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Statistical Report: Quantitative Urine Clinical Chemistry
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This report summarizes data from the educational quantitative urine clinical chemistry proficiency test of April 9, 2012. Individual evaluation reports are provided for your laboratory for this testing.

Results for the quantitative urine clinical chemistry are listed as the mean ± 1SD for each instrument and reagent system as well as overall results. For albumin, creatinine, and albumin/creatinine ratio units shown are those most frequently used by participants; results from laboratories using different units were converted to the units shown. Please keep this in mind when comparing results reported by your laboratory. Individual laboratory reports were evaluated using ranges appropriate for units reported.

The following criteria were used for the educational quantitative urine clinical chemistry: Albumin (± 25%); Creatinine (± 17%); Albumin-Creatinine Ratio (± 20%); alpha-Amylase (not evaluated); Calcium (± 15%); Chloride (± 20%); Glucose (± 15%); Magnesium (± 20%); Sodium (± 15%); Phosphorus (± 20%); Potassium (± 15%); Total Protein (± 30%); Uric Acid (± 20%); Urea Nitrogen (± 15%). At low analyte concentrations, ranges were based on the dispersion of results obtained. Overall mean values were used for calculation of target concentrations for all analytes.

Note: An unusually wide dispersion of results for calcium and uric acid on sample U04 were noted and allowable limits were adjusted accordingly.

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)

Albumin
The following albumin results are summaries with all results converted to mg/L:

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
310.4 ± 24.80	391.6 ± 28.19	3366.8 ± 273.23	624.8 ± 43.98	2315.4 ± 214.55	n = 179	All Methods & Instruments
						<Method Principles>
308.6 ± 24.90	385.3 ± 25.95	3238.8 ± 502.24	615.8 ± 40.24	2291.0 ± 226.78	n = 80	Reporting in mg/dL
314.9 ± 25.21	399.5 ± 30.47	3406.8 ± 252.39	636.5 ± 43.62	2343.2 ± 207.54	n = 82	Reporting in mg/L
300.8 ± 17.11	388.4 ± 20.39	3311.7 ± 183.08	615.6 ± 49.06	2278.8 ± 141.72	n = 17	Reporting in ug/mL
						<Instruments>
329.4 ± 21.48	396.0 ± 23.21	3408.2 ± 538.04	603.5 ± 29.17	2314.4 ± 317.43	n = 7	Abbott Architect c System
309.8 ± 20.60	377.7 ± 19.10	2974.1 ± 955.43	611.9 ± 35.93	2281.9 ± 281.58	n = 33	Beckman Coulter AU Chemistry System
291.2 ± 3.42	376.5 ± 14.18	3366.5 ± 178.20	604.0 ± 9.83	2333.7 ± 115.74	n = 4	Beckman Coulter Immage
331.3 ± 25.25	404.9 ± 26.72	3427.1 ± 234.23	653.2 ± 47.86	2406.9 ± 279.44	n = 9	Beckman Coulter UniCel DxC 600
317.2 ± 12.74	398.5 ± 11.00	3674.0 ± 315.57	646.2 ± 12.31	2433.9 ± 234.58	n = 7	Beckman Coulter UniCel DxC 800
268.7 ± 14.87	343.7 ± 9.07	2347.3 ± 725.74	558.6 ± 16.53	2046.7 ± 175.13	n = 3	Ortho Vitros 5,1FS
315.5 ± 14.78	395.9 ± 18.86	3555.7 ± 83.98	613.5 ± 25.33	2321.4 ± 52.68	n = 9	Roche cobas c501
288.4 ± 12.03	367.4 ± 10.66	3191.7 ± 89.62	591.9 ± 13.23	2232.6 ± 158.52	n = 5	Roche Cobas INTEGRA
300.5 ± 13.47	395.2 ± 19.00	3296.1 ± 100.32	621.9 ± 30.47	2235.0 ± 73.55	n = 26	Roche MODULAR D/P
294.3 ± 9.63	365.4 ± 13.49	2960.3 ± 578.67	589.2 ± 30.42	2242.8 ± 80.66	n = 14	Siemens ADVIA 1800
304.2 ± 9.82	383.9 ± 9.88	3135.5 ± 52.15	604.2 ± 40.25	2253.4 ± 69.32	n = 3	Siemens ADVIA 2400
345.5 ± 11.10	403.8 ± 15.94	4678.8 ±2015.86	649.4 ± 40.43	2590.2 ± 405.99	n = 3	Siemens Dimension EXL
333.4 ± 27.73	411.2 ± 18.25	3715.1 ± 331.13	659.4 ± 21.35	2685.3 ± 379.20	n = 11	Siemens Dimension RxL
321.2 ± 22.40	419.7 ± 20.09	3325.0 ± 191.07	674.6 ± 45.44	2368.3 ± 115.01	n = 20	Siemens Dimension Vista
342.6 ± 30.24	424.2 ± 56.42	1680.6 ±1124.78	636.6 ± 70.62	1526.1 ± 793.24	n = 5	Siemens Dimension Xpand
312.8 ± 16.80	394.9 ± 15.70	3044.1 ±1013.06	628.7 ± 18.95	2391.0 ± 164.18	n = 6	Other
						<Reagents>
333.5 ± 14.20	400.7 ± 15.34	3613.6 ± 197.65	609.6 ± 20.67	2388.1 ± 224.64	n = 6	Abbott
318.4 ± 21.34	395.4 ± 17.16	3474.3 ± 286.04	638.2 ± 31.92	2384.8 ± 203.13	n = 25	Beckman Coulter
309.6 ± 17.03	376.4 ± 17.46	2736.0 ± 993.60	596.9 ± 50.46	2074.4 ± 525.86	n = 18	Beckman Coulter AU Series
307.4 ± 23.84	384.2 ± 41.22	3359.4 ± 245.09	617.0 ± 26.24	2391.2 ± 126.30	n = 7	Kamiya
254.4 ± 11.41	333.6 ± 11.44	2382.1 ± 698.38	556.4 ± 19.31	2077.9 ± 142.34	n = 3	Randox
312.4 ± 14.16	393.3 ± 16.83	3544.0 ± 85.56	611.3 ± 20.96	2300.9 ± 78.16	n = 11	Roche cobas c501/c311/c502/c701
300.5 ± 13.47	395.2 ± 19.00	3296.1 ± 100.32	621.9 ± 30.47	2235.0 ± 73.55	n = 26	Roche Hitachi and Modular D/P
295.5 ± 17.65	369.2 ± 11.81	3269.5 ± 154.52	606.2 ± 17.33	2310.2 ± 97.01	n = 6	Roche Integra and MIRA S
296.8 ± 10.55	369.0 ± 14.29	3203.9 ± 92.75	592.5 ± 32.18	2236.5 ± 96.44	n = 18	Siemens ADVIA/ADVIA Centaur
329.8 ± 25.64	415.5 ± 18.06	3450.2 ± 300.61	663.2 ± 36.63	2429.2 ± 274.10	n = 36	Siemens Dimension
320.6 ± 18.83	408.2 ± 30.78	3538.3 ± 82.87	651.2 ± 33.61	2501.6 ± 57.15	n = 8	Other

Summary of Participant Performance (Mean and Standard Deviation)

Creatinine
The following creatinine results are summaries with all results converted to mg/dL:

