 ± 0.04	2.40 ± 0.08	5.13 ± 0.15	0.99 ± 0.11	n = 18	[ROC] Roche cobas c501
2.06 ± 0.07	1.15 ± 0.11	2.38 ± 0.08	5.10 ± 0.23	1.10 ± 0.07	n = 3	[ROH] Roche cobas c701
2.02 ± 0.09	1.08 ± 0.07	2.36 ± 0.09	4.93 ± 0.13	1.00 ± 0.00	n = 7	[ROS] Roche Cobas INTEGRA 400
2.01 ± 0.05	1.00 ± 0.08	2.38 ± 0.04	5.15 ± 0.24	0.94 ± 0.12	n = 4	[ROT] Roche Cobas INTEGRA 800
2.13 ± 0.12	1.24 ± 0.20	2.42 ± 0.10	5.19 ± 0.17	1.14 ± 0.19	n = 30	[ROD] Roche MODULAR D/P
2.10 ± 0.08	1.33 ± 0.11	2.27 ± 0.08	5.05 ± 0.11	1.27 ± 0.08	n = 22	[BYE] Siemens ADVIA 1800
2.03 ± 0.09	1.28 ± 0.06	2.15 ± 0.11	4.82 ± 0.23	1.16 ± 0.12	n = 3	[BYB] Siemens ADVIA 2400
2.12 ± 0.06	1.25 ± 0.07	2.46 ± 0.06	5.21 ± 0.13	1.21 ± 0.05	n = 14	[DUE] Siemens Dimension EXL
2.13 ± 0.12	1.21 ± 0.14	2.43 ± 0.13	5.15 ± 0.17	1.19 ± 0.14	n = 24	[DUR] Siemens Dimension RxL
2.09 ± 0.11	1.19 ± 0.11	2.42 ± 0.12	5.19 ± 0.15	1.17 ± 0.11	n = 40	[DUT] Siemens Dimension Vista
2.13 ± 0.11	1.24 ± 0.12	2.46 ± 0.12	5.15 ± 0.14	1.24 ± 0.13	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
1.97 ± 0.14	1.08 ± 0.16	2.30 ± 0.09	5.01 ± 0.07	0.88 ± 0.03	n = 3	[AX1] Abaxis
2.21 ± 0.06	1.36 ± 0.06	2.36 ± 0.05	5.40 ± 0.09	1.35 ± 0.05	n = 22	[AB1] Abbott
2.07 ± 0.06	1.06 ± 0.09	2.38 ± 0.08	5.19 ± 0.12	1.03 ± 0.09	n = 38	[BC1] Beckman Coulter
2.08 ± 0.06	1.18 ± 0.05	2.37 ± 0.06	5.07 ± 0.14	1.09 ± 0.03	n = 54	[OL1] Beckman Coulter AU Series
2.11 ± 0.02	1.17 ± 0.06	2.43 ± 0.05	5.26 ± 0.10	1.20 ± 0.09	n = 3	[CR1] Carolina
2.42 ± 0.04	1.12 ± 0.04	2.85 ± 0.06	6.10 ± 0.18	0.98 ± 0.04	n = 4	[IA1] i-STAT
2.37 ± 0.10	1.13 ± 0.08	2.57 ± 0.11	5.66 ± 0.21	1.03 ± 0.09	n = 51	[JJ1] Ortho Clinical Diagnostics
2.05 ± 0.08	1.03 ± 0.12	2.39 ± 0.08	5.11 ± 0.16	1.01 ± 0.11	n = 24	[RO4] Roche cobas c311/c501/c502/c701
2.13 ± 0.12	1.24 ± 0.20	2.42 ± 0.10	5.19 ± 0.17	1.14 ± 0.19	n = 30	[RO2] Roche Hitachi and Modular D/P
2.01 ± 0.07	1.06 ± 0.08	2.37 ± 0.08	4.99 ± 0.19	1.01 ± 0.10	n = 11	[RO1] Roche Integra and MIRA
2.09 ± 0.07	1.32 ± 0.10	2.26 ± 0.09	5.04 ± 0.11	1.24 ± 0.12	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
2.11 ± 0.11	1.21 ± 0.12	2.44 ± 0.12	5.18 ± 0.15	1.20 ± 0.12	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Estimated Glomerular Filtration Rate (mL/min/1.73 m²)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
27.7 ± 2.60	53.6 ± 7.55	24.0 ± 1.88	9.8 ± 0.69	56.3 ± 8.92	n = 287	[---] All Methods & Instruments
27.1 ± 2.60	53.5 ± 6.91	23.5 ± 1.87	9.6 ± 0.74	56.9 ± 8.22	n = 165	[-A-] IDMS-traceable MDRD Study Equation
27.9 ± 1.90	51.4 ± 5.85	24.4 ± 1.31	10.0 ± 0.00	51.8 ± 4.80	n = 98	[-B-] Original MDRD Study Equation (4-variable)
30.8 ± 2.27	63.1 ± 9.55	26.2 ± 1.54	10.5 ± 0.75	69.2 ± 12.43	n = 20	[-F-] CKD-EPI Equation
27.9 ± 3.72	60.6 ± 6.14	23.3 ± 2.26	9.7 ± 1.37	64.5 ± 6.32	n = 3	[-Z-] Other

Target values and allowable ranges for Estimated Glomerular Filtration Rate (eGFR):

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Method
27 (21-33)	55 (43-66)	24 (18-29)	10 (7-12)	59 (47-71)	IDMS-traceable MDRD Study Equation
29 (22-35)	55 (44-67)	25 (19-30)	10 (8-13)	58 (46-69)	Original MDRD Study Equation
30 (24-36)	63 (50-76)	26 (20-32)	10 (8-13)	68 (54-82)	CKD-EPI Equation
42 (33-51)	76 (61-92)	37 (29-45)	17 (13-21)	80 (64-97)	Cockcroft-Gault Equation

Laboratories were asked to report Estimated Glomerular Filtration Rate (eGFR) for samples C76-C80 for a 32-year-old non-African American woman weighing 70 kg.

Target values for eGFR calculated by the MDRD Study Equations were derived from participant mean values for serum creatinine for both conventional and isotope dilution mass spectroscopy (IDMS) calibration methods and application of the appropriate 4-variable MDRD Study equation.

Target values for eGFR calculated by the CKD-EPI equation were derived from participant mean values for IDMS-traceable serum creatinine methods and application of the CKD-EPI equation.

Target values for eGFR calculated by the Cockcroft-Gault equation were derived from all-method mean values for serum creatinine and application of the Cockcroft-Gault formula.

Allowable ranges are ± 20% of the target eGFR for all samples/equations.

Note: the NKDEP recommends reporting estimated GFR values greater than or equal to 60 mL/min/1.73 m² as "> 60 mL/min/1.73 m²" and not as an exact number. However, ranges exceeding 60 mL/min are provided as a relative indicator of acceptability for laboratories that report numeric results above that threshold. Note that some laboratories reported results > 60 mL/min/1.73 m² for samples C77 and C80. These data were removed from the calculations of mean and standard deviation since their inclusion would have skewed results. Participant results for specimens C77 and C80 reported as > 60 mL/min/1.73 m² were considered acceptable performance.