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
73.5 ± 5.20	48.7 ± 3.44	85.8 ± 5.99	130.9 ± 7.23	103.3 ± 6.62	n = 278	All Methods & Instruments
						<Method Principles>
73.5 ± 5.16	48.7 ± 3.44	85.7 ± 5.99	130.9 ± 7.19	103.3 ± 6.59	n = 275	Reporting in mg/dL
						<Instruments>
69.0 ± 1.75	45.8 ± 1.36	80.6 ± 1.71	125.3 ± 2.77	98.3 ± 1.66	n = 13	Abbott Architect c System
82.3 ± 2.49	54.1 ± 1.45	95.1 ± 2.93	140.6 ± 3.59	113.2 ± 2.91	n = 42	Beckman Coulter AU Chemistry System
79.7 ± 4.15	52.8 ± 2.46	92.5 ± 3.53	142.9 ± 6.11	115.9 ± 1.09	n = 3	Beckman Coulter CX
76.9 ± 0.08	51.4 ± 0.48	89.6 ± 3.01	136.5 ± 3.67	109.0 ± 3.51	n = 5	Beckman Coulter LX-20
78.0 ± 1.79	51.6 ± 1.50	90.7 ± 4.78	140.7 ± 2.80	110.0 ± 3.61	n = 15	Beckman Coulter UniCel DxC 600
76.3 ± 1.65	50.9 ± 1.24	88.4 ± 1.47	134.7 ± 3.16	107.0 ± 2.65	n = 15	Beckman Coulter UniCel DxC 800
69.8 ± 2.88	47.7 ± 2.52	80.8 ± 3.58	127.6 ± 4.23	99.0 ± 4.36	n = 14	Ortho Vitros 5,1FS
68.5 ± 1.62	46.6 ± 1.44	78.7 ± 2.24	124.6 ± 2.82	97.2 ± 1.85	n = 13	Ortho Vitros 5600
74.8 ± 3.94	50.0 ± 1.88	85.8 ± 3.50	133.5 ± 5.01	105.0 ± 4.03	n = 18	Roche cobas c501
71.2 ± 1.69	47.1 ± 1.43	82.0 ± 2.29	127.2 ± 4.51	100.3 ± 2.61	n = 9	Roche Cobas INTEGRA
70.7 ± 2.03	47.5 ± 1.65	82.8 ± 2.66	127.5 ± 5.08	100.3 ± 3.64	n = 32	Roche MODULAR D/P
70.2 ± 2.47	47.9 ± 1.51	81.8 ± 2.85	125.7 ± 4.09	98.7 ± 3.58	n = 18	Siemens ADVIA 1800
66.9 ± 3.13	45.9 ± 1.85	77.7 ± 3.46	119.6 ± 7.31	94.2 ± 4.11	n = 3	Siemens ADVIA 2400
73.6 ± 2.07	48.9 ± 2.01	88.1 ± 3.30	132.3 ± 2.44	103.1 ± 0.53	n = 5	Siemens Dimension EXL
73.8 ± 3.27	49.3 ± 1.72	88.7 ± 2.48	132.3 ± 3.90	104.9 ± 4.49	n = 14	Siemens Dimension RxL
72.7 ± 1.89	45.8 ± 1.37	86.2 ± 2.26	129.4 ± 2.90	101.7 ± 2.61	n = 35	Siemens Dimension Vista
69.4 ± 1.66	46.4 ± 1.66	83.1 ± 2.57	124.9 ± 2.26	97.9 ± 1.60	n = 6	Siemens Dimension Xpand
74.3 ± 1.82	48.6 ± 2.43	85.6 ± 1.97	131.2 ± 3.01	106.7 ± 4.93	n = 6	Other
						<Reagents>
69.0 ± 1.75	45.8 ± 1.36	80.6 ± 1.71	125.3 ± 2.77	98.3 ± 1.66	n = 13	Abbott
77.5 ± 2.63	51.5 ± 1.64	89.9 ± 3.61	137.4 ± 4.86	109.2 ± 4.15	n = 41	Beckman Coulter
82.6 ± 2.15	54.2 ± 1.27	95.4 ± 2.63	140.9 ± 3.10	113.5 ± 2.56	n = 34	Beckman Coulter AU Series
262.7 ± 340.92	169.5 ± 235.26	302.9 ± 397.73	459.5 ± 604.89	363.2 ± 479.22	n = 3	In-House
69.0 ± 2.22	47.1 ± 2.00	79.7 ± 3.05	126.1 ± 3.82	97.9 ± 2.95	n = 28	Ortho Clinical Diagnostics
74.9 ± 3.91	50.2 ± 1.87	86.0 ± 3.50	133.6 ± 4.79	104.9 ± 3.93	n = 19	Roche cobas c501/c311/c502/c701
70.7 ± 2.03	47.5 ± 1.65	82.8 ± 2.66	127.5 ± 5.08	100.3 ± 3.64	n = 32	Roche Hitachi and Modular D/P
70.8 ± 1.55	46.7 ± 1.29	80.8 ± 1.97	126.0 ± 4.41	98.9 ± 2.48	n = 11	Roche Integra and MIRA S
69.7 ± 2.80	47.5 ± 1.78	81.0 ± 3.43	124.9 ± 4.70	97.9 ± 3.92	n = 22	Siemens ADVIA/ADVIA Centaur
72.7 ± 2.58	46.7 ± 2.32	86.6 ± 2.82	129.9 ± 3.82	102.1 ± 3.55	n = 57	Siemens Dimension
74.1 ± 1.51	46.9 ± 1.16	86.6 ± 2.80	130.1 ± 1.91	104.2 ± 2.20	n = 7	Other

Summary of Participant Performance (Mean and Standard Deviation)

Albumin-Creatinine Ratio
The following albumin-creatinine ratio results are summaries with all results converted to µg/mg:

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
418.9 ± 42.61	800.3 ± 89.29	3922.0 ± 348.43	476.2 ± 41.42	2238.4 ± 223.00	n = 153	All Methods & Instruments
						<Method Principles>
424.9 ± 44.11	810.3 ± 86.62	3958.0 ± 323.56	482.1 ± 38.11	2262.9 ± 204.23	n = 97	Reporting in mg/g
409.4 ± 34.25	780.3 ± 83.82	3846.8 ± 407.66	465.6 ± 40.76	2195.5 ± 233.38	n = 52	Reporting in ug/mg
471.1 ± 97.08	868.3 ± 162.99	5485.4 ±3235.49	549.4 ± 147.03	3501.9 ±2413.32	n = 3	Other
						<Instruments>
396.0 ± 51.47	716.1 ± 146.01	1696.3 ±1858.73	408.8 ± 115.59	1258.3 ±1091.56	n = 20	Clinical Analyzer calculation
416.1 ± 71.68	844.3 ± 167.67	3733.9 ± 860.23	463.8 ± 35.42	2291.2 ± 467.44	n = 7	Manual Calculation
						<Reagents>
421.9 ± 39.17	807.1 ± 83.55	3925.3 ± 324.93	477.9 ± 40.60	2243.6 ± 185.71	n = 124	Lab Information System
396.0 ± 51.47	716.1 ± 146.01	1696.3 ±1858.73	408.8 ± 115.59	1258.3 ±1091.56	n = 20	Clinical Analyzer calculation
416.1 ± 71.68	844.3 ± 167.67	3733.9 ± 860.23	463.8 ± 35.42	2291.2 ± 467.44	n = 7	Manual Calculation

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
243.73 ± 7.41	149.89 ± 4.12	83.08 ± 4.87	101.41 ± 4.17	65.75 ± 4.40	n = 194	All Methods & Instruments
						<Method Principles>
243.47 ± 7.63	150.08 ± 4.17	83.20 ± 4.89	101.49 ± 4.30	65.88 ± 4.56	n = 171	Ion selective electrode (diluted)
245.89 ± 5.64	148.38 ± 2.78	82.11 ± 4.54	101.47 ± 2.01	65.01 ± 3.30	n = 21	Ion selective electrode (undiluted)
						<Instruments>
246.47 ± 4.12	150.08 ± 2.66	82.78 ± 1.18	101.20 ± 1.41	65.16 ± 0.44	n = 14	Abbott Architect c System
252.15 ± 2.10	150.24 ± 1.10	83.00 ± 0.00	102.72 ± 0.91	66.14 ± 0.88	n = 24	Beckman Coulter AU Chemistry System
241.68 ± 8.05	149.54 ± 0.87	82.25 ± 1.89	100.39 ± 1.00	65.14 ± 2.22	n = 5	Beckman Coulter LX-20
235.64 ± 5.98	148.64 ± 1.53	82.57 ± 1.20	100.62 ± 1.20	65.35 ± 1.31	n = 13	Beckman Coulter UniCel DxC 600
237.05 ± 5.39	148.76 ± 1.91	82.92 ± 0.87	101.27 ± 0.93	65.40 ± 1.04	n = 14	Beckman Coulter UniCel DxC 800
248.85 ± 10.48	144.70 ± 2.05	73.81 ± 1.02	93.87 ± 1.18	58.18 ± 0.61	n = 14	Roche cobas c501
240.72 ± 3.81	146.60 ± 0.79	80.81 ± 1.96	98.56 ± 1.02	64.88 ± 2.18	n = 6	Roche Cobas INTEGRA
247.41 ± 8.04	147.17 ± 1.05	77.10 ± 1.05	96.85 ± 0.92	60.47 ± 1.09	n = 23	Roche MODULAR D/P
241.57 ± 3.25	148.04 ± 0.87	82.48 ± 0.64	101.61 ± 0.73	66.06 ± 0.55	n = 15	Siemens ADVIA 1800
241.52 ± 2.74	148.00 ± 0.90	82.28 ± 0.51	102.00 ± 0.90	66.00 ± 0.00	n = 3	Siemens ADVIA 2400
245.00 ± 1.76	156.31 ± 0.90	96.00 ± 1.76	115.30 ± 0.82	83.28 ± 2.02	n = 4	Siemens Dimension EXL
241.19 ± 3.88	154.39 ± 2.86	91.79 ± 3.02	111.93 ± 2.41	78.82 ± 5.86	n = 13	Siemens Dimension RxL
242.57 ± 3.95	155.85 ± 1.87	87.29 ± 1.30	104.04 ± 1.71	69.31 ± 1.39	n = 32	Siemens Dimension Vista
243.80 ± 4.60	152.30 ± 2.34	90.20 ± 1.58	110.65 ± 1.67	76.64 ± 2.30	n = 6	Siemens Dimension Xpand
						<Reagents>
246.47 ± 4.12	150.08 ± 2.66	82.78 ± 1.18	101.20 ± 1.41	65.16 ± 0.44	n = 14	Abbott
236.59 ± 7.07	148.83 ± 1.56	82.81 ± 1.32	100.91 ± 1.09	65.47 ± 1.40	n = 34	Beckman Coulter
252.00 ± 2.00	150.26 ± 1.04	83.00 ± 0.00	102.77 ± 0.82	66.19 ± 0.78	n = 23	Beckman Coulter AU Series
254.48 ± 53.88	145.37 ± 4.28	82.21 ± 1.96	100.73 ± 2.26	65.35 ± 1.58	n = 4	Ortho Clinical Diagnostics
246.88 ± 12.55	144.88 ± 1.92	73.90 ± 1.02	94.04 ± 1.36	58.21 ± 0.75	n = 14	Roche cobas c501/c311/c502/c701
247.41 ± 8.04	147.17 ± 1.05	77.10 ± 1.05	96.85 ± 0.92	60.47 ± 1.09	n = 23	Roche Hitachi and Modular D/P
241.55 ± 4.71	146.44 ± 1.18	80.35 ± 2.94	98.55 ± 1.11	64.34 ± 3.11	n = 7	Roche Integra and MIRA S
241.59 ± 3.06	148.10 ± 0.90	82.41 ± 0.61	101.70 ± 0.76	66.03 ± 0.40	n = 19	Siemens ADVIA/ADVIA Centaur
242.80 ± 3.90	155.38 ± 2.36	88.89 ± 3.11	107.32 ± 4.95	72.67 ± 5.77	n = 53	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
1.1 ± 0.65	228.7 ± 6.56	68.3 ± 2.30	114.7 ± 3.20	1.1 ± 0.71	n = 131	All Methods & Instruments
						<Method Principles>
1.1 ± 0.51	229.1 ± 6.61	68.0 ± 2.12	114.7 ± 3.02	1.0 ± 0.55	n = 73	Hexokinase, UV
1.2 ± 0.77	228.4 ± 6.90	68.0 ± 2.14	113.8 ± 3.12	1.1 ± 0.62	n = 30	Hexokinase, colorimetric
<20.0	226.1 ± 5.18	70.9 ± 2.20	117.3 ± 2.57	<20.0	n = 16	Glucose oxidase, colorimetric
4.5 ± 3.04	232.3 ± 5.99	67.5 ± 1.83	114.5 ± 1.92	4.6 ± 2.95	n = 9	Glucose oxidase, O2 electrode
						<Instruments>
1.0 ± 0.00	231.8 ± 3.80	68.0 ± 1.60	114.4 ± 2.43	1.0 ± 0.00	n = 6	Abbott Architect c System
7.0 ± 5.60	223.6 ± 4.99	67.0 ± 1.80	112.7 ± 1.32	7.0 ± 5.73	n = 13	Beckman Coulter AU Chemistry System
5.1 ± 2.88	232.6 ± 5.87	68.1 ± 1.51	112.8 ± 2.40	5.1 ± 2.52	n = 5	Beckman Coulter UniCel DxC 600
3.4 ± 0.95	229.5 ± 6.53	66.7 ± 2.39	113.2 ± 3.12	3.3 ± 1.14	n = 8	Beckman Coulter UniCel DxC 800
<20.0	225.8 ± 5.41	70.6 ± 2.38	116.9 ± 2.66	<20.0	n = 9	Ortho Vitros 5,1FS
<20.0	226.6 ± 4.47	71.8 ± 2.32	118.9 ± 3.47	<20.0	n = 8	Ortho Vitros 5600
1.3 ± 0.69	231.4 ± 8.31	69.4 ± 1.88	115.6 ± 3.57	1.3 ± 0.70	n = 8	Roche cobas c501
0.9 ± 0.43	230.0 ± 5.90	68.4 ± 1.86	113.9 ± 2.61	0.5 ± 0.59	n = 5	Roche Cobas INTEGRA
1.5 ± 0.78	234.5 ± 4.16	69.5 ± 1.16	117.2 ± 2.32	1.5 ± 0.75	n = 18	Roche MODULAR D/P
1.0 ± 0.00	229.3 ± 3.21	68.1 ± 1.07	115.1 ± 1.39	1.0 ± 0.00	n = 12	Siemens ADVIA 1800
6.0 ± 10.00	229.5 ± 6.32	67.7 ± 2.26	115.1 ± 2.86	6.0 ± 10.00	n = 3	Siemens ADVIA 2400
0.6 ± 0.85	229.9 ± 7.23	68.9 ± 1.60	113.7 ± 2.31	0.6 ± 0.85	n = 7	Siemens Dimension RxL
1.0 ± 0.00	224.1 ± 5.72	65.9 ± 1.70	112.2 ± 2.24	1.0 ± 0.00	n = 21	Siemens Dimension Vista
						<Reagents>
1.0 ± 0.00	231.8 ± 3.80	68.0 ± 1.60	114.4 ± 2.43	1.0 ± 0.00	n = 6	Abbott
3.8 ± 2.36	231.1 ± 6.57	67.5 ± 2.19	113.5 ± 2.90	3.8 ± 2.16	n = 16	Beckman Coulter
8.3 ± 5.14	223.3 ± 4.90	67.0 ± 1.67	112.6 ± 1.30	8.3 ± 5.14	n = 11	Beckman Coulter AU Series
<20.0	226.2 ± 4.99	71.2 ± 2.43	117.7 ± 3.06	<20.0	n = 17	Ortho Clinical Diagnostics
1.3 ± 0.67	230.7 ± 7.38	68.7 ± 2.16	116.0 ± 3.20	1.3 ± 0.73	n = 10	Roche cobas c501/c311/c502/c701
1.5 ± 0.78	234.5 ± 4.16	69.5 ± 1.16	117.2 ± 2.32	1.5 ± 0.75	n = 18	Roche Hitachi and Modular D/P
0.9 ± 0.43	230.0 ± 5.90	68.4 ± 1.86	113.9 ± 2.61	0.5 ± 0.59	n = 5	Roche Integra and MIRA S
1.0 ± 0.00	229.0 ± 4.06	68.0 ± 1.28	114.9 ± 1.71	1.0 ± 0.00	n = 16	Siemens ADVIA/ADVIA Centaur