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
10.88 ± 0.50	3.03 ± 0.21	4.45 ± 0.21	5.98 ± 0.26	7.36 ± 0.35	n = 333	[---] All Methods & Instruments
<Instruments>						
11.46 ± 0.39	2.98 ± 0.06	4.51 ± 0.11	6.15 ± 0.17	7.61 ± 0.22	n = 21	[ABJ] Abbott Architect c System
11.43 ± 0.25	3.36 ± 0.08	4.94 ± 0.11	6.45 ± 0.14	7.96 ± 0.18	n = 54	[OLC] Beckman Coulter AU Chemistry System
10.77 ± 0.25	2.98 ± 0.20	4.48 ± 0.13	5.96 ± 0.43	7.22 ± 0.31	n = 4	[BCS] Beckman Coulter CX
10.58 ± 0.28	2.97 ± 0.08	4.43 ± 0.09	5.83 ± 0.16	7.10 ± 0.18	n = 4	[BCX] Beckman Coulter LX-20
10.67 ± 0.23	2.89 ± 0.04	4.35 ± 0.07	5.82 ± 0.12	7.01 ± 0.14	n = 15	[BCG] Beckman Coulter UniCel DxC 600
10.58 ± 0.13	2.86 ± 0.06	4.33 ± 0.05	5.79 ± 0.06	7.03 ± 0.07	n = 15	[BCH] Beckman Coulter UniCel DxC 800
10.75 ± 0.22	2.83 ± 0.09	4.35 ± 0.12	5.87 ± 0.12	7.21 ± 0.15	n = 8	[JJE] Ortho Vitros 250/350/950
10.72 ± 0.18	2.82 ± 0.07	4.29 ± 0.10	5.80 ± 0.13	7.18 ± 0.12	n = 19	[JJF] Ortho Vitros 5,1FS
10.69 ± 0.29	2.84 ± 0.11	4.32 ± 0.11	5.82 ± 0.14	7.15 ± 0.18	n = 18	[JJG] Ortho Vitros 5600
11.06 ± 0.36	2.97 ± 0.09	4.50 ± 0.14	6.08 ± 0.16	7.48 ± 0.25	n = 17	[ROC] Roche cobas c501
10.89 ± 0.11	2.88 ± 0.04	4.38 ± 0.04	5.90 ± 0.08	7.25 ± 0.12	n = 4	[ROT] Roche Cobas INTEGRA 800
11.01 ± 0.21	2.92 ± 0.07	4.46 ± 0.08	5.99 ± 0.12	7.39 ± 0.13	n = 29	[ROD] Roche MODULAR D/P
11.01 ± 0.11	3.00 ± 0.00	4.50 ± 0.00	6.01 ± 0.08	7.39 ± 0.06	n = 22	[BYE] Siemens ADVIA 1800
11.03 ± 0.05	2.83 ± 0.05	4.37 ± 0.05	6.00 ± 0.09	7.33 ± 0.05	n = 3	[BYB] Siemens ADVIA 2400
10.78 ± 0.23	3.18 ± 0.09	4.50 ± 0.10	6.03 ± 0.14	7.39 ± 0.15	n = 13	[DUE] Siemens Dimension EXL
10.79 ± 0.23	3.20 ± 0.11	4.49 ± 0.11	6.00 ± 0.15	7.45 ± 0.20	n = 22	[DUR] Siemens Dimension RxL
9.94 ± 0.14	3.09 ± 0.08	4.31 ± 0.11	5.73 ± 0.10	7.01 ± 0.12	n = 39	[DUT] Siemens Dimension Vista
10.72 ± 0.18	3.20 ± 0.07	4.48 ± 0.11	6.00 ± 0.11	7.41 ± 0.12	n = 14	[DUX] Siemens Dimension Xpand
<Reagents>						
11.46 ± 0.39	2.98 ± 0.06	4.51 ± 0.11	6.15 ± 0.17	7.61 ± 0.22	n = 21	[AB1] Abbott
10.61 ± 0.18	2.88 ± 0.07	4.35 ± 0.07	5.80 ± 0.10	7.02 ± 0.12	n = 37	[BC1] Beckman Coulter
11.43 ± 0.25	3.36 ± 0.08	4.94 ± 0.11	6.45 ± 0.14	7.97 ± 0.17	n = 53	[OL1] Beckman Coulter AU Series
10.72 ± 0.23	2.83 ± 0.09	4.31 ± 0.11	5.82 ± 0.14	7.17 ± 0.15	n = 45	[JJ1] Ortho Clinical Diagnostics
11.10 ± 0.34	2.96 ± 0.09	4.50 ± 0.13	6.07 ± 0.15	7.47 ± 0.23	n = 21	[RO4] Roche cobas c311/c501/c502/c701
11.01 ± 0.21	2.92 ± 0.07	4.46 ± 0.08	5.99 ± 0.12	7.39 ± 0.13	n = 29	[RO2] Roche Hitachi and Modular D/P
10.90 ± 0.14	2.90 ± 0.00	4.40 ± 0.06	5.94 ± 0.08	7.31 ± 0.12	n = 6	[RO1] Roche Integra and MIRA
11.02 ± 0.10	2.97 ± 0.07	4.46 ± 0.08	6.01 ± 0.09	7.39 ± 0.08	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
10.39 ± 0.49	3.15 ± 0.10	4.41 ± 0.14	5.88 ± 0.19	7.25 ± 0.26	n = 88	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Bilirubin (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
0.78 ± 0.13	4.75 ± 0.28	1.55 ± 0.15	2.26 ± 0.17	0.91 ± 0.14	n = 358	[---] All Methods & Instruments
<Instruments>						
0.83 ± 0.05	5.02 ± 0.15	1.63 ± 0.05	2.34 ± 0.10	0.97 ± 0.05	n = 3	[AXA] Abaxis Piccolo
0.88 ± 0.08	5.16 ± 0.26	1.75 ± 0.14	2.47 ± 0.12	0.98 ± 0.08	n = 21	[ABJ] Abbott Architect c System
0.85 ± 0.07	4.43 ± 0.15	1.59 ± 0.05	2.22 ± 0.06	1.00 ± 0.00	n = 55	[OLC] Beckman Coulter AU Chemistry System
1.08 ± 0.04	5.00 ± 0.43	1.77 ± 0.16	2.59 ± 0.23	1.16 ± 0.18	n = 4	[BCS] Beckman Coulter CX
1.07 ± 0.20	4.99 ± 0.19	1.75 ± 0.23	2.45 ± 0.23	1.07 ± 0.08	n = 4	[BCX] Beckman Coulter LX-20
1.02 ± 0.17	4.90 ± 0.16	1.70 ± 0.14	2.45 ± 0.11	1.06 ± 0.14	n = 16	[BCG] Beckman Coulter UniCel DxC 600
1.06 ± 0.14	4.85 ± 0.17	1.75 ± 0.14	2.46 ± 0.14	1.12 ± 0.14	n = 15	[BCH] Beckman Coulter UniCel DxC 800
0.79 ± 0.08	4.99 ± 0.16	1.65 ± 0.08	2.42 ± 0.09	1.07 ± 0.08	n = 10	[JJE] Ortho Vitros 250/350/950
0.74 ± 0.10	4.84 ± 0.24	1.59 ± 0.09	2.35 ± 0.13	0.99 ± 0.10	n = 20	[JJF] Ortho Vitros 5,1FS
0.71 ± 0.06	4.76 ± 0.15	1.55 ± 0.11	2.30 ± 0.10	0.95 ± 0.10	n = 18	[JJG] Ortho Vitros 5600
0.62 ± 0.08	4.51 ± 0.10	1.30 ± 0.04	2.03 ± 0.08	0.71 ± 0.05	n = 15	[ROC] Roche cobas c501
0.58 ± 0.04	4.40 ± 0.18	1.25 ± 0.06	1.93 ± 0.09	0.62 ± 0.04	n = 4	[ROH] Roche cobas c701
0.60 ± 0.08	4.35 ± 0.15	1.30 ± 0.08	2.03 ± 0.07	0.68 ± 0.05	n = 7	[ROS] Roche Cobas INTEGRA 400
0.60 ± 0.08	4.48 ± 0.15	1.33 ± 0.09	2.02 ± 0.13	0.70 ± 0.08	n = 4	[ROT] Roche Cobas INTEGRA 800
0.68 ± 0.05	4.67 ± 0.14	1.42 ± 0.07	2.13 ± 0.08	0.78 ± 0.06	n = 30	[ROD] Roche MODULAR D/P
0.82 ± 0.08	5.09 ± 0.14	1.60 ± 0.07	2.40 ± 0.09	0.91 ± 0.08	n = 22	[BYE] Siemens ADVIA 1800
0.83 ± 0.05	5.17 ± 0.05	1.60 ± 0.00	2.40 ± 0.00	0.93 ± 0.05	n = 3	[BYB] Siemens ADVIA 2400
0.70 ± 0.00	4.73 ± 0.10	1.50 ± 0.00	2.18 ± 0.07	0.83 ± 0.06	n = 14	[DUE] Siemens Dimension EXL
0.75 ± 0.06	4.85 ± 0.14	1.52 ± 0.07	2.24 ± 0.09	0.87 ± 0.09	n = 24	[DUR] Siemens Dimension RxL
0.80 ± 0.00	4.76 ± 0.09	1.53 ± 0.07	2.22 ± 0.07	0.90 ± 0.00	n = 40	[DUT] Siemens Dimension Vista
0.76 ± 0.08	4.82 ± 0.15	1.52 ± 0.09	2.24 ± 0.11	0.87 ± 0.06	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
0.83 ± 0.05	5.02 ± 0.15	1.63 ± 0.05	2.34 ± 0.10	0.97 ± 0.05	n = 3	[AX1] Abaxis
0.88 ± 0.08	5.16 ± 0.26	1.75 ± 0.14	2.47 ± 0.12	0.98 ± 0.08	n = 21	[AB1] Abbott
1.05 ± 0.16	4.89 ± 0.17	1.73 ± 0.15	2.46 ± 0.13	1.09 ± 0.14	n = 37	[BC1] Beckman Coulter
0.85 ± 0.07	4.43 ± 0.15	1.59 ± 0.04	2.22 ± 0.06	1.00 ± 0.00	n = 54	[OL1] Beckman Coulter AU Series
1.00 ± 0.09	5.18 ± 0.50	1.78 ± 0.15	2.61 ± 0.29	1.01 ± 0.20	n = 3	[CR1] Carolina
0.74 ± 0.09	4.85 ± 0.22	1.59 ± 0.10	2.35 ± 0.13	0.99 ± 0.11	n = 50	[JJ1] Ortho Clinical Diagnostics
0.61 ± 0.07	4.50 ± 0.12	1.30 ± 0.06	2.02 ± 0.09	0.69 ± 0.06	n = 21	[RO4] Roche cobas c311/c501/c502/c701
0.68 ± 0.05	4.67 ± 0.14	1.42 ± 0.07	2.13 ± 0.08	0.78 ± 0.06	n = 30	[RO2] Roche Hitachi and Modular D/P
0.60 ± 0.08	4.40 ± 0.16	1.31 ± 0.09	2.03 ± 0.09	0.68 ± 0.06	n = 11	[RO1] Roche Integra and MIRA
0.83 ± 0.07	5.10 ± 0.14	1.60 ± 0.07	2.41 ± 0.08	0.92 ± 0.08	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
0.76 ± 0.06	4.78 ± 0.12	1.52 ± 0.07	2.22 ± 0.08	0.87 ± 0.06	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
4.33 ± 0.23	2.68 ± 0.21	3.42 ± 0.17	5.25 ± 0.26	3.16 ± 0.20	n = 337	[---] All Methods & Instruments
<Instruments>						
4.27 ± 0.11	2.63 ± 0.10	3.41 ± 0.13	5.19 ± 0.11	3.12 ± 0.12	n = 20	[ABJ] Abbott Architect c System
4.16 ± 0.11	2.59 ± 0.11	3.34 ± 0.09	5.06 ± 0.14	3.06 ± 0.09	n = 52	[OLC] Beckman Coulter AU Chemistry System
4.85 ± 0.42	3.15 ± 0.30	3.78 ± 0.28	5.68 ± 0.54	3.60 ± 0.30	n = 4	[BCS] Beckman Coulter CX
4.50 ± 0.08	2.77 ± 0.09	3.48 ± 0.04	5.57 ± 0.16	3.28 ± 0.13	n = 4	[BCX] Beckman Coulter LX-20
4.36 ± 0.11	2.85 ± 0.17	3.54 ± 0.13	5.32 ± 0.20	3.28 ± 0.12	n = 16	[BCG] Beckman Coulter UniCel DxC 600
4.58 ± 0.11	2.80 ± 0.11	3.51 ± 0.09	5.62 ± 0.12	3.28 ± 0.11	n = 15	[BCH] Beckman Coulter UniCel DxC 800
4.80 ± 0.10	3.13 ± 0.14	3.79 ± 0.13	5.75 ± 0.15	3.66 ± 0.13	n = 9	[JJE] Ortho Vitros 250/350/950
4.86 ± 0.15	3.13 ± 0.14	3.76 ± 0.13	5.70 ± 0.16	3.62 ± 0.12	n = 19	[JFF] Ortho Vitros 5,1FS
4.89 ± 0.13	3.20 ± 0.14	3.83 ± 0.12	5.80 ± 0.15	3.68 ± 0.12	n = 18	[JJG] Ortho Vitros 5600
4.36 ± 0.09	2.69 ± 0.09	3.45 ± 0.07	5.28 ± 0.12	3.20 ± 0.10	n = 18	[ROC] Roche cobas c501
4.23 ± 0.14	2.60 ± 0.09	3.33 ± 0.05	5.16 ± 0.10	3.06 ± 0.10	n = 3	[ROH] Roche cobas c701
4.30 ± 0.06	2.64 ± 0.06	3.40 ± 0.00	5.22 ± 0.08	3.10 ± 0.00	n = 5	[ROS] Roche Cobas INTEGRA 400
4.38 ± 0.04	2.75 ± 0.06	3.45 ± 0.06	5.30 ± 0.08	3.18 ± 0.04	n = 4	[ROT] Roche Cobas INTEGRA 800
4.31 ± 0.14	2.70 ± 0.12	3.44 ± 0.12	5.24 ± 0.14	3.19 ± 0.12	n = 29	[ROD] Roche MODULAR D/P
4.28 ± 0.06	2.69 ± 0.09	3.41 ± 0.06	5.20 ± 0.09	3.16 ± 0.09	n = 22	[BYE] Siemens ADVIA 1800
4.17 ± 0.05	2.60 ± 0.00	3.27 ± 0.05	5.03 ± 0.05	3.03 ± 0.05	n = 3	[BYB] Siemens ADVIA 2400
4.25 ± 0.09	2.55 ± 0.07	3.32 ± 0.07	5.06 ± 0.08	3.04 ± 0.06	n = 13	[DUE] Siemens Dimension EXL
4.27 ± 0.08	2.57 ± 0.08	3.36 ± 0.07	5.14 ± 0.08	3.08 ± 0.10	n = 22	[DUR] Siemens Dimension RxL
4.27 ± 0.17	2.52 ± 0.10	3.30 ± 0.11	5.14 ± 0.16	3.05 ± 0.11	n = 39	[DUT] Siemens Dimension Vista
4.28 ± 0.10	2.57 ± 0.09	3.35 ± 0.09	5.13 ± 0.12	3.06 ± 0.07	n = 17	[DUX] Siemens Dimension Xpand
<Reagents>						
4.27 ± 0.11	2.63 ± 0.10	3.41 ± 0.13	5.19 ± 0.11	3.12 ± 0.12	n = 20	[AB1] Abbott
4.49 ± 0.18	2.83 ± 0.15	3.53 ± 0.12	5.50 ± 0.21	3.29 ± 0.14	n = 37	[BC1] Beckman Coulter
4.17 ± 0.10	2.60 ± 0.10	3.34 ± 0.09	5.07 ± 0.14	3.06 ± 0.09	n = 51	[OL1] Beckman Coulter AU Series
4.86 ± 0.14	3.15 ± 0.14	3.79 ± 0.13	5.75 ± 0.16	3.65 ± 0.13	n = 46	[JJ1] Ortho Clinical Diagnostics
4.35 ± 0.10	2.68 ± 0.09	3.44 ± 0.08	5.26 ± 0.12	3.18 ± 0.11	n = 22	[RO4] Roche cobas c311/c501/c502/c701
4.31 ± 0.14	2.70 ± 0.12	3.44 ± 0.12	5.24 ± 0.14	3.19 ± 0.12	n = 29	[RO2] Roche Hitachi and Modular D/P
4.34 ± 0.07	2.69 ± 0.08	3.40 ± 0.00	5.26 ± 0.09	3.14 ± 0.06	n = 9	[RO1] Roche Integra and MIRA
4.27 ± 0.08	2.67 ± 0.08	3.40 ± 0.07	5.18 ± 0.10	3.14 ± 0.09	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
4.27 ± 0.12	2.55 ± 0.09	3.33 ± 0.09	5.13 ± 0.12	3.06 ± 0.09	n = 91	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
8.90 ± 0.25	14.61 ± 0.41	6.99 ± 0.18	8.39 ± 0.23	11.39 ± 0.30	n = 365	[---] All Methods & Instruments
<Instruments>						
8.57 ± 0.05	14.10 ± 0.36	6.97 ± 0.14	8.52 ± 0.24	11.23 ± 0.05	n = 3	[AXA] Abaxis Piccolo
8.99 ± 0.14	14.78 ± 0.33	6.99 ± 0.10	8.41 ± 0.09	11.43 ± 0.18	n = 21	[ABJ] Abbott Architect c System
9.06 ± 0.16	14.52 ± 0.33	7.01 ± 0.13	8.41 ± 0.16	11.34 ± 0.19	n = 56	[OLC] Beckman Coulter AU Chemistry System
8.95 ± 0.37	14.52 ± 0.79	7.12 ± 0.28	8.51 ± 0.58	11.25 ± 0.56	n = 4	[BCS] Beckman Coulter CX
8.90 ± 0.08	14.30 ± 0.08	6.99 ± 0.11	8.25 ± 0.06	11.15 ± 0.06	n = 4	[BCX] Beckman Coulter LX-20
8.85 ± 0.16	14.20 ± 0.28	6.95 ± 0.12	8.20 ± 0.16	11.11 ± 0.23	n = 17	[BCG] Beckman Coulter UniCel DxC 600
8.89 ± 0.11	14.33 ± 0.17	7.03 ± 0.14	8.34 ± 0.16	11.21 ± 0.18	n = 15	[BCH] Beckman Coulter UniCel DxC 800
8.90 ± 0.12	14.81 ± 0.41	6.92 ± 0.15	8.57 ± 0.19	11.73 ± 0.19	n = 11	[JJE] Ortho Vitros 250/350/950
8.84 ± 0.18	14.51 ± 0.44	6.86 ± 0.13	8.53 ± 0.19	11.57 ± 0.26	n = 20	[JJF] Ortho Vitros 5,1FS
8.82 ± 0.18	14.48 ± 0.41	6.95 ± 0.17	8.58 ± 0.22	11.63 ± 0.26	n = 18	[JJG] Ortho Vitros 5600
9.01 ± 0.29	15.33 ± 0.46	6.99 ± 0.23	8.43 ± 0.25	11.68 ± 0.34	n = 18	[ROC] Roche cobas c501
9.00 ± 0.18	15.00 ± 0.18	6.97 ± 0.14	8.47 ± 0.14	11.77 ± 0.23	n = 3	[ROH] Roche cobas c701
8.84 ± 0.15	15.22 ± 0.31	6.76 ± 0.16	8.16 ± 0.13	11.67 ± 0.21	n = 7	[ROS] Roche Cobas INTEGRA 400
8.90 ± 0.23	15.12 ± 0.34	6.86 ± 0.23	8.20 ± 0.23	11.54 ± 0.30	n = 4	[ROT] Roche Cobas INTEGRA 800
9.09 ± 0.22	14.79 ± 0.39	7.13 ± 0.19	8.53 ± 0.20	11.52 ± 0.25	n = 30	[ROD] Roche MODULAR D/P
9.15 ± 0.19	14.58 ± 0.34	7.07 ± 0.16	8.52 ± 0.19	11.42 ± 0.20	n = 22	[BYE] Siemens ADVIA 1800
8.88 ± 0.32	14.21 ± 0.20	6.90 ± 0.27	8.39 ± 0.29	11.03 ± 0.34	n = 3	[BYB] Siemens ADVIA 2400
8.67 ± 0.25	14.61 ± 0.29	6.96 ± 0.24	8.23 ± 0.23	11.33 ± 0.22	n = 14	[DUE] Siemens Dimension EXL
8.75 ± 0.17	14.72 ± 0.25	7.04 ± 0.15	8.33 ± 0.14	11.32 ± 0.21	n = 24	[DUR] Siemens Dimension RxL
8.67 ± 0.19	14.56 ± 0.27	6.93 ± 0.20	8.25 ± 0.21	11.19 ± 0.30	n = 40	[DUT] Siemens Dimension Vista
8.68 ± 0.20	14.65 ± 0.28	6.98 ± 0.18	8.21 ± 0.20	11.32 ± 0.23	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
8.57 ± 0.05	14.10 ± 0.36	6.97 ± 0.14	8.52 ± 0.24	11.23 ± 0.05	n = 3	[AX1] Abaxis
8.99 ± 0.14	14.78 ± 0.33	6.99 ± 0.10	8.41 ± 0.09	11.43 ± 0.18	n = 21	[AB1] Abbott
8.87 ± 0.13	14.25 ± 0.24	6.98 ± 0.14	8.25 ± 0.18	11.14 ± 0.21	n = 38	[BC1] Beckman Coulter
9.06 ± 0.16	14.53 ± 0.33	7.01 ± 0.13	8.40 ± 0.16	11.34 ± 0.19	n = 55	[OL1] Beckman Coulter AU Series
8.86 ± 0.17	14.56 ± 0.44	6.91 ± 0.17	8.56 ± 0.20	11.64 ± 0.26	n = 50	[JJ1] Ortho Clinical Diagnostics
9.02 ± 0.23	15.28 ± 0.40	6.98 ± 0.17	8.46 ± 0.22	11.70 ± 0.26	n = 21	[RO4] Roche cobas c311/c501/c502/c701
9.09 ± 0.23	14.81 ± 0.37	7.13 ± 0.19	8.53 ± 0.21	11.53 ± 0.25	n = 29	[RO2] Roche Hitachi and Modular D/P
8.86 ± 0.17	15.19 ± 0.32	6.79 ± 0.18	8.17 ± 0.17	11.63 ± 0.25	n = 11	[RO1] Roche Integra and MIRA
8.93 ± 0.32	13.97 ± 0.34	6.97 ± 0.14	8.47 ± 0.32	11.03 ± 0.31	n = 3	[GZ1] Sekisui Diagnostics (Genzyme)
9.15 ± 0.23	14.54 ± 0.36	7.08 ± 0.19	8.52 ± 0.21	11.42 ± 0.25	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
8.69 ± 0.20	14.63 ± 0.28	6.97 ± 0.19	8.26 ± 0.21	11.27 ± 0.27	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
1.64 ± 0.10	3.42 ± 0.14	2.39 ± 0.10	1.00 ± 0.09	4.68 ± 0.19	n = 332	[---] All Methods & Instruments
<Instruments>						
1.70 ± 0.07	3.23 ± 0.10	2.28 ± 0.05	0.93 ± 0.09	4.38 ± 0.17	n = 20	[ABJ] Abbott Architect c System
1.65 ± 0.06	3.33 ± 0.09	2.35 ± 0.08	1.00 ± 0.00	4.56 ± 0.13	n = 53	[OLC] Beckman Coulter AU Chemistry System
1.82 ± 0.04	3.40 ± 0.18	2.40 ± 0.18	1.10 ± 0.08	4.65 ± 0.34	n = 4	[BCS] Beckman Coulter CX
1.80 ± 0.08	3.55 ± 0.12	2.50 ± 0.08	1.12 ± 0.04	4.87 ± 0.09	n = 4	[BCX] Beckman Coulter LX-20
1.76 ± 0.06	3.50 ± 0.08	2.47 ± 0.07	1.07 ± 0.05	4.77 ± 0.11	n = 17	[BCG] Beckman Coulter UniCel DxC 600
1.73 ± 0.06	3.50 ± 0.08	2.45 ± 0.07	1.09 ± 0.04	4.75 ± 0.08	n = 15	[BCH] Beckman Coulter UniCel DxC 800
1.60 ± 0.00	3.53 ± 0.05	2.47 ± 0.05	1.00 ± 0.00	4.79 ± 0.14	n = 6	[JJE] Ortho Vitros 250/350/950
1.56 ± 0.06	3.48 ± 0.07	2.42 ± 0.06	0.96 ± 0.07	4.70 ± 0.11	n = 20	[JJF] Ortho Vitros 5,1FS
1.58 ± 0.06	3.45 ± 0.08	2.43 ± 0.08	0.94 ± 0.06	4.72 ± 0.09	n = 17	[JJG] Ortho Vitros 5600
1.67 ± 0.06	3.31 ± 0.07	2.39 ± 0.06	1.08 ± 0.04	4.53 ± 0.09	n = 16	[ROC] Roche cobas c501
1.63 ± 0.05	3.40 ± 0.09	2.33 ± 0.05	0.97 ± 0.05	4.43 ± 0.05	n = 3	[ROH] Roche cobas c701
1.68 ± 0.04	3.38 ± 0.04	2.38 ± 0.04	1.05 ± 0.06	4.52 ± 0.04	n = 4	[ROT] Roche Cobas INTEGRA 800
1.64 ± 0.06	3.41 ± 0.05	2.39 ± 0.06	1.00 ± 0.00	4.59 ± 0.11	n = 28	[ROD] Roche MODULAR D/P
1.74 ± 0.07	3.65 ± 0.13	2.46 ± 0.10	1.15 ± 0.08	4.74 ± 0.15	n = 21	[BYE] Siemens ADVIA 1800
1.73 ± 0.14	3.74 ± 0.10	2.43 ± 0.14	1.10 ± 0.09	4.76 ± 0.10	n = 3	[BYB] Siemens ADVIA 2400
1.54 ± 0.08	3.35 ± 0.08	2.33 ± 0.06	0.93 ± 0.06	4.72 ± 0.08	n = 12	[DUE] Siemens Dimension EXL
1.57 ± 0.05	3.39 ± 0.12	2.35 ± 0.07	0.91 ± 0.06	4.75 ± 0.09	n = 23	[DUR] Siemens Dimension RxL
1.60 ± 0.09	3.54 ± 0.11	2.48 ± 0.11	0.99 ± 0.09	4.92 ± 0.12	n = 40	[DUT] Siemens Dimension Vista
1.57 ± 0.08	3.36 ± 0.12	2.34 ± 0.09	0.90 ± 0.00	4.68 ± 0.09	n = 19	[DUX] Siemens Dimension Xpand
<Reagents>						
1.70 ± 0.07	3.23 ± 0.10	2.28 ± 0.05	0.93 ± 0.09	4.38 ± 0.17	n = 20	[AB1] Abbott
1.76 ± 0.06	3.50 ± 0.09	2.47 ± 0.07	1.09 ± 0.05	4.78 ± 0.11	n = 37	[BC1] Beckman Coulter
1.65 ± 0.07	3.34 ± 0.09	2.35 ± 0.08	1.00 ± 0.00	4.57 ± 0.13	n = 53	[OL1] Beckman Coulter AU Series
1.57 ± 0.06	3.48 ± 0.08	2.43 ± 0.07	0.96 ± 0.06	4.72 ± 0.11	n = 43	[JJ1] Ortho Clinical Diagnostics
1.66 ± 0.06	3.32 ± 0.08	2.38 ± 0.06	1.07 ± 0.06	4.51 ± 0.09	n = 19	[RO4] Roche cobas c311/c501/c502/c701
1.64 ± 0.06	3.41 ± 0.05	2.39 ± 0.06	1.00 ± 0.00	4.60 ± 0.11	n = 27	[RO2] Roche Hitachi and Modular D/P
1.66 ± 0.06	3.38 ± 0.05	2.38 ± 0.05	1.06 ± 0.06	4.52 ± 0.07	n = 7	[RO1] Roche Integra and MIRA
1.74 ± 0.09	3.65 ± 0.13	2.47 ± 0.11	1.15 ± 0.08	4.75 ± 0.14	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
1.58 ± 0.08	3.44 ± 0.14	2.39 ± 0.11	0.94 ± 0.08	4.81 ± 0.16	n = 93	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Iron (µg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
116.1 ± 5.60	101.6 ± 4.16	69.2 ± 2.89	84.9 ± 4.56	100.9 ± 4.99	n = 269	[---] All Methods & Instruments
<Instruments>						
110.5 ± 13.24	97.9 ± 4.54	67.9 ± 2.86	81.3 ± 7.98	98.8 ± 9.67	n = 15	[ABJ] Abbott Architect c System
119.7 ± 3.13	103.5 ± 3.10	70.9 ± 2.29	86.6 ± 2.54	101.9 ± 2.75	n = 46	[OLC] Beckman Coulter AU Chemistry System
101.2 ± 10.49	103.7 ± 8.57	70.3 ± 5.97	80.2 ± 6.79	96.4 ± 10.90	n = 3	[BCS] Beckman Coulter CX
110.1 ± 5.61	104.4 ± 3.91	69.8 ± 3.10	81.8 ± 4.08	99.1 ± 5.61	n = 4	[BCX] Beckman Coulter LX-20
110.6 ± 3.36	103.7 ± 1.79	70.1 ± 2.56	82.6 ± 2.20	99.1 ± 3.71	n = 11	[BCG] Beckman Coulter UniCel DxC 600
109.4 ± 3.08	103.1 ± 2.15	69.9 ± 1.19	81.6 ± 2.34	98.4 ± 2.07	n = 13	[BCH] Beckman Coulter UniCel DxC 800
141.5 ± 1.86	102.3 ± 5.86	62.8 ± 5.00	96.4 ± 2.56	109.0 ± 1.80	n = 3	[JJE] Ortho Vitros 250/350/950
140.2 ± 6.25	107.0 ± 7.00	65.9 ± 4.75	97.8 ± 5.81	112.5 ± 5.80	n = 18	[JFF] Ortho Vitros 5,1FS
140.0 ± 5.08	104.3 ± 4.71	63.6 ± 4.12	96.0 ± 4.59	112.1 ± 4.71	n = 18	[JJG] Ortho Vitros 5600
119.5 ± 4.76	103.5 ± 3.53	71.0 ± 2.49	86.6 ± 2.29	102.1 ± 2.54	n = 10	[ROC] Roche cobas c501
117.0 ± 0.00	102.7 ± 0.51	74.3 ± 6.85	85.7 ± 1.37	104.7 ± 4.06	n = 3	[ROS] Roche Cobas INTEGRA 400
117.8 ± 3.23	103.7 ± 3.16	72.3 ± 1.37	87.6 ± 1.02	103.3 ± 2.26	n = 3	[ROT] Roche Cobas INTEGRA 800
116.6 ± 2.36	101.6 ± 2.06	70.0 ± 1.43	84.9 ± 1.97	100.7 ± 2.20	n = 27	[ROD] Roche MODULAR D/P
117.7 ± 2.44	100.2 ± 2.43	70.0 ± 1.87	84.5 ± 2.16	100.9 ± 2.15	n = 21	[BYE] Siemens ADVIA 1800
117.3 ± 3.37	98.8 ± 2.36	68.8 ± 1.54	83.8 ± 1.54	99.1 ± 2.05	n = 3	[BYB] Siemens ADVIA 2400
113.8 ± 2.28	99.0 ± 2.16	69.2 ± 1.49	83.0 ± 1.66	97.9 ± 2.34	n = 8	[DUE] Siemens Dimension EXL
113.1 ± 2.22	98.5 ± 1.70	68.3 ± 1.23	82.0 ± 1.90	97.1 ± 1.80	n = 14	[DUR] Siemens Dimension RxL
113.9 ± 2.50	99.2 ± 2.49	68.7 ± 1.88	82.4 ± 2.05	97.7 ± 2.35	n = 36	[DUT] Siemens Dimension Vista
114.0 ± 3.16	98.8 ± 2.80	68.2 ± 1.27	82.0 ± 2.45	97.2 ± 2.58	n = 4	[DUX] Siemens Dimension Xpand
<Reagents>						
116.2 ± 2.74	100.1 ± 3.11	69.0 ± 1.05	84.8 ± 2.03	103.2 ± 3.04	n = 10	[AB3] Abbott-Iron/6K95
87.0 ± 0.76	93.1 ± 2.60	64.7 ± 1.38	67.7 ± 0.83	82.5 ± 0.57	n = 5	[AB2] Abbott-Iron/7D68
109.8 ± 3.72	103.6 ± 2.46	69.9 ± 2.02	82.1 ± 2.34	98.7 ± 3.11	n = 29	[BC1] Beckman Coulter
120.3 ± 2.49	104.2 ± 2.77	71.3 ± 2.29	87.1 ± 2.18	102.5 ± 2.40	n = 37	[OL1] Beckman Coulter AU Series
140.2 ± 5.42	105.2 ± 6.12	64.5 ± 4.65	96.8 ± 5.08	112.0 ± 5.16	n = 39	[JJ1] Ortho Clinical Diagnostics
118.6 ± 4.25	103.2 ± 3.37	70.6 ± 2.16	86.4 ± 2.12	102.1 ± 2.32	n = 14	[RO4] Roche cobas c311/c501/c502/c701
116.6 ± 2.36	101.6 ± 2.06	70.0 ± 1.43	84.9 ± 1.97	100.7 ± 2.20	n = 27	[RO2] Roche Hitachi and Modular D/P
117.0 ± 0.00	103.0 ± 2.11	72.4 ± 3.73	86.7 ± 1.48	103.9 ± 3.28	n = 6	[RO1] Roche Integra and MIRA
115.5 ± 3.10	100.3 ± 2.75	69.6 ± 1.68	83.8 ± 2.19	99.0 ± 2.14	n = 8	[GZ1] Sekisui Diagnostics (Genzyme)
117.5 ± 2.37	100.0 ± 2.49	69.9 ± 1.66	84.4 ± 1.92	100.7 ± 2.06	n = 25	[BY1] Siemens ADVIA/ADVIA Centaur
113.7 ± 2.48	99.0 ± 2.31	68.6 ± 1.62	82.4 ± 2.01	97.6 ± 2.22	n = 62	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
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146.8 ± 2.50	148.5 ± 2.31	128.8 ± 1.75	155.6 ± 2.15	153.9 ± 2.54	n = 371	[---] All Methods & Instruments
<Instruments>						
145.2 ± 2.36	145.5 ± 1.86	124.7 ± 3.37	155.6 ± 1.02	151.5 ± 3.63	n = 3	[AXA] Abaxis Piccolo
147.2 ± 0.75	148.4 ± 0.86	128.0 ± 0.72	156.1 ± 1.50	154.3 ± 0.99	n = 21	[ABJ] Abbott Architect c System
145.8 ± 1.38	147.4 ± 1.15	128.3 ± 1.20	155.1 ± 1.06	152.4 ± 1.26	n = 56	[OLC] Beckman Coulter AU Chemistry System
145.9 ± 3.97	148.4 ± 6.10	127.6 ± 3.91	156.9 ± 8.25	154.1 ± 6.05	n = 4	[BCS] Beckman Coulter CX
146.7 ± 0.90	148.7 ± 0.90	129.9 ± 1.13	155.7 ± 1.58	153.4 ± 1.80	n = 4	[BCX] Beckman Coulter LX-20
146.9 ± 1.91	147.9 ± 1.81	128.2 ± 1.03	155.8 ± 2.26	153.5 ± 2.30	n = 17	[BCG] Beckman Coulter UniCel DxC 600
146.0 ± 1.07	147.4 ± 1.09	128.3 ± 1.09	155.1 ± 1.22	153.3 ± 1.15	n = 15	[BCH] Beckman Coulter UniCel DxC 800
143.6 ± 0.96	145.0 ± 0.47	126.0 ± 0.82	150.0 ± 0.00	152.2 ± 0.66	n = 7	[IAA] i-STAT
152.2 ± 1.57	152.7 ± 1.74	128.9 ± 1.62	158.5 ± 1.93	161.0 ± 2.43	n = 11	[JJE] Ortho Vitros 250/350/950
152.0 ± 1.57	152.7 ± 1.29	128.8 ± 1.14	158.2 ± 1.57	160.4 ± 1.66	n = 20	[JJF] Ortho Vitros 5,1FS
152.4 ± 1.88	153.1 ± 2.16	129.2 ± 1.94	158.9 ± 1.94	161.2 ± 2.44	n = 18	[JJG] Ortho Vitros 5600
146.1 ± 1.60	148.3 ± 1.09	127.8 ± 1.28	156.1 ± 1.53	153.4 ± 1.81	n = 17	[ROC] Roche cobas c501
147.2 ± 2.36	148.9 ± 2.05	128.5 ± 1.86	156.6 ± 2.56	153.2 ± 2.36	n = 3	[ROH] Roche cobas c701
146.5 ± 1.02	146.7 ± 0.97	127.5 ± 1.02	154.8 ± 0.91	152.6 ± 0.94	n = 6	[ROS] Roche Cobas INTEGRA 400
146.0 ± 1.50	145.3 ± 0.82	127.0 ± 0.75	153.5 ± 1.71	152.3 ± 0.90	n = 4	[ROT] Roche Cobas INTEGRA 800
147.8 ± 1.39	149.3 ± 1.44	128.9 ± 1.51	156.6 ± 1.16	154.2 ± 1.65	n = 29	[ROD] Roche MODULAR D/P
148.3 ± 0.74	149.7 ± 1.04	130.4 ± 0.67	157.2 ± 1.01	154.6 ± 0.81	n = 22	[BYE] Siemens ADVIA 1800
148.0 ± 0.00	149.0 ± 0.00	129.7 ± 0.51	156.7 ± 0.51	154.7 ± 0.51	n = 3	[BYB] Siemens ADVIA 2400
145.6 ± 1.01	148.0 ± 0.44	129.4 ± 1.60	154.8 ± 1.31	153.5 ± 1.88	n = 15	[DUE] Siemens Dimension EXL
145.0 ± 1.65	146.7 ± 1.81	128.6 ± 1.54	153.7 ± 2.07	152.4 ± 1.82	n = 23	[DUR] Siemens Dimension RxL
145.6 ± 1.85	149.1 ± 1.62	130.7 ± 1.21	154.5 ± 1.62	154.8 ± 1.52	n = 40	[DUT] Siemens Dimension Vista
146.1 ± 1.17	148.2 ± 1.41	129.6 ± 1.32	155.1 ± 1.07	153.9 ± 1.36	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
145.2 ± 2.36	145.5 ± 1.86	124.7 ± 3.37	155.6 ± 1.02	151.5 ± 3.63	n = 3	[AX1] Abaxis
147.2 ± 0.76	148.4 ± 0.97	127.9 ± 0.79	156.0 ± 1.74	154.0 ± 1.32	n = 22	[AB1] Abbott
146.3 ± 1.56	147.6 ± 1.49	128.4 ± 1.49	155.2 ± 1.89	153.3 ± 1.76	n = 38	[BC1] Beckman Coulter
145.7 ± 1.32	147.4 ± 1.16	128.2 ± 1.17	155.0 ± 1.06	152.4 ± 1.27	n = 55	[OL1] Beckman Coulter AU Series
143.8 ± 1.00	145.0 ± 0.55	126.2 ± 0.73	150.0 ± 0.00	152.2 ± 0.73	n = 6	[IA1] i-STAT
146.0 ± 0.90	149.8 ± 1.54	127.0 ± 0.90	153.6 ± 1.02	156.8 ± 1.54	n = 3	[IL1] Instrumentation Lab
152.2 ± 1.69	152.9 ± 1.77	128.9 ± 1.57	158.5 ± 1.79	160.9 ± 2.19	n = 50	[JJ1] Ortho Clinical Diagnostics
146.3 ± 1.70	148.4 ± 1.23	128.0 ± 1.35	156.1 ± 1.63	153.5 ± 1.82	n = 22	[RO4] Roche cobas c311/c501/c502/c701
147.8 ± 1.39	149.3 ± 1.44	128.9 ± 1.51	156.6 ± 1.16	154.2 ± 1.65	n = 29	[RO2] Roche Hitachi and Modular D/P
146.3 ± 1.22	146.2 ± 1.19	127.3 ± 0.94	154.5 ± 1.42	152.5 ± 0.89	n = 10	[RO1] Roche Integra and MIRA
148.2 ± 0.72	149.5 ± 1.02	130.3 ± 0.69	157.1 ± 0.98	154.6 ± 0.76	n = 26	[BY1] Siemens ADVIA/ADVIA Centaur
145.6 ± 1.63	148.2 ± 1.84	129.9 ± 1.69	154.5 ± 1.67	153.9 ± 1.95	n = 97	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
4.15 ± 0.11	3.64 ± 0.09	2.81 ± 0.08	5.69 ± 0.11	4.94 ± 0.10	n = 371	[---] All Methods & Instruments
<Instruments>						
4.33 ± 0.05	4.00 ± 0.09	2.97 ± 0.05	5.99 ± 0.20	5.35 ± 0.27	n = 3	[AXA] Abaxis Piccolo
4.13 ± 0.08	3.63 ± 0.07	2.80 ± 0.00	5.64 ± 0.09	4.90 ± 0.09	n = 21	[ABJ] Abbott Architect c System
4.16 ± 0.06	3.68 ± 0.05	2.83 ± 0.05	5.70 ± 0.04	4.92 ± 0.06	n = 56	[OLC] Beckman Coulter AU Chemistry System
4.10 ± 0.17	3.64 ± 0.19	2.77 ± 0.09	5.76 ± 0.32	4.99 ± 0.23	n = 4	[BCS] Beckman Coulter CX
4.15 ± 0.06	3.65 ± 0.06	2.80 ± 0.00	5.77 ± 0.09	4.97 ± 0.09	n = 4	[BCX] Beckman Coulter LX-20
4.16 ± 0.09	3.64 ± 0.06	2.76 ± 0.06	5.73 ± 0.10	4.96 ± 0.10	n = 17	[BCG] Beckman Coulter UniCel DxC 600
4.12 ± 0.04	3.63 ± 0.06	2.75 ± 0.06	5.73 ± 0.06	4.99 ± 0.04	n = 15	[BCH] Beckman Coulter UniCel DxC 800
4.10 ± 0.00	3.52 ± 0.05	2.70 ± 0.00	5.54 ± 0.06	4.88 ± 0.05	n = 7	[IAA] i-STAT
4.37 ± 0.08	3.80 ± 0.06	2.88 ± 0.06	5.87 ± 0.08	5.19 ± 0.10	n = 11	[JJE] Ortho Vitros 250/350/950
4.34 ± 0.07	3.80 ± 0.08	2.85 ± 0.06	5.84 ± 0.09	5.13 ± 0.09	n = 20	[JJF] Ortho Vitros 5,1FS
4.35 ± 0.10	3.79 ± 0.07	2.89 ± 0.07	5.83 ± 0.09	5.14 ± 0.07	n = 18	[JJG] Ortho Vitros 5600
4.06 ± 0.10	3.54 ± 0.09	2.71 ± 0.10	5.62 ± 0.10	4.86 ± 0.10	n = 17	[ROC] Roche cobas c501
4.10 ± 0.09	3.57 ± 0.05	2.74 ± 0.10	5.67 ± 0.05	4.87 ± 0.05	n = 3	[ROH] Roche cobas c701
4.21 ± 0.06	3.65 ± 0.06	2.80 ± 0.00	5.70 ± 0.06	4.93 ± 0.05	n = 6	[ROS] Roche Cobas INTEGRA 400
4.20 ± 0.08	3.62 ± 0.04	2.80 ± 0.00	5.70 ± 0.00	4.95 ± 0.06	n = 4	[ROT] Roche Cobas INTEGRA 800
4.10 ± 0.08	3.59 ± 0.06	2.77 ± 0.11	5.66 ± 0.08	4.87 ± 0.09	n = 29	[ROD] Roche MODULAR D/P
4.20 ± 0.00	3.72 ± 0.04	2.90 ± 0.00	5.78 ± 0.05	5.00 ± 0.00	n = 22	[BYE] Siemens ADVIA 1800
4.20 ± 0.00	3.73 ± 0.05	2.90 ± 0.00	5.77 ± 0.05	5.00 ± 0.00	n = 3	[BYB] Siemens ADVIA 2400
4.10 ± 0.00	3.60 ± 0.00	2.77 ± 0.06	5.70 ± 0.00	4.94 ± 0.06	n = 14	[DUE] Siemens Dimension EXL
4.10 ± 0.05	3.60 ± 0.00	2.76 ± 0.06	5.64 ± 0.07	4.91 ± 0.06	n = 24	[DUR] Siemens Dimension RxL
4.07 ± 0.05	3.60 ± 0.00	2.80 ± 0.00	5.57 ± 0.07	4.90 ± 0.06	n = 40	[DUT] Siemens Dimension Vista
4.10 ± 0.00	3.60 ± 0.00	2.75 ± 0.06	5.70 ± 0.05	4.94 ± 0.06	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
4.33 ± 0.05	4.00 ± 0.09	2.97 ± 0.05	5.99 ± 0.20	5.35 ± 0.27	n = 3	[AX1] Abaxis
4.13 ± 0.08	3.62 ± 0.08	2.80 ± 0.04	5.63 ± 0.09	4.90 ± 0.08	n = 22	[AB1] Abbott
4.14 ± 0.07	3.63 ± 0.06	2.76 ± 0.06	5.73 ± 0.09	4.97 ± 0.08	n = 38	[BC1] Beckman Coulter
4.16 ± 0.06	3.68 ± 0.05	2.83 ± 0.05	5.70 ± 0.04	4.92 ± 0.06	n = 55	[OL1] Beckman Coulter AU Series
4.10 ± 0.00	3.53 ± 0.05	2.70 ± 0.00	5.53 ± 0.05	4.87 ± 0.05	n = 6	[IA1] i-STAT
4.10 ± 0.00	3.50 ± 0.00	2.67 ± 0.05	5.60 ± 0.00	4.90 ± 0.00	n = 3	[IL1] Instrumentation Lab
4.35 ± 0.08	3.80 ± 0.07	2.87 ± 0.07	5.85 ± 0.09	5.15 ± 0.09	n = 50	[JJ1] Ortho Clinical Diagnostics
4.07 ± 0.09	3.55 ± 0.08	2.71 ± 0.09	5.62 ± 0.08	4.86 ± 0.09	n = 22	[RO4] Roche cobas c311/c501/c502/c701
4.10 ± 0.08	3.59 ± 0.06	2.77 ± 0.11	5.66 ± 0.08	4.87 ± 0.09	n = 29	[RO2] Roche Hitachi and Modular D/P
4.20 ± 0.07	3.64 ± 0.06	2.80 ± 0.00	5.70 ± 0.00	4.94 ± 0.06	n = 10	[RO1] Roche Integra and MIRA
4.20 ± 0.00	3.72 ± 0.04	2.90 ± 0.00	5.77 ± 0.05	5.00 ± 0.00	n = 26	[BY1] Siemens ADVIA/ADVIA Centaur
4.09 ± 0.05	3.60 ± 0.00	2.78 ± 0.05	5.64 ± 0.09	4.91 ± 0.06	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
105.2 ± 2.67	112.1 ± 1.95	94.0 ± 2.08	112.6 ± 2.32	122.9 ± 2.67	n = 366	[---] All Methods & Instruments
<Instruments>						
107.3 ± 0.51	111.5 ± 1.86	93.3 ± 1.37	109.5 ± 1.86	120.6 ± 1.02	n = 3	[AXA] Abaxis Piccolo
106.2 ± 0.78	112.6 ± 0.82	94.8 ± 0.61	112.2 ± 0.78	124.2 ± 0.96	n = 20	[ABJ] Abbott Architect c System
103.4 ± 0.97	111.1 ± 1.03	93.5 ± 1.04	110.9 ± 1.14	121.9 ± 1.30	n = 55	[OLC] Beckman Coulter AU Chemistry System
109.3 ± 3.89	116.3 ± 5.74	99.2 ± 7.38	115.9 ± 6.49	126.4 ± 6.21	n = 4	[BCS] Beckman Coulter CX
107.6 ± 1.80	114.0 ± 1.65	96.4 ± 2.31	114.0 ± 1.65	125.9 ± 2.35	n = 4	[BCX] Beckman Coulter LX-20
106.9 ± 1.90	113.7 ± 1.16	95.6 ± 1.27	113.5 ± 1.31	124.8 ± 2.09	n = 17	[BCG] Beckman Coulter UniCel DxC 600
106.8 ± 0.85	113.9 ± 0.93	96.2 ± 0.76	113.8 ± 0.99	125.7 ± 0.95	n = 15	[BCH] Beckman Coulter UniCel DxC 800
113.8 ± 0.73	119.2 ± 0.73	96.9 ± 1.13	118.5 ± 0.57	131.0 ± 1.37	n = 6	[IAA] i-STAT
107.9 ± 1.49	113.9 ± 1.63	95.5 ± 1.81	115.3 ± 1.41	126.2 ± 1.85	n = 11	[JJE] Ortho Vitros 250/350/950
107.7 ± 1.57	113.6 ± 1.38	95.4 ± 1.29	114.5 ± 1.61	125.5 ± 1.55	n = 20	[JJF] Ortho Vitros 5,1FS
107.6 ± 1.88	113.6 ± 1.72	95.5 ± 1.77	114.7 ± 2.12	125.4 ± 2.15	n = 18	[JJG] Ortho Vitros 5600
99.5 ± 1.41	108.9 ± 1.31	89.5 ± 1.19	108.8 ± 1.15	120.1 ± 1.57	n = 17	[ROC] Roche cobas c501
100.3 ± 1.37	109.7 ± 0.51	89.7 ± 0.51	109.0 ± 0.90	119.7 ± 0.51	n = 3	[ROH] Roche cobas c701
105.5 ± 1.02	112.6 ± 0.79	94.2 ± 0.73	113.1 ± 1.13	123.5 ± 1.02	n = 6	[ROS] Roche Cobas INTEGRA 400
106.0 ± 1.14	111.7 ± 0.90	94.5 ± 1.22	112.5 ± 1.22	123.0 ± 0.75	n = 4	[ROT] Roche Cobas INTEGRA 800
102.2 ± 1.03	111.2 ± 0.94	91.6 ± 0.81	110.7 ± 0.89	122.2 ± 1.37	n = 29	[ROD] Roche MODULAR D/P
105.4 ± 1.08	112.5 ± 0.95	93.4 ± 1.18	111.2 ± 1.69	122.4 ± 2.13	n = 22	[BYE] Siemens ADVIA 1800
105.3 ± 0.51	112.0 ± 0.90	92.5 ± 1.86	110.5 ± 1.86	121.2 ± 2.36	n = 3	[BYB] Siemens ADVIA 2400
105.1 ± 0.93	111.1 ± 0.52	94.1 ± 0.90	113.4 ± 1.10	120.7 ± 1.22	n = 14	[DUE] Siemens Dimension EXL
104.3 ± 1.73	111.0 ± 1.50	92.9 ± 1.49	113.3 ± 1.73	121.0 ± 1.84	n = 24	[DUR] Siemens Dimension RxL
106.5 ± 1.33	113.4 ± 1.47	94.7 ± 1.21	113.8 ± 1.18	123.9 ± 1.73	n = 40	[DUT] Siemens Dimension Vista
104.7 ± 1.13	110.7 ± 1.31	93.6 ± 1.27	113.0 ± 0.94	120.0 ± 1.32	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
107.3 ± 0.51	111.5 ± 1.86	93.3 ± 1.37	109.5 ± 1.86	120.6 ± 1.02	n = 3	[AX1] Abaxis
106.1 ± 0.86	112.5 ± 0.88	94.8 ± 0.65	112.2 ± 0.90	124.1 ± 1.07	n = 21	[AB1] Abbott
106.9 ± 1.53	113.8 ± 1.19	96.0 ± 1.29	113.6 ± 1.22	125.3 ± 1.78	n = 38	[BC1] Beckman Coulter
103.4 ± 0.94	111.1 ± 1.00	93.4 ± 1.00	110.9 ± 1.14	121.8 ± 1.30	n = 54	[OL1] Beckman Coulter AU Series
113.8 ± 0.73	119.2 ± 0.73	96.9 ± 1.13	118.5 ± 0.57	131.0 ± 1.37	n = 6	[IA1] i-STAT
107.7 ± 1.75	113.7 ± 1.64	95.5 ± 1.58	114.8 ± 1.87	125.6 ± 1.97	n = 50	[JJ1] Ortho Clinical Diagnostics
99.6 ± 1.38	109.1 ± 1.21	89.5 ± 1.04	108.8 ± 1.11	120.1 ± 1.53	n = 21	[RO4] Roche cobas c311/c501/c502/c701
102.2 ± 1.03	111.2 ± 0.94	91.6 ± 0.81	110.7 ± 0.89	122.2 ± 1.37	n = 29	[RO2] Roche Hitachi and Modular D/P
105.7 ± 1.15	112.1 ± 1.11	94.2 ± 1.08	112.7 ± 1.41	123.1 ± 1.18	n = 11	[RO1] Roche Integra and MIRA
105.3 ± 1.04	112.3 ± 1.10	93.1 ± 1.42	111.1 ± 1.72	122.2 ± 2.18	n = 26	[BY1] Siemens ADVIA/ADVIA Centaur
105.4 ± 1.66	111.9 ± 1.84	94.0 ± 1.48	113.5 ± 1.31	121.9 ± 2.46	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Albumin (g/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
4.88 ± 0.17	4.03 ± 0.21	2.77 ± 0.21	3.41 ± 0.20	4.00 ± 0.22	n = 356	[---] All Methods & Instruments
<Instruments>						
4.67 ± 0.05	4.37 ± 0.05	3.13 ± 0.05	3.64 ± 0.10	4.37 ± 0.05	n = 3	[AXA] Abaxis Piccolo
4.66 ± 0.15	3.80 ± 0.15	2.64 ± 0.09	3.25 ± 0.16	3.79 ± 0.15	n = 21	[ABJ] Abbott Architect c System
4.88 ± 0.11	4.07 ± 0.08	2.87 ± 0.08	3.48 ± 0.06	4.07 ± 0.09	n = 56	[OLC] Beckman Coulter AU Chemistry System
4.73 ± 0.16	3.75 ± 0.23	2.60 ± 0.08	3.15 ± 0.17	3.73 ± 0.20	n = 4	[BCS] Beckman Coulter CX
4.73 ± 0.09	3.67 ± 0.08	2.55 ± 0.06	3.08 ± 0.04	3.63 ± 0.09	n = 4	[BCX] Beckman Coulter LX-20
4.72 ± 0.14	3.62 ± 0.08	2.52 ± 0.07	3.06 ± 0.08	3.61 ± 0.09	n = 16	[BCG] Beckman Coulter UniCel DxC 600
4.80 ± 0.07	3.70 ± 0.00	2.60 ± 0.00	3.14 ± 0.06	3.71 ± 0.05	n = 15	[BCH] Beckman Coulter UniCel DxC 800
4.80 ± 0.15	3.82 ± 0.09	2.44 ± 0.11	3.43 ± 0.11	3.79 ± 0.13	n = 10	[JJE] Ortho Vitros 250/350/950
4.80 ± 0.17	3.86 ± 0.15	2.41 ± 0.10	3.36 ± 0.13	3.78 ± 0.13	n = 19	[JJF] Ortho Vitros 5,1FS
4.75 ± 0.10	3.84 ± 0.08	2.42 ± 0.04	3.35 ± 0.09	3.76 ± 0.09	n = 18	[JJG] Ortho Vitros 5600
5.03 ± 0.12	4.28 ± 0.14	3.03 ± 0.10	3.73 ± 0.10	4.26 ± 0.17	n = 16	[ROC] Roche cobas c501
4.97 ± 0.14	4.17 ± 0.05	2.93 ± 0.05	3.63 ± 0.05	4.23 ± 0.05	n = 3	[ROH] Roche cobas c701
4.90 ± 0.00	4.20 ± 0.00	2.92 ± 0.07	3.60 ± 0.00	4.20 ± 0.09	n = 6	[ROS] Roche Cobas INTEGRA 400
4.83 ± 0.09	4.07 ± 0.09	2.87 ± 0.09	3.55 ± 0.06	4.07 ± 0.09	n = 4	[ROT] Roche Cobas INTEGRA 800
4.98 ± 0.13	4.22 ± 0.14	2.95 ± 0.12	3.69 ± 0.13	4.21 ± 0.11	n = 30	[ROD] Roche MODULAR D/P
4.80 ± 0.08	4.20 ± 0.05	2.94 ± 0.06	3.59 ± 0.04	4.20 ± 0.05	n = 22	[BYE] Siemens ADVIA 1800
4.70 ± 0.09	4.17 ± 0.05	2.90 ± 0.09	3.53 ± 0.05	4.13 ± 0.05	n = 3	[BYB] Siemens ADVIA 2400
4.97 ± 0.06	4.03 ± 0.06	2.74 ± 0.06	3.29 ± 0.06	3.99 ± 0.05	n = 14	[DUE] Siemens Dimension EXL
5.01 ± 0.14	4.07 ± 0.11	2.77 ± 0.09	3.32 ± 0.10	4.03 ± 0.09	n = 24	[DUR] Siemens Dimension RxL
5.03 ± 0.10	4.07 ± 0.11	2.81 ± 0.07	3.37 ± 0.09	4.05 ± 0.09	n = 40	[DUT] Siemens Dimension Vista
4.97 ± 0.08	4.05 ± 0.08	2.76 ± 0.06	3.32 ± 0.06	4.00 ± 0.08	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
4.67 ± 0.05	4.37 ± 0.05	3.13 ± 0.05	3.64 ± 0.10	4.37 ± 0.05	n = 3	[AX1] Abaxis
4.66 ± 0.15	3.80 ± 0.15	2.64 ± 0.09	3.25 ± 0.16	3.79 ± 0.15	n = 21	[AB1] Abbott
4.74 ± 0.12	3.66 ± 0.08	2.55 ± 0.07	3.09 ± 0.08	3.64 ± 0.09	n = 36	[BC1] Beckman Coulter
4.89 ± 0.10	4.07 ± 0.08	2.87 ± 0.07	3.48 ± 0.06	4.07 ± 0.09	n = 55	[OL1] Beckman Coulter AU Series
4.77 ± 0.14	3.84 ± 0.12	2.42 ± 0.08	3.36 ± 0.12	3.77 ± 0.12	n = 48	[JJ1] Ortho Clinical Diagnostics
5.02 ± 0.13	4.26 ± 0.13	3.01 ± 0.10	3.70 ± 0.09	4.25 ± 0.15	n = 21	[RO4] Roche cobas c311/c501/c502/c701
4.97 ± 0.13	4.23 ± 0.13	2.95 ± 0.12	3.70 ± 0.11	4.21 ± 0.10	n = 29	[RO2] Roche Hitachi and Modular D/P
4.88 ± 0.05	4.15 ± 0.08	2.90 ± 0.08	3.59 ± 0.05	4.15 ± 0.11	n = 10	[RO1] Roche Integra and MIRA
4.80 ± 0.08	4.20 ± 0.06	2.94 ± 0.06	3.59 ± 0.06	4.20 ± 0.06	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
5.00 ± 0.11	4.06 ± 0.09	2.78 ± 0.08	3.33 ± 0.08	4.02 ± 0.09	n = 98	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (g/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
7.43 ± 0.22	7.00 ± 0.20	4.86 ± 0.15	6.10 ± 0.18	7.08 ± 0.22	n = 357	[---] All Methods & Instruments
<Instruments>						
7.42 ± 0.15	7.13 ± 0.05	4.87 ± 0.05	6.27 ± 0.05	7.23 ± 0.05	n = 3	[AXA] Abaxis Piccolo
7.45 ± 0.09	6.99 ± 0.07	4.76 ± 0.08	6.07 ± 0.08	7.09 ± 0.07	n = 21	[ABJ] Abbott Architect c System
7.28 ± 0.15	6.82 ± 0.14	4.76 ± 0.11	5.98 ± 0.12	6.93 ± 0.14	n = 56	[OLC] Beckman Coulter AU Chemistry System
7.32 ± 0.04	7.05 ± 0.12	4.82 ± 0.04	6.08 ± 0.20	7.07 ± 0.09	n = 4	[BCS] Beckman Coulter CX
7.16 ± 0.17	6.70 ± 0.09	4.68 ± 0.08	5.78 ± 0.08	6.79 ± 0.14	n = 5	[BCX] Beckman Coulter LX-20
7.33 ± 0.17	6.99 ± 0.17	4.83 ± 0.10	5.98 ± 0.16	7.02 ± 0.14	n = 15	[BCG] Beckman Coulter UniCel DxC 600
7.09 ± 0.16	6.84 ± 0.13	4.69 ± 0.10	5.85 ± 0.12	6.81 ± 0.15	n = 15	[BCH] Beckman Coulter UniCel DxC 800
7.52 ± 0.12	7.05 ± 0.12	4.85 ± 0.12	6.13 ± 0.12	6.96 ± 0.09	n = 10	[JJE] Ortho Vitros 250/350/950
7.44 ± 0.17	6.93 ± 0.12	4.73 ± 0.11	5.98 ± 0.13	6.87 ± 0.13	n = 20	[JJF] Ortho Vitros 5,1FS
7.52 ± 0.16	7.07 ± 0.11	4.85 ± 0.09	6.09 ± 0.15	6.96 ± 0.17	n = 18	[JJG] Ortho Vitros 5600
7.25 ± 0.16	6.86 ± 0.12	4.81 ± 0.10	6.00 ± 0.13	6.99 ± 0.12	n = 16	[ROC] Roche cobas c501
7.17 ± 0.05	6.74 ± 0.10	4.80 ± 0.09	5.97 ± 0.05	6.87 ± 0.05	n = 3	[ROH] Roche cobas c701
7.29 ± 0.11	6.81 ± 0.11	4.76 ± 0.08	6.00 ± 0.09	6.97 ± 0.12	n = 6	[ROS] Roche Cobas INTEGRA 400
7.13 ± 0.15	6.73 ± 0.15	4.82 ± 0.15	5.92 ± 0.15	6.90 ± 0.08	n = 4	[ROT] Roche Cobas INTEGRA 800
7.35 ± 0.12	6.91 ± 0.13	4.85 ± 0.11	6.07 ± 0.09	7.03 ± 0.12	n = 30	[ROD] Roche MODULAR D/P
7.45 ± 0.10	7.14 ± 0.10	4.94 ± 0.08	6.17 ± 0.07	7.15 ± 0.09	n = 22	[BYE] Siemens ADVIA 1800
7.43 ± 0.14	7.13 ± 0.14	4.94 ± 0.10	6.17 ± 0.14	7.13 ± 0.14	n = 3	[BYB] Siemens ADVIA 2400
7.66 ± 0.09	7.17 ± 0.08	5.02 ± 0.07	6.27 ± 0.08	7.34 ± 0.11	n = 14	[DUE] Siemens Dimension EXL
7.68 ± 0.16	7.21 ± 0.15	5.02 ± 0.11	6.31 ± 0.14	7.35 ± 0.12	n = 24	[DUR] Siemens Dimension RxL
7.64 ± 0.10	7.16 ± 0.08	5.00 ± 0.08	6.26 ± 0.07	7.31 ± 0.08	n = 40	[DUT] Siemens Dimension Vista
7.64 ± 0.13	7.16 ± 0.11	5.00 ± 0.09	6.28 ± 0.11	7.33 ± 0.13	n = 20	[DUX] Siemens Dimension Xpand
<Reagents>						
7.42 ± 0.15	7.13 ± 0.05	4.87 ± 0.05	6.27 ± 0.05	7.23 ± 0.05	n = 3	[AX1] Abaxis
7.45 ± 0.09	6.99 ± 0.07	4.76 ± 0.08	6.07 ± 0.08	7.09 ± 0.07	n = 21	[AB1] Abbott
7.21 ± 0.19	6.88 ± 0.18	4.76 ± 0.13	5.89 ± 0.15	6.91 ± 0.19	n = 37	[BC1] Beckman Coulter
7.28 ± 0.16	6.82 ± 0.14	4.76 ± 0.12	5.98 ± 0.12	6.94 ± 0.14	n = 55	[OL1] Beckman Coulter AU Series
7.49 ± 0.16	7.01 ± 0.14	4.81 ± 0.12	6.05 ± 0.15	6.92 ± 0.15	n = 48	[JJ1] Ortho Clinical Diagnostics
7.23 ± 0.14	6.86 ± 0.12	4.81 ± 0.09	6.00 ± 0.10	6.96 ± 0.12	n = 20	[RO4] Roche cobas c311/c501/c502/c701
7.35 ± 0.12	6.91 ± 0.13	4.85 ± 0.11	6.07 ± 0.09	7.03 ± 0.12	n = 30	[RO2] Roche Hitachi and Modular D/P
7.23 ± 0.16	6.78 ± 0.14	4.78 ± 0.11	5.97 ± 0.12	6.94 ± 0.11	n = 10	[RO1] Roche Integra and MIRA
7.46 ± 0.10	7.14 ± 0.10	4.94 ± 0.08	6.18 ± 0.09	7.15 ± 0.09	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
7.65 ± 0.12	7.17 ± 0.10	5.01 ± 0.09	6.27 ± 0.10	7.32 ± 0.11	n = 97	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Cholesterol (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
269.6 ± 8.63	149.1 ± 8.79	110.0 ± 5.32	244.9 ± 7.82	204.3 ± 8.49	n = 327	[---] All Methods & Instruments
<Instruments>						
273.3 ± 1.37	160.2 ± 1.54	113.6 ± 1.02	252.5 ± 1.86	208.0 ± 1.80	n = 3	[AXA] Abaxis Piccolo
275.6 ± 2.39	151.2 ± 1.68	115.0 ± 1.08	249.6 ± 2.39	210.3 ± 1.83	n = 17	[ABJ] Abbott Architect c System
267.5 ± 7.07	144.5 ± 3.90	108.1 ± 2.66	241.3 ± 5.75	202.0 ± 5.43	n = 60	[OLC] Beckman Coulter AU Chemistry System
264.6 ± 5.76	147.9 ± 1.13	108.2 ± 6.92	241.6 ± 13.35	198.6 ± 7.62	n = 5	[BCS] Beckman Coulter CX
271.5 ± 3.77	150.7 ± 4.21	108.6 ± 3.39	244.6 ± 5.64	198.8 ± 5.30	n = 4	[BCX] Beckman Coulter LX-20
266.3 ± 7.70	149.1 ± 3.73	107.4 ± 3.50	240.1 ± 6.06	197.8 ± 5.00	n = 14	[BCG] Beckman Coulter UniCel DxC 600
265.2 ± 4.17	147.1 ± 2.55	107.3 ± 1.62	240.4 ± 5.35	196.2 ± 3.65	n = 14	[BCH] Beckman Coulter UniCel DxC 800
281.8 ± 10.39	164.1 ± 3.52	114.3 ± 4.26	250.3 ± 8.12	218.4 ± 6.45	n = 4	[JJE] Ortho Vitros 250/350/950
285.1 ± 7.78	167.6 ± 4.18	115.8 ± 2.14	252.7 ± 5.53	218.8 ± 5.72	n = 18	[JJF] Ortho Vitros 5,1FS
290.1 ± 4.59	170.6 ± 2.42	116.0 ± 2.26	256.3 ± 4.25	219.9 ± 5.62	n = 18	[JJG] Ortho Vitros 5600
274.9 ± 5.73	153.7 ± 4.58	115.6 ± 4.30	249.3 ± 5.61	210.3 ± 5.34	n = 14	[ROC] Roche cobas c501
268.5 ± 5.43	147.0 ± 2.70	111.7 ± 2.26	243.7 ± 3.16	203.5 ± 2.74	n = 3	[ROH] Roche cobas c701
274.0 ± 1.37	150.0 ± 1.60	112.4 ± 1.02	247.1 ± 3.13	207.9 ± 2.60	n = 6	[ROS] Roche Cobas INTEGRA 400
271.8 ± 3.10	150.5 ± 2.98	112.8 ± 1.96	247.8 ± 2.92	205.4 ± 1.80	n = 4	[ROT] Roche Cobas INTEGRA 800
272.6 ± 6.18	151.8 ± 3.13	113.5 ± 2.50	249.7 ± 5.16	208.6 ± 4.88	n = 31	[ROD] Roche MODULAR D/P
265.8 ± 5.42	156.6 ± 3.45	112.8 ± 2.34	244.1 ± 4.98	202.7 ± 3.85	n = 22	[BYE] Siemens ADVIA 1800
263.9 ± 5.22	156.8 ± 2.36	112.3 ± 3.16	242.1 ± 5.63	203.3 ± 9.73	n = 3	[BYB] Siemens ADVIA 2400
263.5 ± 4.86	137.9 ± 3.48	102.2 ± 2.71	237.6 ± 5.57	196.5 ± 4.91	n = 13	[DUE] Siemens Dimension EXL
266.0 ± 4.04	140.5 ± 1.92	103.8 ± 2.13	240.5 ± 5.29	199.4 ± 4.88	n = 17	[DUR] Siemens Dimension RxL
264.7 ± 5.19	144.4 ± 3.25	106.0 ± 2.46	239.4 ± 5.16	200.9 ± 5.07	n = 35	[DUT] Siemens Dimension Vista
267.5 ± 4.21	141.0 ± 3.33	104.5 ± 2.17	243.9 ± 3.97	199.9 ± 3.09	n = 14	[DUX] Siemens Dimension Xpand
<Reagents>						
273.3 ± 1.37	160.2 ± 1.54	113.6 ± 1.02	252.5 ± 1.86	208.0 ± 1.80	n = 3	[AX1] Abaxis
275.6 ± 2.39	151.2 ± 1.68	115.0 ± 1.08	249.6 ± 2.39	210.3 ± 1.83	n = 17	[AB1] Abbott
266.0 ± 6.18	148.2 ± 3.44	107.5 ± 3.01	240.5 ± 6.71	197.2 ± 5.06	n = 36	[BC1] Beckman Coulter
267.8 ± 6.90	144.5 ± 3.79	108.2 ± 2.62	241.5 ± 5.64	202.3 ± 5.21	n = 57	[OL1] Beckman Coulter AU Series
287.3 ± 7.35	168.6 ± 4.17	115.9 ± 2.34	254.4 ± 5.57	219.3 ± 5.74	n = 40	[JJ1] Ortho Clinical Diagnostics
274.2 ± 6.11	152.8 ± 5.08	115.0 ± 4.19	248.6 ± 5.72	209.2 ± 5.63	n = 18	[RO4] Roche cobas c311/c501/c502/c701
272.5 ± 6.34	151.9 ± 3.20	113.5 ± 2.63	249.8 ± 5.46	208.8 ± 4.94	n = 31	[RO2] Roche Hitachi and Modular D/P
273.6 ± 1.34	150.2 ± 2.23	112.4 ± 1.27	247.4 ± 3.07	206.8 ± 2.50	n = 10	[RO1] Roche Integra and MIRA
265.5 ± 6.04	156.7 ± 3.63	112.7 ± 2.64	244.2 ± 5.45	202.7 ± 4.69	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
265.4 ± 4.90	141.9 ± 3.84	104.6 ± 2.68	240.3 ± 5.53	199.6 ± 4.68	n = 79	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