0.9 ± 0.39	226.0 ± 6.27	67.0 ± 2.27	112.8 ± 2.49	0.9 ± 0.39	n = 30	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
13.71 ± 0.73	3.11 ± 0.38	7.75 ± 0.50	14.65 ± 0.70	8.68 ± 0.67	n = 128	All Methods & Instruments
						<Method Principles>
13.78 ± 0.38	2.91 ± 0.35	7.71 ± 0.40	14.78 ± 0.32	8.79 ± 0.51	n = 21	Calmagite
14.10 ± 0.39	3.29 ± 0.17	7.94 ± 0.34	15.15 ± 0.45	8.84 ± 0.39	n = 31	Methylthymol blue
13.49 ± 0.56	3.23 ± 0.22	7.88 ± 0.36	14.46 ± 0.67	8.89 ± 0.44	n = 45	Xylidyl blue (Magon)
14.77 ± 0.21	2.32 ± 0.26	6.88 ± 0.13	14.49 ± 0.34	7.27 ± 0.20	n = 9	Formazon dye
13.16 ± 0.51	2.95 ± 0.22	7.62 ± 0.33	14.27 ± 0.58	8.45 ± 0.42	n = 11	Chlorophosphonazo III
12.23 ± 0.91	2.57 ± 0.34	6.24 ± 0.66	13.15 ± 0.71	7.09 ± 0.61	n = 8	Arsenazo dye
						<Instruments>
11.86 ± 0.36	2.54 ± 0.32	5.99 ± 0.44	12.86 ± 0.35	6.93 ± 0.45	n = 6	Abbott Architect c System
13.56 ± 0.46	3.24 ± 0.12	8.01 ± 0.33	14.36 ± 0.45	9.02 ± 0.42	n = 10	Beckman Coulter AU Chemistry System
13.53 ± 0.37	2.80 ± 0.18	7.70 ± 0.27	14.90 ± 0.23	8.83 ± 0.40	n = 4	Beckman Coulter UniCel DxC 600
13.85 ± 0.39	2.81 ± 0.23	7.66 ± 0.44	14.75 ± 0.31	8.70 ± 0.58	n = 11	Beckman Coulter UniCel DxC 800
14.62 ± 0.27	2.31 ± 0.20	6.87 ± 0.09	14.31 ± 0.39	7.23 ± 0.09	n = 4	Ortho Vitros 5,1FS
14.87 ± 0.28	2.25 ± 0.29	6.80 ± 0.19	14.58 ± 0.29	7.24 ± 0.27	n = 7	Ortho Vitros 5600
12.93 ± 0.36	2.85 ± 0.16	7.44 ± 0.20	13.95 ± 0.37	8.15 ± 0.32	n = 5	Roche cobas c501
13.28 ± 0.54	3.06 ± 0.20	7.75 ± 0.33	14.58 ± 0.63	8.63 ± 0.30	n = 5	Roche Cobas INTEGRA
13.13 ± 0.48	3.13 ± 0.28	7.69 ± 0.29	14.12 ± 0.61	8.64 ± 0.29	n = 21	Roche MODULAR D/P
13.94 ± 0.31	3.39 ± 0.33	8.09 ± 0.40	14.95 ± 0.37	9.18 ± 0.38	n = 12	Siemens ADVIA 1800
13.67 ± 0.24	3.43 ± 0.26	7.89 ± 0.14	14.72 ± 0.04	8.95 ± 0.11	n = 3	Siemens ADVIA 2400
13.60 ± 0.64	3.21 ± 0.18	7.66 ± 0.33	14.75 ± 0.54	8.68 ± 0.50	n = 7	Siemens Dimension RxL
14.18 ± 0.35	3.33 ± 0.13	8.07 ± 0.28	15.26 ± 0.41	8.94 ± 0.37	n = 23	Siemens Dimension Vista
13.41 ± 0.22	11.54 ± 15.27	7.78 ± 0.27	14.46 ± 0.41	8.90 ± 0.31	n = 3	Other
						<Reagents>
11.86 ± 0.36	2.54 ± 0.32	5.99 ± 0.44	12.86 ± 0.35	6.93 ± 0.45	n = 6	Abbott
13.75 ± 0.36	2.86 ± 0.24	7.70 ± 0.37	14.76 ± 0.28	8.75 ± 0.48	n = 18	Beckman Coulter
13.57 ± 0.49	3.26 ± 0.10	8.06 ± 0.29	14.34 ± 0.47	9.09 ± 0.38	n = 9	Beckman Coulter AU Series
14.78 ± 0.29	2.29 ± 0.26	6.84 ± 0.15	14.50 ± 0.36	7.23 ± 0.21	n = 11	Ortho Clinical Diagnostics
13.06 ± 0.45	2.85 ± 0.16	7.51 ± 0.28	14.06 ± 0.41	8.25 ± 0.44	n = 6	Roche cobas c501/c311/c502/c701
13.13 ± 0.48	3.13 ± 0.28	7.69 ± 0.29	14.12 ± 0.61	8.64 ± 0.29	n = 21	Roche Hitachi and Modular D/P
13.28 ± 0.54	3.06 ± 0.20	7.75 ± 0.33	14.58 ± 0.63	8.63 ± 0.30	n = 5	Roche Integra and MIRA S
13.88 ± 0.32	3.46 ± 0.39	8.02 ± 0.35	14.89 ± 0.33	9.10 ± 0.33	n = 16	Siemens ADVIA/ADVIA Centaur
14.11 ± 0.38	3.30 ± 0.16	7.96 ± 0.34	15.17 ± 0.47	8.86 ± 0.40	n = 31	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
244.0 ± 5.70	155.0 ± 4.28	82.1 ± 3.17	100.6 ± 3.49	64.5 ± 3.28	n = 222	All Methods & Instruments
						<Method Principles>
243.6 ± 5.39	154.7 ± 3.80	81.9 ± 2.95	100.4 ± 2.94	64.3 ± 3.28	n = 186	Ion selective electrode (diluted)
251.7 ± 14.13	160.6 ± 7.28	84.0 ± 3.55	104.7 ± 5.94	65.3 ± 2.95	n = 33	Ion selective electrode (undiluted)
247.9 ± 2.86	154.1 ± 5.22	81.9 ± 5.63	101.3 ± 8.64	65.0 ± 6.42	n = 3	Other
						<Instruments>
239.5 ± 3.77	153.5 ± 1.59	81.2 ± 0.80	99.3 ± 1.01	64.8 ± 0.56	n = 14	Abbott Architect c System
248.3 ± 2.09	156.3 ± 0.89	83.9 ± 0.85	101.4 ± 0.79	67.5 ± 1.08	n = 26	Beckman Coulter AU Chemistry System
237.3 ± 1.37	157.0 ± 0.90	84.3 ± 1.37	101.7 ± 1.37	66.0 ± 1.80	n = 3	Beckman Coulter CX
239.9 ± 4.96	155.5 ± 0.83	83.5 ± 1.62	100.8 ± 1.66	64.8 ± 1.89	n = 5	Beckman Coulter LX-20
239.0 ± 2.21	155.1 ± 1.18	83.0 ± 1.11	101.1 ± 0.97	63.9 ± 1.05	n = 14	Beckman Coulter UniCel DxC 600
238.8 ± 3.56	155.9 ± 2.17	83.5 ± 1.57	101.4 ± 0.85	64.2 ± 1.49	n = 15	Beckman Coulter UniCel DxC 800
266.5 ± 13.47	166.5 ± 4.45	86.2 ± 3.74	109.3 ± 3.81	65.1 ± 3.42	n = 14	Ortho Vitros 5,1FS
253.2 ± 7.30	164.8 ± 3.66	84.3 ± 2.50	107.9 ± 3.15	63.2 ± 2.22	n = 10	Ortho Vitros 5600
244.3 ± 4.24	156.0 ± 1.64	81.9 ± 0.95	100.7 ± 1.79	65.4 ± 0.80	n = 15	Roche cobas c501
243.3 ± 2.81	156.7 ± 1.37	83.6 ± 1.61	105.5 ± 2.11	66.3 ± 1.68	n = 6	Roche Cobas INTEGRA
246.5 ± 3.46	156.8 ± 1.35	82.3 ± 1.38	100.9 ± 1.29	65.2 ± 1.50	n = 24	Roche MODULAR D/P
246.6 ± 2.74	156.8 ± 0.78	83.0 ± 0.78	101.6 ± 0.61	66.7 ± 0.63	n = 15	Siemens ADVIA 1800
246.6 ± 2.56	156.7 ± 0.51	82.7 ± 0.51	101.7 ± 0.51	66.3 ± 0.51	n = 3	Siemens ADVIA 2400
238.1 ± 2.69	150.8 ± 0.74	79.7 ± 0.86	98.9 ± 0.97	62.1 ± 0.94	n = 14	Siemens Dimension RxL
245.6 ± 3.58	148.2 ± 2.83	74.9 ± 2.42	94.3 ± 2.50	57.2 ± 2.78	n = 33	Siemens Dimension Vista
240.4 ± 3.98	151.2 ± 1.48	78.8 ± 0.66	98.5 ± 0.74	61.2 ± 0.86	n = 7	Siemens Dimension Xpand
						<Reagents>
239.5 ± 3.77	153.5 ± 1.59	81.2 ± 0.80	99.3 ± 1.01	64.8 ± 0.56	n = 14	Abbott
238.8 ± 2.93	155.6 ± 1.60	83.3 ± 1.40	101.2 ± 1.15	64.2 ± 1.45	n = 37	Beckman Coulter
248.2 ± 2.10	156.3 ± 0.77	83.9 ± 0.80	101.4 ± 0.80	67.4 ± 1.00	n = 25	Beckman Coulter AU Series