HDL-Cholesterol (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
78.1 ± 8.15	35.8 ± 3.52	26.0 ± 3.15	92.8 ± 6.94	45.8 ± 5.22	n = 312	[---] All Methods & Instruments
82.4 ± 8.79	35.9 ± 4.54	25.0 ± 2.69	95.1 ± 7.74	47.7 ± 6.31	n = 19	[---] All Precipitation Methods
77.8 ± 7.98	35.8 ± 3.43	26.1 ± 3.16	92.6 ± 6.90	45.7 ± 5.09	n = 293	[---] All Homogeneous (Direct) Methods
80.6 ± 4.04	35.9 ± 1.41	25.2 ± 1.28	91.5 ± 4.08	44.3 ± 2.50	n = 16	[AB1] Abbott
61.7 ± 0.51	21.7 ± 1.37	15.3 ± 0.51	74.8 ± 3.23	31.7 ± 2.26	n = 3	[AX1] Abaxis
90.6 ± 4.61	37.0 ± 1.84	24.8 ± 1.45	101.4 ± 4.57	49.6 ± 2.35	n = 32	[BC1] Beckman Coulter
81.4 ± 2.85	34.7 ± 1.26	23.9 ± 0.96	91.1 ± 3.05	43.0 ± 1.57	n = 38	[OL1] Beckman Coulter AU Series
84.7 ± 1.51	36.5 ± 1.22	25.8 ± 0.41	95.9 ± 2.72	45.8 ± 0.41	n = 4	[GZ1] Sekisui Diagnostics (Genzyme)
90.0 ± 3.61	40.0 ± 1.44	25.6 ± 0.96	100.1 ± 5.75	53.6 ± 1.98	n = 31	[JJ1] Ortho Clinical Diagnostics
72.5 ± 2.19	34.5 ± 1.44	27.1 ± 1.26	90.4 ± 2.94	44.0 ± 1.47	n = 15	[RO4] Roche cobas c311/c501/c502/c701
75.6 ± 2.98	38.1 ± 2.31	30.1 ± 1.86	94.7 ± 3.38	48.3 ± 2.54	n = 27	[RO2] Roche Hitachi and Modular D/P
75.7 ± 2.17	36.4 ± 2.18	28.9 ± 1.98	94.2 ± 3.01	45.8 ± 2.33	n = 10	[RO1] Roche Integra and MIRA
70.5 ± 2.11	26.0 ± 0.94	17.3 ± 0.62	77.8 ± 2.41	34.0 ± 1.15	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
73.4 ± 2.50	35.1 ± 1.61	27.5 ± 1.32	91.5 ± 3.55	45.4 ± 2.21	n = 72	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

LDL-Cholesterol (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
155.4 ± 15.70	93.6 ± 11.00	66.4 ± 9.26	123.2 ± 13.45	129.1 ± 14.05	n = 299	[---] All Methods & Instruments
161.9 ± 8.89	97.2 ± 9.67	70.7 ± 6.47	127.0 ± 9.31	136.2 ± 8.30	n = 151	[-A-] All Calculated Results Friedewald formula [LDL=TC-HDL-(Trigs+5)]
145.7 ± 18.23	89.2 ± 11.19	61.1 ± 9.22	117.5 ± 15.95	119.7 ± 14.65	n = 147	[---] All Homogeneous (Direct) Methods
138.2 ± 1.90	91.0 ± 1.90	63.0 ± 0.00	113.8 ± 1.55	120.3 ± 1.62	n = 6	[AB1] Abbott
133.4 ± 3.65	86.1 ± 3.63	58.8 ± 2.33	109.3 ± 4.15	113.5 ± 3.82	n = 14	[BC1] Beckman Coulter
123.2 ± 5.53	76.7 ± 3.03	52.0 ± 2.84	98.0 ± 4.92	102.2 ± 5.09	n = 21	[OL1] Beckman Coulter AU Series
163.3 ± 7.62	96.1 ± 4.67	59.9 ± 2.96	135.5 ± 4.88	131.7 ± 6.04	n = 16	[JJ1] Ortho Clinical Diagnostics
172.6 ± 5.90	107.9 ± 3.58	76.9 ± 1.87	142.0 ± 3.51	139.9 ± 3.49	n = 5	[RO4] Roche cobas c311/c501/c502/c701
170.2 ± 5.11	101.6 ± 3.24	72.6 ± 2.16	137.8 ± 3.58	134.9 ± 3.52	n = 12	[RO2] Roche Hitachi and Modular D/P
148.6 ± 4.66	59.3 ± 6.84	45.4 ± 2.31	105.3 ± 3.17	93.2 ± 8.97	n = 4	[RO1] Roche Integra and MIRA
121.5 ± 8.52	75.6 ± 7.02	51.3 ± 4.90	96.4 ± 7.79	99.5 ± 8.76	n = 12	[GZ1] Sekisui Diagnostics (Genzyme)
144.0 ± 4.85	85.6 ± 2.42	56.5 ± 1.73	118.3 ± 3.66	115.9 ± 3.29	n = 14	[BY1] Siemens ADVIA/ADVIA Centaur
151.8 ± 9.20	94.3 ± 6.43	68.1 ± 4.61	121.4 ± 7.22	126.1 ± 7.09	n = 36	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Triglycerides (mg/dL)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
153.2 ± 6.59	93.0 ± 5.86	72.1 ± 4.37	127.5 ± 5.77	118.9 ± 6.15	n = 320	[---] All Methods & Instruments
<Instruments>						
175.7 ± 1.37	106.0 ± 0.90	81.3 ± 0.51	151.0 ± 1.80	138.7 ± 0.51	n = 3	[AXA] Abaxis Piccolo
150.9 ± 2.03	97.0 ± 2.48	73.1 ± 0.97	125.4 ± 2.80	116.0 ± 1.55	n = 18	[ABJ] Abbott Architect c System
151.2 ± 4.90	87.4 ± 3.48	69.8 ± 2.29	125.2 ± 4.03	116.3 ± 3.68	n = 55	[OLC] Beckman Coulter AU Chemistry System
155.8 ± 7.89	97.4 ± 7.84	72.0 ± 5.11	131.6 ± 12.27	123.6 ± 11.08	n = 4	[BCS] Beckman Coulter CX
159.0 ± 6.09	95.1 ± 4.10	72.8 ± 3.73	133.0 ± 6.63	126.7 ± 5.74	n = 4	[BCX] Beckman Coulter LX-20
156.3 ± 6.34	94.1 ± 2.74	70.0 ± 1.92	130.0 ± 5.07	124.6 ± 4.56	n = 13	[BCG] Beckman Coulter UniCel DxC 600
154.1 ± 3.61	93.5 ± 2.64	71.1 ± 2.94	129.4 ± 3.73	123.2 ± 3.43	n = 13	[BCH] Beckman Coulter UniCel DxC 800
165.5 ± 2.32	100.9 ± 1.13	78.8 ± 1.27	135.3 ± 0.82	132.4 ± 2.31	n = 4	[JJE] Ortho Vitros 250/350/950
159.0 ± 3.09	95.2 ± 2.09	74.5 ± 1.76	128.0 ± 2.80	124.1 ± 3.27	n = 18	[JJF] Ortho Vitros 5,1FS
157.0 ± 3.79	95.0 ± 3.22	74.3 ± 2.44	127.3 ± 4.85	123.6 ± 4.67	n = 18	[JJG] Ortho Vitros 5600
151.7 ± 5.05	95.0 ± 3.96	76.1 ± 3.76	129.6 ± 3.55	119.8 ± 3.76	n = 14	[ROC] Roche cobas c501
151.5 ± 1.86	91.7 ± 1.37	72.7 ± 1.37	127.3 ± 2.26	117.5 ± 1.86	n = 3	[ROH] Roche cobas c701
149.2 ± 2.71	87.4 ± 2.55	72.6 ± 1.99	124.2 ± 0.81	116.7 ± 2.60	n = 6	[ROS] Roche Cobas INTEGRA 400
147.8 ± 3.10	88.0 ± 1.50	72.2 ± 1.96	123.9 ± 3.38	116.5 ± 2.67	n = 4	[ROT] Roche Cobas INTEGRA 800
150.0 ± 3.53	94.5 ± 3.13	73.6 ± 2.52	128.7 ± 3.19	117.8 ± 3.52	n = 31	[ROD] Roche MODULAR D/P
153.8 ± 2.19	95.3 ± 1.90	72.3 ± 1.52	129.2 ± 2.08	118.3 ± 2.33	n = 22	[BYE] Siemens ADVIA 1800
147.3 ± 1.37	89.0 ± 0.90	68.5 ± 1.86	122.7 ± 1.37	114.0 ± 2.70	n = 3	[BYB] Siemens ADVIA 2400
147.3 ± 2.36	86.3 ± 3.22	64.9 ± 1.84	121.0 ± 2.42	111.0 ± 1.73	n = 13	[DUE] Siemens Dimension EXL
146.7 ± 3.22	86.9 ± 3.19	65.3 ± 3.29	121.6 ± 3.85	111.2 ± 3.25	n = 17	[DUR] Siemens Dimension RxL
162.4 ± 4.10	99.7 ± 2.79	76.6 ± 2.29	136.5 ± 3.09	124.8 ± 3.39	n = 37	[DUT] Siemens Dimension Vista
147.3 ± 3.06	88.0 ± 2.57	65.4 ± 1.77	122.6 ± 2.51	112.6 ± 2.49	n = 12	[DUX] Siemens Dimension Xpand
<Reagents>						
175.7 ± 1.37	106.0 ± 0.90	81.3 ± 0.51	151.0 ± 1.80	138.7 ± 0.51	n = 3	[AX1] Abaxis
150.9 ± 2.03	97.0 ± 2.48	73.1 ± 0.97	125.4 ± 2.80	116.0 ± 1.55	n = 18	[AB1] Abbott
156.0 ± 5.53	94.1 ± 2.85	70.9 ± 2.83	129.9 ± 5.06	124.1 ± 4.38	n = 33	[BC1] Beckman Coulter
151.6 ± 4.55	87.7 ± 3.01	69.9 ± 2.10	125.4 ± 4.01	116.3 ± 3.48	n = 51	[OL1] Beckman Coulter AU Series
148.7 ± 11.29	93.6 ± 15.38	74.4 ± 5.58	132.3 ± 14.17	124.6 ± 12.69	n = 3	[CR1] Carolina
158.7 ± 4.13	95.7 ± 3.14	74.8 ± 2.49	128.3 ± 4.51	124.6 ± 4.63	n = 40	[JJ1] Ortho Clinical Diagnostics
151.8 ± 4.44	94.1 ± 3.47	75.3 ± 3.62	129.0 ± 3.29	119.5 ± 3.44	n = 18	[RO4] Roche cobas c311/c501/c502/c701
150.0 ± 3.53	94.5 ± 3.13	73.6 ± 2.52	128.7 ± 3.19	117.8 ± 3.52	n = 31	[RO2] Roche Hitachi and Modular D/P
148.5 ± 3.10	87.7 ± 2.17	72.4 ± 2.00	123.7 ± 2.70	116.6 ± 2.64	n = 10	[RO1] Roche Integra and MIRA
153.6 ± 2.83	95.1 ± 2.44	72.1 ± 1.71	128.8 ± 3.09	118.1 ± 2.76	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
153.9 ± 9.62	93.0 ± 8.21	70.8 ± 7.01	128.6 ± 9.16	117.4 ± 8.45	n = 78	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Homocysteine ($\mu\text{mol/L}$)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
24.17 \pm 2.93	10.34 \pm 1.31	6.91 \pm 1.04	8.52 \pm 1.23	16.50 \pm 1.88	n = 118	[---] All Methods & Instruments
<Instruments>						
23.71 \pm 0.55	10.89 \pm 0.62	7.55 \pm 0.63	9.00 \pm 0.79	17.28 \pm 0.88	n = 11	[ABH] Abbott Architect i System
25.03 \pm 1.95	9.80 \pm 1.09	7.56 \pm 0.71	8.70 \pm 0.64	17.38 \pm 1.66	n = 3	[ABB] Abbott AxSym
26.14 \pm 1.16	10.91 \pm 0.59	7.64 \pm 0.22	9.35 \pm 0.29	17.63 \pm 0.66	n = 22	[OLC] Beckman Coulter AU Chemistry System
24.85 \pm 0.55	11.70 \pm 0.57	7.02 \pm 0.26	9.04 \pm 0.38	17.96 \pm 0.60	n = 4	[JJG] Ortho Vitros 5600
26.87 \pm 0.27	10.45 \pm 1.10	7.17 \pm 0.75	9.27 \pm 0.42	17.32 \pm 0.60	n = 6	[ROD] Roche MODULAR D/P
26.37 \pm 0.59	10.86 \pm 0.10	7.75 \pm 0.19	9.25 \pm 0.46	17.23 \pm 0.34	n = 3	[BYE] Siemens ADVIA 1800
19.79 \pm 1.26	8.84 \pm 0.60	5.52 \pm 0.38	6.95 \pm 0.54	13.90 \pm 0.85	n = 25	[COB] Siemens ADVIA Centaur
22.02 \pm 2.10	8.86 \pm 0.75	6.46 \pm 0.50	7.05 \pm 0.27	13.55 \pm 1.98	n = 7	[DUT] Siemens Dimension Vista
25.65 \pm 1.56	10.71 \pm 0.93	6.84 \pm 0.71	8.65 \pm 0.81	16.94 \pm 0.57	n = 17	[DPD] Siemens Immulite 2000
<Reagents>						
23.78 \pm 0.74	10.76 \pm 0.74	7.55 \pm 0.64	8.92 \pm 0.76	17.33 \pm 1.05	n = 14	[AB1] Abbott
25.94 \pm 2.17	12.54 \pm 1.19	8.00 \pm 1.18	10.71 \pm 1.10	18.34 \pm 0.90	n = 3	[AS1] Axis-Shield
25.04 \pm 1.44	11.41 \pm 0.74	7.39 \pm 0.49	9.12 \pm 0.51	18.46 \pm 0.20	n = 7	[CR1] Carolina
26.58 \pm 0.76	10.75 \pm 0.49	7.65 \pm 0.39	9.31 \pm 0.35	17.42 \pm 0.56	n = 27	[DZ1] Diazyme
24.24 \pm 1.13	11.19 \pm 0.94	6.72 \pm 0.57	8.78 \pm 0.56	17.58 \pm 0.83	n = 6	[JJ1] Ortho Clinical Diagnostics
26.33 \pm 2.12	10.87 \pm 1.13	7.65 \pm 0.63	9.51 \pm 0.85	17.42 \pm 1.66	n = 3	[GZ1] Sekisui Diagnostics (Genzyme)
19.79 \pm 1.26	8.84 \pm 0.60	5.52 \pm 0.38	6.95 \pm 0.54	13.90 \pm 0.85	n = 25	[BY1] Siemens ADVIA/ADVIA Centaur
22.04 \pm 2.33	8.85 \pm 0.74	6.42 \pm 0.55	7.13 \pm 0.49	13.90 \pm 1.37	n = 6	[DA5] Siemens Dimension
25.50 \pm 1.64	10.68 \pm 0.90	6.87 \pm 0.69	8.66 \pm 0.78	16.89 \pm 0.59	n = 18	[DP5] Siemens Immulite