260.2 ± 13.14	165.7 ± 4.23	85.4 ± 3.42	108.7 ± 3.57	64.3 ± 3.13	n = 24	Ortho Clinical Diagnostics
244.1 ± 3.95	156.0 ± 1.60	82.0 ± 1.13	100.9 ± 2.04	65.5 ± 0.94	n = 16	Roche cobas c501/c311/c502/c701
246.5 ± 3.46	156.8 ± 1.35	82.3 ± 1.38	100.9 ± 1.29	65.2 ± 1.50	n = 24	Roche Hitachi and Modular D/P
243.3 ± 2.81	156.7 ± 1.37	83.6 ± 1.61	105.5 ± 2.11	66.3 ± 1.68	n = 6	Roche Integra and MIRA S
246.8 ± 2.63	156.8 ± 0.73	82.9 ± 0.76	101.6 ± 0.60	66.6 ± 0.64	n = 19	Siemens ADVIA/ADVIA Centaur
242.8 ± 5.13	149.7 ± 2.54	77.2 ± 3.15	96.6 ± 3.03	59.6 ± 3.33	n = 54	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
52.67 ± 2.65	77.07 ± 3.45	102.04 ± 5.33	121.71 ± 6.64	130.24 ± 6.83	n = 157	All Methods & Instruments
						<Method Principles>
52.24 ± 2.09	76.37 ± 2.69	101.70 ± 3.93	120.89 ± 5.61	129.78 ± 5.69	n = 74	Phosphomolybdate - no reduction
51.50 ± 0.55	75.52 ± 1.12	100.02 ± 1.94	122.38 ± 3.11	128.43 ± 4.91	n = 3	Phosphomolybdate reduction (ANS)
54.20 ± 3.91	79.07 ± 5.05	104.21 ± 9.85	122.61 ± 11.94	132.72 ± 13.45	n = 44	Phosphomolybdate reduction (PMA phe
52.88 ± 1.97	77.85 ± 3.21	102.56 ± 4.19	122.64 ± 5.83	130.68 ± 4.08	n = 21	Phosphomolybdate reduction-other
51.88 ± 1.14	76.51 ± 1.60	101.97 ± 1.90	121.48 ± 3.46	129.19 ± 3.59	n = 12	Other
						<Instruments>
51.81 ± 0.92	75.99 ± 1.48	102.47 ± 1.57	121.06 ± 3.07	129.54 ± 2.82	n = 8	Abbott Architect c System
51.60 ± 1.27	75.88 ± 1.51	101.31 ± 2.58	119.68 ± 3.59	129.87 ± 4.27	n = 18	Beckman Coulter AU Chemistry System
52.67 ± 2.41	78.49 ± 5.56	103.16 ± 5.60	127.25 ± 7.43	130.83 ± 6.09	n = 3	Beckman Coulter LX-20
53.35 ± 1.75	77.40 ± 3.71	101.97 ± 4.78	124.61 ± 6.54	129.60 ± 3.93	n = 7	Beckman Coulter UniCel DxC 600
53.02 ± 1.24	76.28 ± 1.66	103.18 ± 3.09	122.44 ± 6.55	129.97 ± 6.99	n = 11	Beckman Coulter UniCel DxC 800
57.10 ± 1.56	82.39 ± 2.07	107.68 ± 1.91	124.72 ± 3.32	135.44 ± 2.62	n = 7	Ortho Vitros 5,1FS
56.90 ± 2.20	82.86 ± 2.99	108.01 ± 4.93	128.19 ± 4.93	136.80 ± 5.09	n = 9	Ortho Vitros 5600
52.93 ± 1.47	77.29 ± 1.27	102.05 ± 2.24	120.76 ± 4.59	130.08 ± 2.93	n = 8	Roche cobas c501
51.91 ± 0.81	76.39 ± 2.17	101.87 ± 1.45	121.34 ± 2.65	130.22 ± 2.19	n = 5	Roche Cobas INTEGRA
50.79 ± 1.75	74.95 ± 2.38	99.61 ± 2.45	118.12 ± 3.96	126.31 ± 4.14	n = 22	Roche MODULAR D/P
52.63 ± 1.77	77.73 ± 2.28	103.38 ± 3.38	123.30 ± 4.16	132.82 ± 3.66	n = 14	Siemens ADVIA 1800
51.17 ± 1.68	75.78 ± 2.68	96.72 ± 3.79	117.47 ± 8.67	126.27 ± 14.60	n = 3	Siemens ADVIA 2400
56.14 ± 2.66	82.22 ± 2.64	113.33 ± 7.02	131.56 ± 16.29	143.00 ± 12.98	n = 10	Siemens Dimension RxL
51.51 ± 1.91	75.40 ± 1.88	96.83 ± 6.68	118.35 ± 10.03	125.82 ± 9.92	n = 26	Siemens Dimension Vista
						<Reagents>
51.81 ± 0.92	75.99 ± 1.48	102.47 ± 1.57	121.06 ± 3.07	129.54 ± 2.82	n = 8	Abbott
53.13 ± 1.75	76.89 ± 3.15	102.68 ± 4.05	123.84 ± 6.87	129.89 ± 5.87	n = 21	Beckman Coulter
51.48 ± 1.19	75.87 ± 1.57	101.37 ± 1.91	119.96 ± 3.57	130.20 ± 3.87	n = 17	Beckman Coulter AU Series
56.93 ± 2.14	82.57 ± 2.93	107.45 ± 4.14	126.11 ± 4.59	135.69 ± 4.72	n = 17	Ortho Clinical Diagnostics
53.17 ± 1.51	77.54 ± 1.41	102.43 ± 2.36	121.02 ± 4.28	130.58 ± 3.08	n = 9	Roche cobas c501/c311/c502/c701
50.79 ± 1.75	74.95 ± 2.38	99.61 ± 2.45	118.12 ± 3.96	126.31 ± 4.14	n = 22	Roche Hitachi and Modular D/P
51.91 ± 0.81	76.39 ± 2.17	101.87 ± 1.45	121.34 ± 2.65	130.22 ± 2.19	n = 5	Roche Integra and MIRA S
52.30 ± 1.78	77.28 ± 2.38	101.98 ± 4.21	122.84 ± 5.02	131.35 ± 6.99	n = 18	Siemens ADVIA/ADVIA Centaur
52.97 ± 3.24	77.35 ± 4.06	101.79 ± 11.37	121.50 ± 14.01	129.81 ± 15.25	n = 37	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
19.48 ± 0.60	37.28 ± 1.65	57.08 ± 3.25	45.32 ± 2.16	75.33 ± 5.01	n = 222	All Methods & Instruments
						<Method Principles>
19.47 ± 0.59	37.10 ± 1.59	56.68 ± 3.09	45.37 ± 2.20	74.65 ± 4.67	n = 187	Ion selective electrode (diluted)
19.63 ± 0.63	38.36 ± 1.59	59.59 ± 2.94	45.07 ± 1.93	79.76 ± 4.50	n = 33	Ion selective electrode (undiluted)
						<Instruments>
19.25 ± 0.19	36.93 ± 0.34	56.62 ± 0.76	44.94 ± 0.77	75.24 ± 1.18	n = 14	Abbott Architect c System
20.02 ± 0.42	38.19 ± 1.20	59.30 ± 2.05	47.13 ± 1.48	79.02 ± 2.45	n = 25	Beckman Coulter AU Chemistry System
19.86 ± 0.15	37.31 ± 0.28	56.82 ± 0.80	45.67 ± 0.72	74.70 ± 0.51	n = 5	Beckman Coulter LX-20
19.77 ± 0.30	36.89 ± 0.31	55.79 ± 0.68	45.06 ± 0.50	73.65 ± 0.76	n = 15	Beckman Coulter UniCel DxC 600
19.76 ± 0.30	37.16 ± 0.56	56.08 ± 1.08	45.53 ± 0.59	74.12 ± 1.42	n = 15	Beckman Coulter UniCel DxC 800
19.56 ± 0.46	38.97 ± 0.98	60.63 ± 1.57	43.79 ± 1.11	81.60 ± 2.27	n = 14	Ortho Vitros 5,1FS
19.91 ± 0.37	39.95 ± 0.95	61.67 ± 1.70	44.35 ± 1.01	83.12 ± 2.80	n = 10	Ortho Vitros 5600
19.15 ± 0.33	37.33 ± 0.84	57.46 ± 1.69	46.15 ± 1.10	76.07 ± 2.40	n = 14	Roche cobas c501
19.23 ± 0.38	37.67 ± 1.05	57.85 ± 1.29	46.82 ± 1.16	76.24 ± 1.74	n = 6	Roche Cobas INTEGRA
19.79 ± 0.37	38.87 ± 0.96	59.64 ± 2.80	48.42 ± 1.17	78.57 ± 4.62	n = 24	Roche MODULAR D/P
19.94 ± 0.17	37.85 ± 0.32	58.37 ± 0.63	46.66 ± 0.49	77.33 ± 0.91	n = 16	Siemens ADVIA 1800
20.00 ± 0.09	37.97 ± 0.05	58.25 ± 0.46	46.74 ± 0.39	77.16 ± 0.73	n = 3	Siemens ADVIA 2400