Summary of Participant Performance (Mean and Standard Deviation)

Troponin I (µg/L)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
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2.331 ± 0.272	0.018 ± 0.016	0.020 ± 0.019	0.366 ± 0.083	1.405 ± 0.312	n = 226	[---] All Methods & Instruments
<Instruments>						
14.952 ± 0.547	0.010 ± 0.004	0.010 ± 0.005	2.029 ± 0.089	7.231 ± 0.255	n = 22	[ABH] Abbott Architect i System
2.212 ± 0.192	0.010 ± 0.000	0.010 ± 0.000	0.323 ± 0.031	1.140 ± 0.094	n = 24	[SAA] Beckman Coulter ACCESS
1.190 ± 0.201	0.050 ± 0.000	0.050 ± 0.000	0.057 ± 0.011	0.390 ± 0.065	n = 8	[BSA] BioSite Triage
7.988 ± 1.101	0.034 ± 0.045	0.034 ± 0.045	1.126 ± 0.103	3.674 ± 0.237	n = 4	[IAA] i-STAT
8.778 ± 0.232	0.016 ± 0.009	0.014 ± 0.008	1.245 ± 0.046	4.174 ± 0.125	n = 16	[JJG] Ortho Vitros 5600
8.510 ± 0.260	0.010 ± 0.000	0.010 ± 0.000	1.225 ± 0.054	3.999 ± 0.138	n = 12	[JJC] Ortho Vitros Eci/ECiQ
2.570 ± 0.172	0.009 ± 0.006	0.009 ± 0.006	0.370 ± 0.032	1.565 ± 0.087	n = 42	[COB] Siemens ADVIA Centaur
2.901 ± 0.216	0.018 ± 0.020	0.018 ± 0.020	0.386 ± 0.023	1.674 ± 0.101	n = 4	[BYP] Siemens ADVIA Centaur CP
2.278 ± 0.082	0.078 ± 0.035	0.078 ± 0.035	0.443 ± 0.031	1.561 ± 0.087	n = 10	[DUE] Siemens Dimension EXL
2.129 ± 0.180	0.040 ± 0.000	0.040 ± 0.000	0.268 ± 0.024	1.073 ± 0.077	n = 14	[DUR] Siemens Dimension RxL
2.291 ± 0.085	0.020 ± 0.000	0.031 ± 0.006	0.452 ± 0.024	1.606 ± 0.063	n = 38	[DUT] Siemens Dimension Vista
2.286 ± 0.151	0.033 ± 0.016	0.033 ± 0.022	0.286 ± 0.035	1.173 ± 0.088	n = 11	[DUX] Siemens Dimension Xpand
6.466 ± 0.513	0.200 ± 0.000	0.200 ± 0.000	0.962 ± 0.122	3.377 ± 0.185	n = 5	[DPD] Siemens Immulite 2000
14.496 ± 0.525	0.060 ± 0.000	0.060 ± 0.000	2.129 ± 0.139	7.104 ± 0.151	n = 5	[TOM] Tosoh Bioscience
<Reagents>						
14.979 ± 0.547	0.009 ± 0.006	0.009 ± 0.007	2.027 ± 0.086	7.241 ± 0.252	n = 27	[AB1] Abbott
2.195 ± 0.192	0.009 ± 0.006	0.010 ± 0.000	0.321 ± 0.029	1.138 ± 0.089	n = 26	[BC1] Beckman Coulter
1.190 ± 0.201	0.050 ± 0.000	0.050 ± 0.000	0.057 ± 0.011	0.390 ± 0.065	n = 8	[BS1] Biosite Diagnostics
8.657 ± 0.294	0.012 ± 0.006	0.012 ± 0.006	1.237 ± 0.050	4.094 ± 0.165	n = 28	[JJ1] Ortho Clinical Diagnostics
1.307 ± 0.095	0.304 ± 0.006	0.304 ± 0.006	0.304 ± 0.006	0.582 ± 0.024	n = 5	[RO3] Roche Elecsys/Modular E/e601/e411
2.591 ± 0.196	0.009 ± 0.005	0.009 ± 0.006	0.371 ± 0.031	1.573 ± 0.091	n = 46	[BY1] Siemens ADVIA/ADVIA Centaur
2.218 ± 0.176	0.035 ± 0.015	0.035 ± 0.016	0.275 ± 0.030	1.119 ± 0.107	n = 27	[DA5] Siemens Dimension
2.284 ± 0.085	0.020 ± 0.000	0.031 ± 0.007	0.450 ± 0.026	1.597 ± 0.072	n = 46	[DA6] Siemens Dimension LOCI
6.466 ± 0.513	0.200 ± 0.000	0.200 ± 0.000	0.962 ± 0.122	3.377 ± 0.185	n = 5	[DP5] Siemens Immulite
14.630 ± 0.598	0.060 ± 0.000	0.060 ± 0.000	2.106 ± 0.158	7.052 ± 0.108	n = 4	[TO2] Tosoh ST AIA

Summary of Participant Performance (Mean and Standard Deviation)

Troponin T (µg/L)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
1.339 ± 0.100	0.010 ± 0.000	0.010 ± 0.000	0.278 ± 0.020	0.730 ± 0.062	n = 32	[---] All Methods & Instruments
						<Instruments>
1.342 ± 0.069	0.010 ± 0.000	0.010 ± 0.000	0.280 ± 0.020	0.738 ± 0.057	n = 11	[ROA] Roche cobas e601
1.406 ± 0.088	0.010 ± 0.000	0.010 ± 0.000	0.286 ± 0.025	0.762 ± 0.077	n = 9	[BME] Roche Elecsys
1.283 ± 0.043	0.010 ± 0.000	0.010 ± 0.000	0.273 ± 0.014	0.704 ± 0.017	n = 8	[ROE] Roche MODULAR E
						<Reagents>
1.337 ± 0.105	0.010 ± 0.000	0.010 ± 0.000	0.279 ± 0.021	0.733 ± 0.066	n = 29	[RO3] Roche Elecsys/Modular E/e601/e411

Summary of Participant Performance (Mean and Standard Deviation)

Alanine Aminotransferase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
111.2 ± 8.02	49.8 ± 6.66	246.1 ± 15.20	79.5 ± 7.72	170.4 ± 11.11	n = 358	[---] All Methods & Instruments
<Instruments>						
99.2 ± 1.54	49.3 ± 1.37	215.5 ± 4.53	73.5 ± 1.86	151.0 ± 4.60	n = 3	[AXA] Abaxis Piccolo
111.2 ± 3.29	47.0 ± 1.68	246.5 ± 7.27	77.8 ± 2.67	170.6 ± 5.17	n = 21	[ABJ] Abbott Architect c System
97.6 ± 2.40	44.7 ± 1.50	220.6 ± 5.58	70.3 ± 1.72	153.2 ± 3.70	n = 56	[OLC] Beckman Coulter AU Chemistry System
109.4 ± 4.66	49.3 ± 4.21	244.3 ± 13.40	77.4 ± 5.87	168.7 ± 10.21	n = 4	[BCS] Beckman Coulter CX
108.1 ± 1.88	49.0 ± 1.14	236.0 ± 4.01	76.2 ± 1.27	162.0 ± 4.01	n = 4	[BCX] Beckman Coulter LX-20
108.8 ± 3.39	48.7 ± 1.23	237.2 ± 3.86	76.6 ± 2.12	164.6 ± 4.00	n = 16	[BCG] Beckman Coulter UniCel DxC 600
110.0 ± 2.04	49.2 ± 1.11	240.1 ± 3.29	77.4 ± 1.37	166.6 ± 1.86	n = 14	[BCH] Beckman Coulter UniCel DxC 800
116.3 ± 4.08	66.3 ± 4.43	265.4 ± 5.54	93.6 ± 3.65	186.2 ± 4.42	n = 11	[JJE] Ortho Vitros 250/350/950
117.9 ± 5.39	66.7 ± 4.35	267.4 ± 6.53	93.0 ± 3.89	187.3 ± 5.67	n = 20	[JJF] Ortho Vitros 5,1FS
115.2 ± 3.20	64.5 ± 3.01	265.3 ± 7.07	92.8 ± 2.63	183.4 ± 4.84	n = 18	[JJG] Ortho Vitros 5600
108.9 ± 3.36	48.7 ± 1.93	247.6 ± 8.61	78.4 ± 2.81	170.4 ± 4.94	n = 16	[ROC] Roche cobas c501
105.5 ± 1.86	44.7 ± 1.37	242.3 ± 2.26	75.3 ± 0.51	165.3 ± 0.51	n = 3	[ROH] Roche cobas c701
107.4 ± 3.33	46.2 ± 1.83	247.3 ± 7.48	76.2 ± 2.31	168.5 ± 4.58	n = 7	[ROS] Roche Cobas INTEGRA 400
105.3 ± 0.90	46.2 ± 0.41	240.8 ± 1.46	75.0 ± 0.75	165.0 ± 1.65	n = 4	[ROT] Roche Cobas INTEGRA 800
108.9 ± 3.50	47.7 ± 1.90	242.8 ± 8.12	77.3 ± 2.43	167.0 ± 5.25	n = 30	[ROD] Roche MODULAR D/P
114.4 ± 3.01	47.8 ± 3.25	255.6 ± 5.15	80.9 ± 2.41	174.6 ± 5.68	n = 22	[BYE] Siemens ADVIA 1800
112.4 ± 1.02	49.2 ± 4.10	249.9 ± 8.93	79.3 ± 2.26	171.8 ± 2.36	n = 3	[BYB] Siemens ADVIA 2400
119.8 ± 3.63	57.5 ± 3.82	249.2 ± 3.53	86.4 ± 3.68	175.0 ± 3.71	n = 15	[DUE] Siemens Dimension EXL
121.4 ± 3.68	58.1 ± 3.07	252.6 ± 5.00	87.6 ± 2.74	177.7 ± 3.70	n = 23	[DUR] Siemens Dimension RxC
113.5 ± 2.02	47.9 ± 1.40	247.2 ± 4.22	78.6 ± 1.82	171.2 ± 2.92	n = 40	[DUT] Siemens Dimension Vista
121.0 ± 4.69	56.6 ± 6.03	253.9 ± 5.95	87.3 ± 5.19	178.4 ± 4.59	n = 19	[DUX] Siemens Dimension Xpand
<Reagents>						
99.2 ± 1.54	49.3 ± 1.37	215.5 ± 4.53	73.5 ± 1.86	151.0 ± 4.60	n = 3	[AX1] Abaxis
111.2 ± 3.29	47.0 ± 1.68	246.5 ± 7.27	77.8 ± 2.67	170.6 ± 5.17	n = 21	[AB1] Abbott
109.2 ± 2.82	48.9 ± 1.20	238.2 ± 4.24	76.8 ± 1.85	165.1 ± 3.50	n = 38	[BC1] Beckman Coulter
97.7 ± 2.33	44.7 ± 1.37	220.7 ± 5.48	70.3 ± 1.61	153.3 ± 3.59	n = 54	[OL1] Beckman Coulter AU Series
116.3 ± 4.62	65.6 ± 4.21	266.1 ± 6.52	92.9 ± 3.53	185.6 ± 5.30	n = 50	[JJ1] Ortho Clinical Diagnostics
108.4 ± 3.23	48.4 ± 2.27	246.2 ± 7.81	77.8 ± 2.71	169.6 ± 4.77	n = 21	[RO4] Roche cobas c311/c501/c502/c701
108.9 ± 3.50	47.7 ± 1.90	242.8 ± 8.12	77.3 ± 2.43	167.0 ± 5.25	n = 30	[RO2] Roche Hitachi and Modular D/P
106.3 ± 2.78	46.2 ± 1.42	244.1 ± 6.54	75.6 ± 1.92	166.8 ± 4.07	n = 11	[RO1] Roche Integra and MIRA
113.9 ± 3.04	47.8 ± 3.30	254.9 ± 6.17	80.7 ± 2.49	174.2 ± 5.50	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
118.6 ± 5.21	54.5 ± 6.19	250.6 ± 5.56	84.5 ± 5.65	175.6 ± 4.90	n = 73	[DA5] Siemens Dimension
114.3 ± 3.60	47.8 ± 1.20	247.4 ± 4.31	79.6 ± 3.36	171.7 ± 3.45	n = 22	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