18.44 ± 0.74	35.40 ± 0.72	56.23 ± 1.42	45.02 ± 0.77	73.63 ± 1.06	n = 3	Siemens Dimension EXL
18.90 ± 0.23	35.72 ± 0.52	54.39 ± 0.81	43.78 ± 0.60	71.15 ± 1.39	n = 15	Siemens Dimension RxL
18.79 ± 0.30	35.03 ± 0.75	52.18 ± 1.08	42.30 ± 0.75	68.15 ± 1.84	n = 33	Siemens Dimension Vista
18.96 ± 0.26	36.09 ± 0.50	56.03 ± 0.07	44.91 ± 0.65	73.67 ± 2.89	n = 6	Siemens Dimension Xpand
						<Reagents>
19.25 ± 0.19	36.93 ± 0.34	56.62 ± 0.76	44.94 ± 0.77	75.24 ± 1.18	n = 14	Abbott
19.77 ± 0.29	37.09 ± 0.47	56.13 ± 1.05	45.37 ± 0.67	74.05 ± 1.25	n = 37	Beckman Coulter
20.02 ± 0.45	38.27 ± 1.11	59.43 ± 1.84	47.23 ± 1.40	79.12 ± 2.20	n = 24	Beckman Coulter AU Series
19.72 ± 0.49	39.41 ± 1.12	61.10 ± 1.77	44.03 ± 1.15	82.29 ± 2.65	n = 23	Ortho Clinical Diagnostics
19.14 ± 0.30	37.23 ± 0.93	57.28 ± 1.79	46.00 ± 1.34	75.81 ± 2.53	n = 15	Roche cobas c501/c311/c502/c701
19.79 ± 0.37	38.87 ± 0.96	59.64 ± 2.80	48.42 ± 1.17	78.57 ± 4.62	n = 24	Roche Hitachi and Modular D/P
19.23 ± 0.38	37.67 ± 1.05	57.85 ± 1.29	46.82 ± 1.16	76.24 ± 1.74	n = 6	Roche Integra and MIRA S
19.95 ± 0.16	37.93 ± 0.13	58.37 ± 0.61	46.67 ± 0.47	77.30 ± 0.89	n = 20	Siemens ADVIA/ADVIA Centaur
18.87 ± 0.25	35.38 ± 0.77	53.39 ± 1.96	43.12 ± 1.34	69.66 ± 2.87	n = 55	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
39.97 ± 2.82	48.16 ± 3.07	370.86 ± 20.52	73.87 ± 4.55	262.26 ± 15.30	n = 223	All Methods & Instruments
						<Method Principles>
40.23 ± 2.75	48.44 ± 3.14	373.46 ± 20.58	73.98 ± 5.11	262.97 ± 16.04	n = 89	Biuret (alkaline cupric sulfate)
42.63 ± 9.30	58.18 ± 11.38	559.75 ± 162.45	98.35 ± 21.22	404.74 ± 113.78	n = 3	Refractometry
40.04 ± 1.81	48.77 ± 2.15	385.45 ± 16.32	70.55 ± 2.79	272.57 ± 12.95	n = 30	Tubidimetric/Benzethonium Chloride
39.78 ± 2.68	47.89 ± 2.91	364.28 ± 15.69	75.24 ± 3.48	259.30 ± 12.41	n = 88	Pyrogallol red
43.17 ± 7.01	56.56 ± 11.42	507.45 ± 160.28	88.98 ± 18.10	369.94 ± 106.85	n = 13	Other
						<Instruments>
40.53 ± 0.92	47.72 ± 0.71	381.42 ± 8.93	71.43 ± 1.74	271.94 ± 11.37	n = 13	Abbott Architect c System
37.72 ± 1.21	45.35 ± 1.59	372.46 ± 19.34	72.96 ± 2.74	261.22 ± 13.93	n = 29	Beckman Coulter AU Chemistry System
38.79 ± 0.99	48.09 ± 0.66	366.62 ± 21.52	76.43 ± 1.92	255.82 ± 23.48	n = 5	Beckman Coulter LX-20
40.10 ± 1.39	50.74 ± 1.71	371.57 ± 18.68	80.85 ± 2.96	267.65 ± 17.40	n = 12	Beckman Coulter UniCel DxC 600
38.92 ± 2.11	49.74 ± 2.70	355.82 ± 22.27	78.63 ± 4.45	260.01 ± 20.53	n = 14	Beckman Coulter UniCel DxC 800
45.58 ± 5.04	61.61 ± 4.48	631.41 ± 37.46	97.55 ± 10.92	451.51 ± 31.84	n = 12	Ortho Vitros 5,1FS
47.44 ± 5.92	63.69 ± 3.48	632.40 ± 59.89	103.98 ± 8.18	409.14 ± 105.67	n = 11	Ortho Vitros 5600
38.90 ± 1.98	48.42 ± 3.59	393.28 ± 20.20	71.41 ± 2.21	273.34 ± 15.66	n = 15	Roche cobas c501
38.90 ± 2.60	47.17 ± 3.24	361.78 ± 19.27	64.60 ± 5.55	255.27 ± 17.15	n = 7	Roche Cobas INTEGRA
39.15 ± 2.08	47.97 ± 2.52	384.99 ± 12.84	69.32 ± 3.08	270.18 ± 13.40	n = 26	Roche MODULAR D/P
38.40 ± 1.39	45.74 ± 1.09	340.45 ± 46.66	73.24 ± 1.77	252.24 ± 17.60	n = 17	Siemens ADVIA 1800
38.57 ± 0.69	46.79 ± 0.29	364.26 ± 11.50	73.87 ± 2.80	254.75 ± 11.61	n = 3	Siemens ADVIA 2400
41.95 ± 0.95	49.28 ± 0.51	374.84 ± 26.00	74.64 ± 0.47	252.07 ± 6.24	n = 3	Siemens Dimension EXL
42.63 ± 1.48	50.06 ± 1.52	366.78 ± 12.06	77.38 ± 1.28	260.70 ± 5.68	n = 12	Siemens Dimension RxL
41.74 ± 1.95	49.01 ± 2.21	359.15 ± 10.98	75.63 ± 2.57	255.27 ± 8.58	n = 33	Siemens Dimension Vista
42.47 ± 1.00	49.89 ± 0.95	362.20 ± 9.72	75.68 ± 1.08	259.04 ± 5.45	n = 5	Siemens Dimension Xpand
43.16 ± 4.87	56.47 ± 13.20	395.12 ± 10.54	78.78 ± 15.13	306.75 ± 49.51	n = 3	Other
						<Reagents>
40.53 ± 0.92	47.72 ± 0.71	381.42 ± 8.93	71.43 ± 1.74	271.94 ± 11.37	n = 13	Abbott
39.38 ± 1.75	49.78 ± 2.50	365.97 ± 25.12	78.88 ± 3.87	263.91 ± 20.85	n = 34	Beckman Coulter
37.69 ± 1.23	45.29 ± 1.60	371.38 ± 17.80	72.90 ± 2.79	260.48 ± 13.59	n = 28	Beckman Coulter AU Series
47.18 ± 4.67	62.77 ± 3.76	631.54 ± 43.21	101.44 ± 8.69	449.95 ± 27.29	n = 21	Ortho Clinical Diagnostics
35.31 ± 2.17	42.33 ± 2.69	361.53 ± 95.58	71.30 ± 2.24	254.08 ± 51.34	n = 5	Pointe Scientific
39.82 ± 0.94	49.77 ± 1.30	395.46 ± 13.21	71.23 ± 1.49	275.14 ± 12.48	n = 14	Roche cobas c501/c311/c502/c701
39.32 ± 1.98	48.14 ± 2.48	386.26 ± 13.01	69.13 ± 3.41	271.37 ± 12.14	n = 23	Roche Hitachi and Modular D/P
39.39 ± 2.75	47.81 ± 3.46	365.67 ± 20.83	65.56 ± 5.68	258.30 ± 17.69	n = 8	Roche Integra and MIRA S
38.41 ± 1.27	45.94 ± 1.10	345.94 ± 42.97	73.34 ± 1.97	252.80 ± 16.66	n = 20	Siemens ADVIA/ADVIA Centaur
41.95 ± 1.73	49.39 ± 1.83	361.26 ± 12.06	76.07 ± 2.26	256.77 ± 8.28	n = 51	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04	Specimen: U05	Number	Instrument or Reagent System
684.4 ± 32.25	728.3 ± 34.05	576.4 ± 28.21	940.7 ± 43.76	884.6 ± 41.94	n = 165	All Methods & Instruments
						<Method Principles>
684.7 ± 31.72	726.8 ± 33.47	577.1 ± 28.03	939.1 ± 43.36	883.5 ± 41.65	n = 132	Urease w/glutamate dehydrogenase
693.5 ± 34.21	729.0 ± 37.48	585.1 ± 25.34	962.9 ± 43.47	897.6 ± 47.07	n = 15	Urease, conductivity rate
671.7 ± 32.24	736.6 ± 34.49	563.4 ± 28.97	930.7 ± 34.31	878.0 ± 35.97	n = 16	Urease with indicator dye