Aspartate Aminotransferase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
214.9 ± 10.44	76.0 ± 4.44	191.1 ± 9.90	126.4 ± 7.26	97.8 ± 4.87	n = 358	[---] All Methods & Instruments
<Instruments>						
210.5 ± 6.32	77.7 ± 4.22	188.7 ± 5.97	124.0 ± 4.51	97.5 ± 2.74	n = 3	[AXA] Abaxis Piccolo
216.3 ± 4.04	75.5 ± 1.31	192.4 ± 3.85	124.5 ± 1.95	97.2 ± 1.90	n = 21	[ABJ] Abbott Architect c System
191.5 ± 5.46	68.8 ± 1.60	172.2 ± 4.27	111.7 ± 2.99	88.2 ± 2.20	n = 56	[OLC] Beckman Coulter AU Chemistry System
215.0 ± 12.66	76.1 ± 7.00	190.5 ± 13.09	124.8 ± 11.95	98.2 ± 7.45	n = 4	[BCS] Beckman Coulter CX
210.4 ± 4.14	75.2 ± 2.80	187.4 ± 3.05	122.3 ± 3.17	96.7 ± 1.51	n = 4	[BCX] Beckman Coulter LX-20
212.4 ± 4.12	75.4 ± 2.07	189.2 ± 3.40	123.3 ± 2.88	97.3 ± 2.43	n = 16	[BCG] Beckman Coulter UniCel DxC 600
212.8 ± 2.82	76.3 ± 1.37	190.6 ± 3.26	124.2 ± 1.44	97.2 ± 1.46	n = 14	[BCH] Beckman Coulter UniCel DxC 800
214.2 ± 5.57	81.2 ± 2.46	184.8 ± 3.84	130.7 ± 2.33	100.8 ± 2.35	n = 11	[JJE] Ortho Vitros 250/350/950
217.4 ± 5.04	81.9 ± 2.04	188.7 ± 3.31	131.1 ± 3.39	100.7 ± 2.80	n = 20	[JJF] Ortho Vitros 5,1FS
218.4 ± 6.33	82.3 ± 3.31	188.0 ± 5.65	131.5 ± 4.55	101.5 ± 3.19	n = 18	[JJG] Ortho Vitros 5600
217.7 ± 8.09	76.3 ± 2.83	196.0 ± 7.17	126.8 ± 4.11	98.7 ± 3.35	n = 15	[ROC] Roche cobas c501
218.3 ± 3.07	75.3 ± 1.37	192.6 ± 3.87	122.6 ± 2.56	98.7 ± 1.37	n = 3	[ROH] Roche cobas c701
224.2 ± 5.04	77.0 ± 1.64	201.5 ± 4.94	128.7 ± 2.29	100.7 ± 1.89	n = 7	[ROS] Roche Cobas INTEGRA 400
220.1 ± 4.04	76.3 ± 2.04	199.2 ± 4.86	126.7 ± 0.82	98.0 ± 0.75	n = 5	[ROT] Roche Cobas INTEGRA 800
215.9 ± 5.33	75.7 ± 2.41	191.8 ± 4.49	125.1 ± 3.21	97.7 ± 3.10	n = 30	[ROD] Roche MODULAR D/P
231.5 ± 4.91	78.4 ± 4.44	205.7 ± 5.10	134.6 ± 3.79	103.6 ± 3.61	n = 22	[BYE] Siemens ADVIA 1800
225.9 ± 3.72	81.1 ± 5.63	203.5 ± 5.43	130.8 ± 3.23	103.1 ± 2.86	n = 3	[BYB] Siemens ADVIA 2400
213.9 ± 5.23	76.3 ± 2.08	192.9 ± 4.32	128.1 ± 3.40	97.9 ± 2.83	n = 14	[DUE] Siemens Dimension EXL
214.4 ± 5.28	76.4 ± 1.95	195.2 ± 4.29	129.0 ± 3.63	98.5 ± 2.74	n = 24	[DUR] Siemens Dimension RxC
218.1 ± 3.74	75.5 ± 2.17	195.8 ± 3.87	129.6 ± 2.73	97.9 ± 2.18	n = 40	[DUT] Siemens Dimension Vista
217.0 ± 4.06	76.8 ± 2.67	196.3 ± 4.10	130.6 ± 2.83	100.0 ± 2.85	n = 19	[DUX] Siemens Dimension Xpand
<Reagents>						
210.5 ± 6.32	77.7 ± 4.22	188.7 ± 5.97	124.0 ± 4.51	97.5 ± 2.74	n = 3	[AX1] Abaxis
216.3 ± 4.04	75.5 ± 1.31	192.4 ± 3.85	124.5 ± 1.95	97.2 ± 1.90	n = 21	[AB1] Abbott
212.2 ± 3.77	75.7 ± 2.10	189.3 ± 3.65	123.6 ± 2.61	97.1 ± 1.99	n = 38	[BC1] Beckman Coulter
191.6 ± 5.30	68.8 ± 1.54	172.3 ± 4.07	111.8 ± 2.87	88.3 ± 2.08	n = 54	[OL1] Beckman Coulter AU Series
217.1 ± 5.83	81.8 ± 2.64	187.5 ± 4.78	131.1 ± 3.69	101.0 ± 2.86	n = 50	[JJ1] Ortho Clinical Diagnostics
217.2 ± 7.03	76.0 ± 2.46	194.9 ± 6.61	125.6 ± 4.09	98.5 ± 2.95	n = 20	[RO4] Roche cobas c311/c501/c502/c701
215.9 ± 5.33	75.7 ± 2.41	191.8 ± 4.49	125.1 ± 3.21	97.7 ± 3.10	n = 30	[RO2] Roche Hitachi and Modular D/P
222.7 ± 5.29	76.7 ± 1.85	200.6 ± 5.08	128.1 ± 2.64	100.0 ± 2.48	n = 12	[RO1] Roche Integra and MIRA
230.1 ± 6.12	78.5 ± 4.37	204.6 ± 5.90	133.9 ± 4.17	103.3 ± 3.68	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
216.3 ± 4.75	76.2 ± 2.17	195.3 ± 4.35	129.4 ± 3.08	98.5 ± 2.51	n = 89	[DA5] Siemens Dimension
220.0 ± 3.71	76.1 ± 4.54	195.9 ± 3.28	130.0 ± 3.85	98.9 ± 6.27	n = 7	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

 α -Amylase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
46.4 ± 6.32	351.0 ± 58.51	220.8 ± 37.74	131.9 ± 16.12	90.5 ± 7.43	n = 317	[---] All Methods & Instruments
<Instruments>						
47.8 ± 1.21	398.8 ± 5.77	245.2 ± 2.81	143.9 ± 1.65	93.9 ± 1.27	n = 19	[ABJ] Abbott Architect c System
36.9 ± 2.34	308.2 ± 18.63	192.5 ± 11.50	113.3 ± 6.34	73.5 ± 4.10	n = 48	[OLC] Beckman Coulter AU Chemistry System
55.5 ± 1.86	463.1 ± 142.63	280.4 ± 67.48	166.8 ± 39.94	111.3 ± 17.03	n = 3	[BCS] Beckman Coulter CX
51.7 ± 0.90	374.5 ± 8.28	235.6 ± 4.98	142.8 ± 3.09	100.7 ± 2.54	n = 4	[BCX] Beckman Coulter LX-20
51.0 ± 1.35	371.0 ± 7.34	234.5 ± 5.65	141.5 ± 2.43	98.4 ± 2.22	n = 13	[BCG] Beckman Coulter UniCel DxC 600
51.6 ± 0.94	375.4 ± 6.15	236.8 ± 4.27	143.4 ± 3.10	99.2 ± 2.03	n = 14	[BCH] Beckman Coulter UniCel DxC 800
49.8 ± 3.94	232.1 ± 7.04	147.5 ± 3.32	109.2 ± 1.69	88.0 ± 4.13	n = 8	[JJE] Ortho Vitros 250/350/950
54.0 ± 5.18	240.9 ± 6.07	145.1 ± 4.70	107.7 ± 4.69	88.9 ± 4.73	n = 19	[JFF] Ortho Vitros 5,1FS
51.6 ± 2.88	237.3 ± 8.71	144.9 ± 3.89	107.6 ± 2.49	85.5 ± 2.92	n = 18	[JJG] Ortho Vitros 5600
50.6 ± 0.97	346.3 ± 5.44	217.7 ± 2.64	132.9 ± 2.90	94.2 ± 1.55	n = 16	[ROC] Roche cobas c501
49.6 ± 1.02	342.1 ± 12.04	217.4 ± 7.08	132.3 ± 4.22	93.1 ± 2.86	n = 3	[ROS] Roche Cobas INTEGRA 400
49.5 ± 0.57	333.8 ± 1.27	212.2 ± 1.27	129.5 ± 1.22	91.5 ± 1.22	n = 4	[ROT] Roche Cobas INTEGRA 800
49.7 ± 1.04	339.4 ± 7.36	213.3 ± 4.68	130.6 ± 2.83	92.4 ± 1.76	n = 28	[ROD] Roche MODULAR D/P
49.6 ± 1.36	351.5 ± 9.02	220.2 ± 6.30	133.8 ± 3.49	94.2 ± 2.53	n = 21	[BYE] Siemens ADVIA 1800
48.5 ± 1.86	345.1 ± 12.75	215.6 ± 8.43	131.3 ± 5.97	92.1 ± 3.72	n = 3	[BYB] Siemens ADVIA 2400
43.6 ± 0.97	416.3 ± 6.19	263.1 ± 3.14	149.1 ± 2.35	92.9 ± 1.49	n = 11	[DUE] Siemens Dimension EXL
43.6 ± 0.85	414.1 ± 5.79	262.8 ± 4.93	149.2 ± 2.12	93.0 ± 1.49	n = 21	[DUR] Siemens Dimension RxL
39.8 ± 0.91	386.8 ± 6.42	246.2 ± 4.53	138.5 ± 3.09	86.1 ± 1.69	n = 39	[DUT] Siemens Dimension Vista
43.8 ± 0.51	419.2 ± 4.95	265.3 ± 3.50	150.4 ± 2.02	93.8 ± 1.55	n = 16	[DUX] Siemens Dimension Xpand
<Reagents>						
47.8 ± 1.21	398.8 ± 5.77	245.2 ± 2.81	143.9 ± 1.65	93.9 ± 1.27	n = 19	[AB1] Abbott
51.5 ± 1.22	374.5 ± 4.34	235.1 ± 3.07	142.4 ± 1.99	99.9 ± 1.02	n = 8	[BC1] Beckman Coulter
36.7 ± 2.23	307.4 ± 18.14	192.0 ± 11.22	113.1 ± 6.20	73.4 ± 4.16	n = 47	[OL1] Beckman Coulter AU Series
51.6 ± 1.19	374.3 ± 8.12	237.0 ± 5.49	143.1 ± 3.11	99.2 ± 2.55	n = 25	[BC2] Beckman Coulter IFCC Standardized
52.4 ± 4.38	238.3 ± 8.53	145.5 ± 4.24	108.0 ± 3.45	87.5 ± 4.44	n = 47	[JJ1] Ortho Clinical Diagnostics
50.6 ± 0.89	345.9 ± 5.47	217.4 ± 2.88	132.9 ± 2.72	94.3 ± 1.43	n = 19	[RO4] Roche cobas c311/c501/c502/c701
49.7 ± 1.03	339.6 ± 7.23	213.4 ± 4.57	130.7 ± 2.76	92.4 ± 1.71	n = 29	[RO2] Roche Hitachi and Modular D/P
49.5 ± 0.74	334.5 ± 1.40	212.5 ± 1.52	129.7 ± 1.22	91.5 ± 1.12	n = 7	[RO1] Roche Integra and MIRA
49.3 ± 1.53	350.3 ± 10.37	219.3 ± 7.15	133.7 ± 3.91	94.0 ± 2.78	n = 25	[BY1] Siemens ADVIA/ADVIA Centaur
41.9 ± 2.36	403.9 ± 17.67	255.8 ± 10.61	144.7 ± 6.59	90.2 ± 4.26	n = 87	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Alkaline Phosphatase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
370.9 ± 33.49	57.5 ± 10.95	165.3 ± 14.77	506.7 ± 43.98	119.4 ± 18.45	n = 357	[---] All Methods & Instruments
<Instruments>						
331.2 ± 13.15	54.0 ± 0.90	159.2 ± 2.36	464.7 ± 18.58	108.7 ± 1.37	n = 3	[AXA] Abaxis Piccolo
382.4 ± 17.05	56.8 ± 2.57	174.4 ± 7.62	537.2 ± 23.07	118.8 ± 5.13	n = 21	[ABJ] Abbott Architect c System
340.0 ± 19.75	49.6 ± 3.04	154.9 ± 9.73	476.1 ± 26.58	105.6 ± 6.42	n = 55	[OLC] Beckman Coulter AU Chemistry System
341.1 ± 15.74	51.5 ± 2.98	154.5 ± 8.61	485.8 ± 33.36	105.0 ± 5.11	n = 4	[BCS] Beckman Coulter CX
341.7 ± 22.21	50.6 ± 4.19	155.0 ± 9.63	477.0 ± 30.25	107.3 ± 7.76	n = 4	[BCX] Beckman Coulter LX-20
335.5 ± 11.75	48.8 ± 2.05	153.6 ± 5.04	473.7 ± 16.82	104.4 ± 4.05	n = 16	[BCG] Beckman Coulter UniCel DxC 600
344.0 ± 14.34	50.3 ± 1.95	155.9 ± 5.69	479.0 ± 16.75	106.6 ± 3.97	n = 15	[BCH] Beckman Coulter UniCel DxC 800
401.1 ± 11.99	78.7 ± 2.22	166.6 ± 6.48	519.4 ± 10.49	162.0 ± 4.13	n = 10	[JJE] Ortho Vitros 250/350/950
394.4 ± 18.57	78.8 ± 3.55	160.3 ± 6.06	490.6 ± 24.10	158.4 ± 6.92	n = 20	[JJF] Ortho Vitros 5,1FS
388.9 ± 9.55	77.9 ± 2.46	158.0 ± 5.44	477.4 ± 15.68	156.7 ± 4.65	n = 18	[JJG] Ortho Vitros 5600
372.6 ± 10.79	54.7 ± 1.27	169.4 ± 3.23	515.3 ± 9.73	116.2 ± 2.46	n = 16	[ROC] Roche cobas c501
360.6 ± 2.56	51.3 ± 0.51	162.0 ± 1.80	501.6 ± 1.02	111.0 ± 0.90	n = 3	[ROH] Roche cobas c701
368.3 ± 8.94	52.9 ± 1.13	166.6 ± 4.04	516.6 ± 11.32	114.6 ± 3.30	n = 6	[ROS] Roche Cobas INTEGRA 400
375.0 ± 8.89	53.0 ± 1.14	170.2 ± 3.10	529.2 ± 13.13	115.4 ± 1.90	n = 4	[ROT] Roche Cobas INTEGRA 800
355.8 ± 7.45	52.5 ± 1.50	163.1 ± 2.91	490.0 ± 11.71	113.0 ± 2.80	n = 29	[ROD] Roche MODULAR D/P
398.3 ± 11.88	57.6 ± 1.91	180.4 ± 5.14	558.5 ± 18.03	123.6 ± 3.55	n = 22	[BYE] Siemens ADVIA 1800
390.8 ± 10.49	57.7 ± 5.86	176.8 ± 8.71	545.6 ± 13.58	121.0 ± 6.42	n = 3	[BYB] Siemens ADVIA 2400
433.0 ± 31.64	76.0 ± 5.63	206.2 ± 11.63	601.1 ± 27.97	142.3 ± 6.80	n = 14	[DUE] Siemens Dimension EXL
423.2 ± 18.84	71.9 ± 7.66	198.6 ± 9.10	588.5 ± 24.59	139.6 ± 10.44	n = 24	[DUR] Siemens Dimension RxL
355.3 ± 17.98	54.2 ± 2.76	160.8 ± 7.78	492.5 ± 24.55	110.4 ± 5.86	n = 40	[DUT] Siemens Dimension Vista
401.9 ± 20.36	67.1 ± 5.91	186.6 ± 9.55	555.2 ± 21.54	132.5 ± 7.16	n = 19	[DUX] Siemens Dimension Xpand
<Reagents>						
331.2 ± 13.15	54.0 ± 0.90	159.2 ± 2.36	464.7 ± 18.58	108.7 ± 1.37	n = 3	[AX1] Abaxis
382.4 ± 17.05	56.8 ± 2.57	174.4 ± 7.62	537.2 ± 23.07	118.8 ± 5.13	n = 21	[AB1] Abbott
338.1 ± 13.41	49.5 ± 2.11	153.9 ± 5.64	474.3 ± 17.88	105.1 ± 3.90	n = 37	[BC1] Beckman Coulter
339.5 ± 18.99	49.5 ± 2.93	154.7 ± 9.47	475.2 ± 25.87	105.5 ± 6.20	n = 54	[OL1] Beckman Coulter AU Series
392.5 ± 15.41	78.4 ± 2.84	160.3 ± 7.04	488.9 ± 25.45	158.3 ± 6.17	n = 49	[JJ1] Ortho Clinical Diagnostics
370.7 ± 10.74	54.4 ± 1.63	168.5 ± 3.89	512.8 ± 10.40	115.5 ± 2.88	n = 21	[RO4] Roche cobas c311/c501/c502/c701
355.8 ± 7.24	52.5 ± 1.52	163.0 ± 2.97	489.9 ± 11.36	113.0 ± 2.72	n = 30	[RO2] Roche Hitachi and Modular D/P
370.7 ± 9.07	52.9 ± 1.07	168.0 ± 4.01	520.6 ± 12.80	114.8 ± 2.55	n = 11	[RO1] Roche Integra and MIRA
396.4 ± 13.32	57.4 ± 2.54	179.5 ± 6.50	555.4 ± 19.90	123.0 ± 4.51	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
392.3 ± 40.92	63.9 ± 11.06	180.9 ± 22.68	544.2 ± 57.24	126.7 ± 17.18	n = 97	[DA5] Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