						<Instruments>
662.6 ± 17.28	702.9 ± 15.54	558.8 ± 12.77	911.3 ± 23.92	858.3 ± 19.47	n = 9	Abbott Architect c System
685.0 ± 25.30	722.3 ± 23.46	574.9 ± 23.48	921.2 ± 32.09	879.0 ± 31.07	n = 22	Beckman Coulter AU Chemistry System
705.7 ± 36.13	752.3 ± 45.81	597.0 ± 38.40	968.0 ± 35.38	918.4 ± 44.78	n = 3	Beckman Coulter LX-20
679.0 ± 32.76	722.2 ± 39.53	566.3 ± 34.11	933.5 ± 43.90	865.3 ± 40.85	n = 8	Beckman Coulter UniCel DxC 600
689.4 ± 31.33	727.4 ± 30.88	579.2 ± 19.93	947.2 ± 38.26	888.1 ± 45.98	n = 12	Beckman Coulter UniCel DxC 800
666.0 ± 40.17	736.2 ± 35.30	551.5 ± 26.89	936.1 ± 31.90	886.4 ± 39.87	n = 7	Ortho Vitros 5,1FS
674.0 ± 20.43	732.2 ± 33.33	567.1 ± 24.41	923.0 ± 37.39	876.8 ± 30.52	n = 11	Ortho Vitros 5600
678.8 ± 17.47	721.0 ± 27.34	574.5 ± 24.52	951.7 ± 38.01	882.8 ± 31.56	n = 11	Roche cobas c501
711.9 ± 8.67	765.9 ± 19.30	596.2 ± 5.53	983.0 ± 16.75	935.1 ± 11.54	n = 4	Roche Cobas INTEGRA
671.4 ± 11.67	715.5 ± 14.08	564.0 ± 19.32	928.2 ± 21.43	870.1 ± 26.32	n = 21	Roche MODULAR D/P
727.5 ± 20.82	767.7 ± 25.53	609.3 ± 17.87	999.8 ± 25.99	934.2 ± 31.95	n = 13	Siemens ADVIA 1800
677.1 ± 18.05	738.7 ± 7.79	569.7 ± 9.02	939.7 ± 21.28	867.6 ± 25.75	n = 3	Siemens ADVIA 2400
732.2 ± 24.57	771.7 ± 25.09	619.1 ± 15.00	1009.0 ± 31.13	945.1 ± 36.57	n = 9	Siemens Dimension RxL
671.8 ± 25.51	713.2 ± 27.19	570.2 ± 21.09	921.2 ± 26.42	869.6 ± 30.75	n = 26	Siemens Dimension Vista
						<Reagents>
662.6 ± 17.28	702.9 ± 15.54	558.8 ± 12.77	911.3 ± 23.92	858.3 ± 19.47	n = 9	Abbott
691.0 ± 33.28	726.5 ± 36.04	578.7 ± 26.95	949.7 ± 41.42	887.2 ± 47.69	n = 25	Beckman Coulter
684.2 ± 25.12	724.4 ± 23.78	574.8 ± 24.17	919.8 ± 30.64	879.0 ± 32.13	n = 20	Beckman Coulter AU Series
668.5 ± 32.37	733.5 ± 33.98	560.9 ± 28.12	928.8 ± 34.94	879.5 ± 35.01	n = 18	Ortho Clinical Diagnostics
679.6 ± 16.76	721.0 ± 25.55	573.9 ± 23.06	948.6 ± 36.93	881.4 ± 30.12	n = 12	Roche cobas c501/c311/c502/c701
671.4 ± 11.67	715.5 ± 14.08	564.0 ± 19.32	928.2 ± 21.43	870.1 ± 26.32	n = 21	Roche Hitachi and Modular D/P
711.9 ± 8.67	765.9 ± 19.30	596.2 ± 5.53	983.0 ± 16.75	935.1 ± 11.54	n = 4	Roche Integra and MIRA S
717.4 ± 31.20	761.2 ± 26.39	601.5 ± 24.99	989.6 ± 35.09	919.9 ± 45.88	n = 17	Siemens ADVIA/ADVIA Centaur
688.2 ± 38.46	729.9 ± 40.51	583.2 ± 30.27	943.8 ± 50.92	889.5 ± 47.94	n = 37	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04*	Specimen: U05	Number	Instrument or Reagent System
8.65 ± 0.46	4.66 ± 0.41	3.67 ± 0.77	7.53 ± 4.31	5.83 ± 0.91	n = 176	All Methods & Instruments
						<Method Principles>
8.84 ± 0.28	4.75 ± 0.42	4.08 ± 0.95	7.07 ± 3.74	5.89 ± 0.73	n = 85	o-Cresolphthalein
8.51 ± 0.50	4.66 ± 0.39	3.46 ± 0.40	7.38 ± 4.29	5.95 ± 1.04	n = 62	Arsenazo dye
8.22 ± 0.23	4.45 ± 0.21	3.26 ± 0.38	8.80 ± 5.25	5.16 ± 0.72	n = 24	Ion selective electrode
8.72 ± 0.71	4.56 ± 0.14	3.35 ± 0.18	12.13 ± 4.32	6.45 ± 0.31	n = 4	Other
						<Instruments>
7.96 ± 0.07	4.32 ± 0.17	3.21 ± 0.24	7.65 ± 4.05	5.13 ± 0.82	n = 10	Abbott Architect c System
8.41 ± 0.27	4.54 ± 0.24	3.53 ± 0.38	7.31 ± 3.92	6.15 ± 0.70	n = 20	Beckman Coulter AU Chemistry System
8.27 ± 0.14	4.57 ± 0.05	3.37 ± 0.05	13.18 ± 2.21	5.29 ± 0.61	n = 3	Beckman Coulter LX-20
8.31 ± 0.36	4.45 ± 0.21	3.27 ± 0.05	8.65 ± 4.66	5.13 ± 0.55	n = 7	Beckman Coulter UniCel DxC 600
8.22 ± 0.20	4.35 ± 0.29	3.23 ± 0.61	7.68 ± 5.56	5.08 ± 0.74	n = 13	Beckman Coulter UniCel DxC 800
9.10 ± 0.60	5.09 ± 0.38	3.66 ± 0.36	4.94 ± 1.31	6.41 ± 1.19	n = 9	Ortho Vitros 5,1FS
8.82 ± 0.48	4.75 ± 0.35	3.24 ± 0.50	6.36 ± 3.43	5.51 ± 1.26	n = 9	Ortho Vitros 5600
8.82 ± 0.32	4.50 ± 0.26	3.36 ± 0.16	7.37 ± 4.61	5.87 ± 0.41	n = 9	Roche cobas c501
9.48 ± 0.34	4.29 ± 0.09	3.38 ± 0.15	7.42 ± 2.09	5.45 ± 0.33	n = 5	Roche Cobas INTEGRA
8.73 ± 0.33	4.46 ± 0.33	3.36 ± 0.28	7.35 ± 4.02	6.17 ± 0.72	n = 22	Roche MODULAR D/P
8.78 ± 0.27	4.71 ± 0.23	3.50 ± 0.33	7.59 ± 4.48	6.05 ± 0.69	n = 15	Siemens ADVIA 1800
8.57 ± 0.05	4.65 ± 0.42	3.71 ± 0.16	8.57 ± 3.05	5.98 ± 1.13	n = 3	Siemens ADVIA 2400
9.01 ± 0.10	5.04 ± 0.13	4.82 ± 0.40	10.58 ± 7.40	6.17 ± 0.71	n = 10	Siemens Dimension RxL
8.74 ± 0.19	<5.00	<5.00	7.68 ± 3.97	5.90 ± 0.82	n = 28	Siemens Dimension Vista
9.07 ± 0.09	4.89 ± 0.29	4.85 ± 0.41	5.52 ± 0.21	5.50 ± 0.88	n = 4	Siemens Dimension Xpand
8.31 ± 0.37	4.59 ± 0.14	3.27 ± 0.06	12.68 ± 5.92	6.31 ± 0.43	n = 3	Other
						<Reagents>
7.96 ± 0.07	4.32 ± 0.17	3.21 ± 0.24	7.65 ± 4.05	5.13 ± 0.82	n = 10	Abbott
8.22 ± 0.22	4.48 ± 0.16	3.27 ± 0.34	9.11 ± 5.35	5.21 ± 0.77	n = 25	Beckman Coulter
8.42 ± 0.27	4.54 ± 0.25	3.55 ± 0.37	6.93 ± 3.67	6.21 ± 0.67	n = 19	Beckman Coulter AU Series
8.95 ± 0.55	4.91 ± 0.40	3.47 ± 0.47	5.14 ± 1.79	5.97 ± 1.30	n = 18	Ortho Clinical Diagnostics
8.90 ± 0.23	4.43 ± 0.21	3.37 ± 0.17	6.26 ± 3.71	5.81 ± 0.23	n = 8	Roche cobas c501/c311/c502/c701
8.73 ± 0.33	4.48 ± 0.33	3.37 ± 0.28	7.58 ± 4.03	6.17 ± 0.69	n = 21	Roche Hitachi and Modular D/P
9.49 ± 0.30	4.29 ± 0.09	3.32 ± 0.24	7.24 ± 1.92	5.35 ± 0.56	n = 6	Roche Integra and MIRA S
8.75 ± 0.30	4.72 ± 0.36	3.57 ± 0.33	8.18 ± 4.65	6.12 ± 0.77	n = 19	Siemens ADVIA/ADVIA Centaur
8.85 ± 0.23	<5.00	<5.00	7.13 ± 3.86	5.90 ± 0.80	n = 43	Siemens Dimension