 γ -Glutamyltransferase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
52.4 ± 12.67	132.5 ± 30.11	71.8 ± 17.30	152.9 ± 35.92	34.9 ± 8.07	n = 302	[---] All Methods & Instruments
<Instruments>						
51.7 ± 2.72	134.3 ± 6.96	71.9 ± 4.05	154.0 ± 8.10	35.0 ± 2.03	n = 17	[ABJ] Abbott Architect c System
39.7 ± 2.00	101.6 ± 5.05	54.9 ± 2.76	115.8 ± 4.91	27.5 ± 1.54	n = 47	[OLC] Beckman Coulter AU Chemistry System
41.5 ± 4.08	111.0 ± 18.74	59.7 ± 9.53	128.6 ± 21.16	28.2 ± 1.96	n = 4	[BCS] Beckman Coulter CX
46.0 ± 1.50	130.4 ± 3.55	68.3 ± 2.47	150.4 ± 4.54	30.2 ± 1.96	n = 4	[BCX] Beckman Coulter LX-20
48.1 ± 1.74	133.7 ± 2.92	72.0 ± 1.73	154.2 ± 3.24	30.4 ± 1.40	n = 15	[BCG] Beckman Coulter UniCel Dx C 600
47.3 ± 1.55	132.5 ± 2.59	70.6 ± 1.78	152.7 ± 3.65	30.9 ± 1.18	n = 13	[BCH] Beckman Coulter UniCel Dx C 800
74.7 ± 2.14	214.8 ± 5.99	118.6 ± 2.83	251.2 ± 6.41	48.8 ± 2.57	n = 7	[JJE] Ortho Vitros 250/350/950
74.0 ± 2.34	211.6 ± 5.52	116.9 ± 3.59	243.8 ± 7.43	48.8 ± 1.89	n = 18	[JJF] Ortho Vitros 5,1FS
73.8 ± 2.53	211.7 ± 6.35	116.9 ± 3.55	245.2 ± 6.43	49.1 ± 1.96	n = 18	[JJG] Ortho Vitros 5600
43.2 ± 1.04	112.5 ± 2.03	60.3 ± 0.85	129.1 ± 2.39	29.0 ± 0.47	n = 14	[ROC] Roche cobas c501
42.3 ± 0.90	112.6 ± 2.31	60.2 ± 1.27	130.0 ± 3.16	28.3 ± 0.90	n = 4	[ROS] Roche Cobas INTEGRA 400
42.8 ± 1.46	111.4 ± 1.64	59.7 ± 1.51	129.1 ± 2.33	28.0 ± 0.75	n = 4	[ROT] Roche Cobas INTEGRA 800
43.4 ± 1.23	115.6 ± 3.48	61.6 ± 1.92	132.5 ± 4.24	29.1 ± 1.25	n = 28	[ROD] Roche MODULAR D/P
48.8 ± 1.68	127.7 ± 2.86	68.2 ± 2.56	145.3 ± 4.21	33.1 ± 1.51	n = 22	[BYE] Siemens ADVIA 1800
47.5 ± 1.86	124.9 ± 4.38	66.0 ± 1.80	142.9 ± 4.38	32.7 ± 1.37	n = 3	[BYB] Siemens ADVIA 2400
62.9 ± 1.11	147.5 ± 2.04	81.6 ± 2.15	171.2 ± 2.88	42.7 ± 1.16	n = 11	[DUE] Siemens Dimension EXL
62.2 ± 2.87	146.4 ± 3.07	81.5 ± 3.23	169.4 ± 4.04	42.5 ± 2.18	n = 17	[DUR] Siemens Dimension RxL
62.0 ± 2.02	152.4 ± 3.28	82.3 ± 2.36	176.9 ± 3.47	39.4 ± 2.06	n = 37	[DUT] Siemens Dimension Vista
64.2 ± 1.80	148.8 ± 2.59	82.7 ± 1.66	171.7 ± 2.54	43.5 ± 1.23	n = 10	[DUX] Siemens Dimension Xpand
<Reagents>						
51.4 ± 2.50	133.7 ± 6.46	71.6 ± 3.87	153.3 ± 7.64	34.8 ± 1.86	n = 16	[AB1] Abbott
47.4 ± 1.85	132.7 ± 3.28	71.0 ± 2.30	153.0 ± 4.05	30.5 ± 1.39	n = 34	[BC1] Beckman Coulter
39.7 ± 2.03	101.6 ± 5.12	54.9 ± 2.80	115.8 ± 4.98	27.5 ± 1.56	n = 46	[OL1] Beckman Coulter AU Series
74.1 ± 2.41	212.1 ± 6.04	117.2 ± 3.52	245.6 ± 7.33	48.9 ± 2.02	n = 43	[JJ1] Ortho Clinical Diagnostics
43.1 ± 0.93	112.4 ± 2.19	60.1 ± 1.04	128.8 ± 2.54	29.0 ± 0.45	n = 18	[RO4] Roche cobas c311/c501/c502/c701
43.4 ± 1.23	115.6 ± 3.48	61.6 ± 1.92	132.5 ± 4.24	29.1 ± 1.25	n = 28	[RO2] Roche Hitachi and Modular D/P
42.5 ± 1.22	111.9 ± 2.04	60.0 ± 1.38	129.4 ± 2.79	28.1 ± 0.85	n = 8	[RO1] Roche Integra and MIRA
48.6 ± 1.85	126.9 ± 3.65	67.7 ± 2.58	144.7 ± 4.40	33.2 ± 1.60	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
62.5 ± 2.15	149.6 ± 3.98	82.1 ± 2.46	173.4 ± 4.81	41.2 ± 2.59	n = 70	[DA5] Siemens Dimension
63.1 ± 2.80	151.6 ± 5.09	82.5 ± 2.90	175.5 ± 4.65	41.5 ± 2.90	n = 5	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

Creatine Kinase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
248.8 ± 18.72	56.2 ± 5.56	39.1 ± 4.16	267.7 ± 18.44	303.5 ± 22.51	n = 326	[---] All Methods & Instruments
<Instruments>						
260.9 ± 8.71	61.5 ± 2.16	42.4 ± 1.51	280.3 ± 7.15	321.4 ± 11.98	n = 21	[ABJ] Abbott Architect c System
221.3 ± 10.79	48.2 ± 2.46	33.2 ± 1.98	240.9 ± 11.44	271.4 ± 14.46	n = 52	[OLC] Beckman Coulter AU Chemistry System
231.4 ± 11.69	57.9 ± 7.54	38.9 ± 6.39	265.5 ± 10.51	286.6 ± 15.90	n = 4	[BCS] Beckman Coulter CX
253.0 ± 7.16	60.1 ± 1.88	41.5 ± 1.22	279.4 ± 5.16	310.5 ± 10.31	n = 4	[BCX] Beckman Coulter LX-20
250.4 ± 6.39	60.9 ± 2.70	41.6 ± 1.47	277.4 ± 7.03	308.8 ± 11.94	n = 14	[BCG] Beckman Coulter UniCel Dx C 600
256.7 ± 9.66	61.9 ± 3.32	42.5 ± 2.45	285.2 ± 9.50	318.4 ± 14.27	n = 15	[BCH] Beckman Coulter UniCel Dx C 800
274.9 ± 20.54	51.8 ± 4.61	40.5 ± 3.18	279.2 ± 22.83	317.7 ± 16.52	n = 7	[JJE] Ortho Vitros 250/350/950
276.7 ± 17.03	53.3 ± 2.62	41.0 ± 2.83	287.4 ± 18.31	319.3 ± 23.61	n = 18	[JJF] Ortho Vitros 5,1FS
272.9 ± 18.16	54.0 ± 1.97	41.4 ± 2.51	279.7 ± 12.45	312.0 ± 17.39	n = 18	[JJG] Ortho Vitros 5600
261.0 ± 12.73	55.3 ± 2.28	37.4 ± 1.73	283.7 ± 11.55	316.5 ± 17.36	n = 16	[ROC] Roche cobas c501
254.0 ± 0.00	60.0 ± 0.90	41.7 ± 0.51	269.7 ± 1.37	307.0 ± 3.58	n = 3	[ROH] Roche cobas c701
264.1 ± 9.27	54.2 ± 3.80	37.5 ± 4.86	284.7 ± 6.10	320.9 ± 7.89	n = 4	[ROT] Roche Cobas INTEGRA 800
252.7 ± 6.55	61.2 ± 1.73	41.9 ± 1.65	269.3 ± 6.80	310.9 ± 9.54	n = 29	[ROD] Roche MODULAR D/P
243.2 ± 9.23	52.0 ± 1.52	34.9 ± 1.00	255.9 ± 10.46	289.1 ± 14.25	n = 21	[BYE] Siemens ADVIA 1800
237.6 ± 6.45	51.1 ± 2.05	34.3 ± 1.37	254.3 ± 5.97	277.7 ± 17.68	n = 3	[BYB] Siemens ADVIA 2400
249.8 ± 10.47	57.7 ± 2.07	39.3 ± 1.88	268.3 ± 10.25	309.1 ± 17.97	n = 13	[DUE] Siemens Dimension EXL
248.2 ± 6.59	58.2 ± 2.35	39.0 ± 2.70	269.5 ± 6.96	307.6 ± 8.28	n = 23	[DUR] Siemens Dimension RxL
247.2 ± 7.42	58.9 ± 1.99	40.2 ± 1.90	264.7 ± 6.89	306.3 ± 8.10	n = 39	[DUT] Siemens Dimension Vista
250.7 ± 4.61	56.9 ± 2.26	38.5 ± 2.40	267.0 ± 5.69	306.4 ± 6.99	n = 15	[DUX] Siemens Dimension Xpand
<Reagents>						
260.9 ± 8.71	61.5 ± 2.16	42.4 ± 1.51	280.3 ± 7.15	321.4 ± 11.98	n = 21	[AB1] Abbott
251.8 ± 10.63	61.1 ± 2.90	41.8 ± 2.24	279.6 ± 9.54	310.7 ± 15.71	n = 37	[BC1] Beckman Coulter
221.6 ± 10.12	48.3 ± 2.34	33.3 ± 1.87	241.2 ± 10.73	271.9 ± 13.47	n = 49	[OL1] Beckman Coulter AU Series
274.9 ± 18.21	53.6 ± 2.63	41.1 ± 2.79	283.3 ± 17.37	315.9 ± 20.76	n = 43	[JJ1] Ortho Clinical Diagnostics
260.1 ± 11.65	56.1 ± 2.71	38.3 ± 2.37	281.5 ± 12.41	315.4 ± 15.96	n = 20	[RO4] Roche cobas c311/c501/c502/c701
252.9 ± 6.62	61.3 ± 1.67	42.0 ± 1.67	269.7 ± 6.64	311.2 ± 9.59	n = 28	[RO2] Roche Hitachi and Modular D/P
263.3 ± 6.57	56.5 ± 4.71	40.8 ± 2.85	284.9 ± 4.69	318.4 ± 6.63	n = 6	[RO1] Roche Integra and MIRA
241.7 ± 9.03	51.7 ± 1.73	34.7 ± 1.12	256.0 ± 10.49	285.6 ± 17.04	n = 26	[BY1] Siemens ADVIA/ADVIA Centaur
247.2 ± 9.40	58.0 ± 2.41	39.2 ± 2.72	262.7 ± 15.31	302.3 ± 19.03	n = 24	[DA5] Siemens Dimension
248.8 ± 6.53	58.3 ± 2.20	39.7 ± 2.17	266.8 ± 6.49	306.9 ± 8.77	n = 64	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

Creatine Kinase-MB (ng/mL, U/L 37°C, %)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
37.44 ± 5.02	0.55 ± 0.29	0.48 ± 0.31	0.44 ± 0.22	50.42 ± 6.83	n = 204	[-A-] All Methods - Results reported in ng/mL
37.20 ± 2.58	0.44 ± 0.09	0.29 ± 0.06	0.36 ± 0.06	50.03 ± 3.21	n = 23	[AB1] Abbott
43.89 ± 2.63	0.56 ± 0.06	0.40 ± 0.00	0.50 ± 0.00	59.20 ± 3.17	n = 14	[SAA] Beckman Coulter ACCESS
44.36 ± 2.28	0.58 ± 0.06	0.40 ± 0.00	0.50 ± 0.00	59.51 ± 2.93	n = 14	[BC1] Beckman Coulter UniCel
27.88 ± 4.90	1.00 ± 0.00	1.00 ± 0.00	1.00 ± 0.00	33.34 ± 4.48	n = 5	[BS1] Biosite Diagnostics
30.58 ± 2.16	0.32 ± 0.06	0.20 ± 0.00	0.23 ± 0.05	39.67 ± 2.92	n = 26	[JJ1] Ortho Clinical Diagnostics
39.73 ± 1.96	0.89 ± 0.11	0.88 ± 0.16	0.63 ± 0.09	53.09 ± 2.64	n = 26	[RO3] Roche Elecsys/Modular E/e601/e411
37.23 ± 1.85	0.21 ± 0.07	0.20 ± 0.08	0.19 ± 0.07	48.11 ± 2.47	n = 33	[COB] Siemens ADVIA Centaur
39.34 ± 2.84	0.50 ± 0.25	0.48 ± 0.26	0.44 ± 0.22	54.11 ± 4.52	n = 29	[DA5] Siemens Dimension
33.32 ± 1.09	0.74 ± 0.15	0.75 ± 0.18	0.50 ± 0.00	47.81 ± 1.40	n = 27	[DA6] Siemens Dimension LOCI
49.70 ± 3.31	0.75 ± 0.06	0.65 ± 0.17	0.60 ± 0.11	67.10 ± 0.23	n = 2	[TO1] Tosoh
36.90 ± 3.97	2.24 ± 1.08	2.24 ± 1.08	3.20 ± 2.44	37.88 ± 18.78	n = 4	[-B-] All Methods - Results reported in U/L
17.33 ± 4.21	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	19.82 ± 6.30	n = 4	[-P-] All Methods - Results reported as %
18.91 ± 4.38	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	22.12 ± 6.58	n = 3	[HL1] Helena Laboratories

Summary of Participant Performance (Mean and Standard Deviation)

Lactate Dehydrogenase (U/L 37°C)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
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269.1 ± 26.80	113.5 ± 10.63	79.7 ± 7.55	262.3 ± 22.85	271.4 ± 27.23	n = 264	[-A-] All Methods - Lactate to Pyruvate
692.2 ± 25.38	323.0 ± 17.31	218.8 ± 14.64	686.2 ± 25.18	720.6 ± 23.31	n = 47	[-B-] All Methods - Pyruvate to Lactate
<Instruments>						
275.9 ± 7.57	120.0 ± 5.14	84.0 ± 4.04	274.3 ± 7.56	282.0 ± 7.23	n = 20	[ABJ] Abbott Architect c System
240.6 ± 9.54	103.3 ± 4.82	72.6 ± 4.24	238.4 ± 9.43	241.8 ± 9.68	n = 49	[OLC] Beckman Coulter AU Chemistry System
218.9 ± 4.93	94.2 ± 2.80	68.6 ± 3.21	220.2 ± 6.59	222.1 ± 5.64	n = 4	[BCS] Beckman Coulter CX
224.0 ± 5.99	96.7 ± 2.26	68.5 ± 2.32	223.4 ± 8.38	225.6 ± 8.87	n = 4	[BCX] Beckman Coulter LX-20
225.2 ± 4.24	96.0 ± 3.10	67.8 ± 3.20	224.4 ± 4.79	227.1 ± 5.16	n = 15	[BCG] Beckman Coulter UniCel DxC 600
228.1 ± 4.53	98.9 ± 3.03	69.8 ± 2.14	225.8 ± 5.93	228.5 ± 5.81	n = 15	[BCH] Beckman Coulter UniCel DxC 800
701.0 ± 17.83	326.2 ± 15.62	216.7 ± 14.95	701.7 ± 25.96	738.7 ± 23.73	n = 8	[JJE] Ortho Vitros 250/350/950
691.5 ± 24.98	321.2 ± 14.78	218.6 ± 16.23	685.8 ± 19.95	720.2 ± 17.48	n = 20	[JJF] Ortho Vitros 5,1FS
689.0 ± 25.60	323.1 ± 18.84	218.6 ± 11.60	681.3 ± 24.95	711.8 ± 22.62	n = 18	[JJG] Ortho Vitros 5600
279.4 ± 3.83	115.5 ± 2.99	81.3 ± 1.44	265.9 ± 6.79	280.8 ± 3.44	n = 16	[ROC] Roche cobas c501
287.2 ± 4.97	117.4 ± 2.31	83.5 ± 2.17	271.1 ± 7.00	284.8 ± 6.12	n = 4	[ROT] Roche Cobas INTEGRA 800
277.7 ± 5.05	115.8 ± 2.52	81.0 ± 1.98	267.5 ± 4.73	280.4 ± 5.17	n = 27	[ROD] Roche MODULAR D/P
280.3 ± 6.48	121.6 ± 4.08	85.2 ± 2.94	274.5 ± 7.48	284.9 ± 7.08	n = 22	[BYE] Siemens ADVIA 1800
271.5 ± 8.12	116.9 ± 2.86	82.5 ± 2.74	264.1 ± 7.17	275.5 ± 5.40	n = 3	[BYB] Siemens ADVIA 2400
285.0 ± 7.78	116.3 ± 3.57	83.5 ± 3.59	276.3 ± 7.48	287.2 ± 6.84	n = 12	[DUE] Siemens Dimension EXL
291.7 ± 7.99	121.4 ± 5.36	84.9 ± 4.73	281.0 ± 9.18	293.3 ± 9.49	n = 15	[DUR] Siemens Dimension RxL
289.9 ± 8.80	120.0 ± 6.31	83.8 ± 5.03	278.1 ± 6.57	292.0 ± 7.38	n = 40	[DUT] Siemens Dimension Vista
289.3 ± 6.43	120.3 ± 3.57	84.6 ± 2.09	275.0 ± 5.40	288.0 ± 2.59	n = 11	[DUX] Siemens Dimension Xpand
<Reagents>						
275.9 ± 7.57	120.0 ± 5.14	84.0 ± 4.04	274.3 ± 7.56	282.0 ± 7.23	n = 20	[AB1] Abbott
225.8 ± 5.48	97.0 ± 3.52	68.8 ± 2.68	224.2 ± 6.20	226.9 ± 6.29	n = 35	[BC1] Beckman Coulter
240.5 ± 9.44	103.2 ± 4.67	72.6 ± 4.08	238.3 ± 9.20	241.7 ± 9.51	n = 48	[OL1] Beckman Coulter AU Series
692.5 ± 24.24	322.8 ± 16.66	218.2 ± 14.07	686.7 ± 24.06	720.1 ± 22.42	n = 46	[JJ1] Ortho Clinical Diagnostics
279.5 ± 4.32	115.6 ± 2.47	81.2 ± 1.60	267.1 ± 6.47	281.0 ± 4.12	n = 20	[RO4] Roche cobas c311/c501/c502/c701
277.7 ± 5.05	115.8 ± 2.52	81.0 ± 1.98	267.5 ± 4.73	280.4 ± 5.17	n = 27	[RO2] Roche Hitachi and Modular D/P
286.8 ± 3.90	118.1 ± 2.03	84.3 ± 2.07	273.4 ± 6.39	286.0 ± 4.96	n = 6	[RO1] Roche Integra and MIRA
278.6 ± 7.70	120.4 ± 4.54	84.5 ± 3.23	273.0 ± 8.69	282.5 ± 8.84	n = 27	[BY1] Siemens ADVIA/ADVIA Centaur
288.7 ± 6.43	116.1 ± 7.53	81.6 ± 5.69	273.0 ± 13.17	285.2 ± 16.00	n = 21	[DA5] Siemens Dimension
289.8 ± 9.20	120.7 ± 5.01	84.8 ± 3.85	278.6 ± 7.95	291.8 ± 8.41	n = 56	[DA8] Siemens Dimension IFCC Standardized

Summary of Participant Performance (Mean and Standard Deviation)

LDH Isoenzyme 1 (%)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent System
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58.5 ± 0.71	32.6 ± 3.38	30.8 ± 1.16	16.2 ± 3.91	58.0 ± 1.42	n = 8	[-P-] All Methods
						<Instruments>
58.2 ± 1.27	35.3 ± 2.65	32.5 ± 2.30	19.1 ± 3.44	56.6 ± 1.80	n = 4	[HLS] Helena SPIFE
58.5 ± 0.57	30.3 ± 1.58	30.0 ± 0.75	13.6 ± 2.31	58.8 ± 0.41	n = 4	[SEE] Sebia Electrophoresis
						<Reagents>
58.2 ± 1.27	35.3 ± 2.65	32.5 ± 2.30	19.1 ± 3.44	56.6 ± 1.80	n = 4	[HL1] Helena Laboratories
58.5 ± 0.57	30.3 ± 1.58	30.0 ± 0.75	13.6 ± 2.31	58.8 ± 0.41	n = 4	[SE1] Sebia