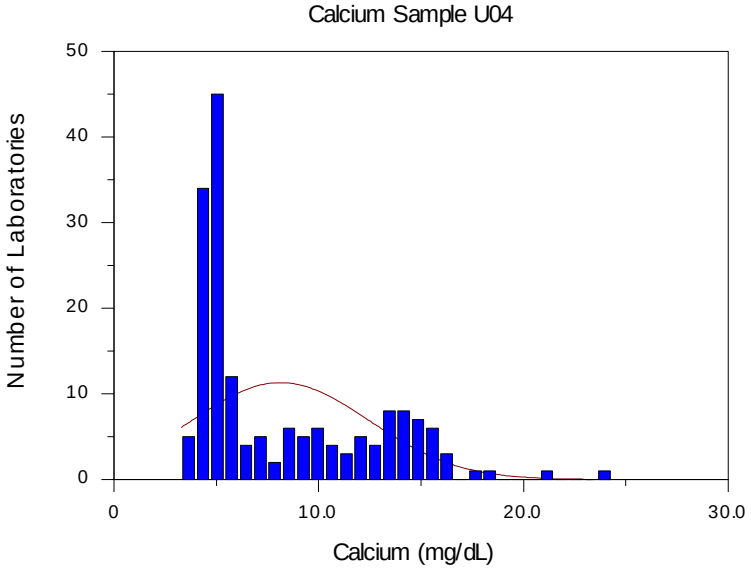
*See page 15

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL)

Specimen: U01	Specimen: U02	Specimen: U03	Specimen: U04*	Specimen: U05	Number	Instrument or Reagent System
16.37 ± 1.48	38.06 ± 2.20	54.65 ± 2.70	12.96 ± 3.55	7.73 ± 0.99	n = 162	All Methods & Instruments
						<Method Principles>
16.60 ± 1.32	37.91 ± 2.44	54.84 ± 2.39	13.96 ± 3.68	7.52 ± 1.04	n = 12	Uricase (NAD-NADH reaction)
16.13 ± 1.59	37.01 ± 2.41	53.15 ± 2.93	12.80 ± 3.31	8.01 ± 0.86	n = 52	Uricase/allantoin (differential abs
16.49 ± 1.47	38.61 ± 1.84	55.34 ± 2.15	12.90 ± 3.55	7.63 ± 1.02	n = 91	Uricase/peroxidase (colorimetric)
16.16 ± 1.09	37.90 ± 1.41	54.56 ± 2.58	13.45 ± 4.67	7.36 ± 0.56	n = 7	Other
						<Instruments>
16.32 ± 0.53	37.79 ± 0.97	54.62 ± 1.81	12.27 ± 2.17	7.70 ± 0.20	n = 8	Abbott Architect c System
16.26 ± 0.67	38.49 ± 1.01	55.64 ± 1.04	14.26 ± 2.75	7.31 ± 0.27	n = 19	Beckman Coulter AU Chemistry System
17.40 ± 0.81	39.18 ± 0.86	55.72 ± 0.24	15.90 ± 2.16	8.15 ± 0.46	n = 3	Beckman Coulter LX-20
18.25 ± 0.75	40.17 ± 0.62	56.76 ± 1.06	16.05 ± 2.85	9.26 ± 0.06	n = 6	Beckman Coulter UniCel DxC 600
17.89 ± 1.37	39.78 ± 0.79	56.24 ± 0.88	15.19 ± 4.17	9.02 ± 0.21	n = 12	Beckman Coulter UniCel DxC 800
17.00 ± 0.76	40.32 ± 1.81	57.98 ± 1.79	11.89 ± 2.27	7.27 ± 0.40	n = 8	Ortho Vitros 5,1FS
17.05 ± 1.22	39.30 ± 1.94	56.43 ± 2.78	13.52 ± 3.03	7.21 ± 0.70	n = 8	Ortho Vitros 5600
15.96 ± 0.53	37.84 ± 1.10	54.76 ± 1.61	12.61 ± 3.36	6.97 ± 0.06	n = 10	Roche cobas c501
16.52 ± 1.62	38.33 ± 0.62	55.24 ± 1.23	11.10 ± 0.83	6.95 ± 0.13	n = 5	Roche Cobas INTEGRA
14.98 ± 0.47	36.27 ± 0.59	52.97 ± 1.06	10.72 ± 3.20	6.53 ± 0.19	n = 22	Roche MODULAR D/P
16.65 ± 1.53	39.38 ± 0.91	55.66 ± 1.59	11.97 ± 3.38	7.93 ± 0.34	n = 14	Siemens ADVIA 1800
15.84 ± 0.56	38.46 ± 1.19	52.58 ± 0.87	11.08 ± 2.85	7.67 ± 0.23	n = 3	Siemens ADVIA 2400
17.18 ± 2.47	39.43 ± 0.76	57.73 ± 4.77	14.66 ± 2.81	8.74 ± 0.93	n = 9	Siemens Dimension RxL
16.11 ± 1.03	35.35 ± 0.89	51.61 ± 0.88	12.73 ± 3.92	8.28 ± 0.34	n = 26	Siemens Dimension Vista
						<Reagents>
16.19 ± 0.63	37.62 ± 1.02	54.34 ± 1.89	12.16 ± 2.04	7.67 ± 0.20	n = 9	Abbott
18.02 ± 1.25	39.79 ± 0.77	56.28 ± 0.91	15.64 ± 3.53	9.08 ± 0.60	n = 24	Beckman Coulter
16.24 ± 0.64	38.45 ± 1.01	55.61 ± 1.09	14.32 ± 2.67	7.29 ± 0.26	n = 17	Beckman Coulter AU Series
17.02 ± 0.98	39.84 ± 1.86	57.37 ± 2.18	12.59 ± 2.75	7.25 ± 0.55	n = 16	Ortho Clinical Diagnostics
16.03 ± 0.62	37.98 ± 1.12	54.99 ± 1.76	12.57 ± 3.16	6.98 ± 0.11	n = 11	Roche cobas c501/c311/c502/c701
14.98 ± 0.47	36.27 ± 0.59	52.97 ± 1.06	10.72 ± 3.20	6.53 ± 0.19	n = 22	Roche Hitachi and Modular D/P
16.52 ± 1.62	38.33 ± 0.62	55.24 ± 1.23	11.10 ± 0.83	6.95 ± 0.13	n = 5	Roche Integra and MIRA S
16.40 ± 1.33	39.18 ± 1.03	55.07 ± 1.88	11.98 ± 3.27	7.85 ± 0.33	n = 18	Siemens ADVIA/ADVIA Centaur
16.34 ± 1.69	36.41 ± 2.34	52.49 ± 2.70	13.01 ± 3.79	8.35 ± 0.49	n = 38	Siemens Dimension

*see page 15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20.0
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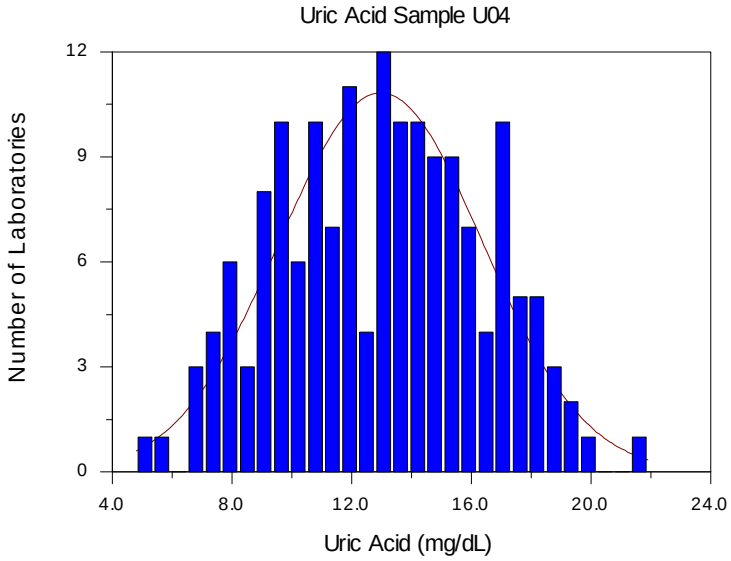
Calcium (mg/dL)


Uric Acid Sample U04
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4.0
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16.0
20.0
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Uric Acid (mg/dL)