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Statistical Report: Quantitative Urine Clinical Chemistry
Mail out date: April 13, 2015

This report summarizes data from the educational quantitative urine clinical chemistry proficiency test of April 13, 2015. 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.

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: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
545.2 ± 45.31	2286.6 ± 180.14	932.7 ± 69.66	644.8 ± 51.63	394.4 ± 33.82	n = 181	All Methods & Instruments
						<Method Principles>
534.9 ± 50.39	2272.9 ± 226.47	926.2 ± 73.96	637.2 ± 57.71	386.7 ± 39.19	n = 84	Reporting in mg/dL
556.4 ± 37.33	2302.1 ± 144.80	943.8 ± 65.52	654.0 ± 41.40	402.4 ± 26.94	n = 79	Reporting in mg/L
538.7 ± 46.75	2240.0 ± 194.05	917.3 ± 62.08	635.5 ± 61.15	389.4 ± 27.13	n = 18	Reporting in ug/mL
						<Instruments>
535.8 ± 19.41	2262.9 ± 240.80	907.4 ± 69.31	626.3 ± 40.42	404.1 ± 13.95	n = 9	Abbott Architect c System
515.5 ± 26.76	2242.4 ± 119.53	897.3 ± 29.30	625.3 ± 26.41	374.8 ± 18.93	n = 40	Beckman Coulter AU Chemistry System
523.3 ± 7.75	2170.0 ± 99.15	978.8 ± 32.76	619.7 ± 12.15	366.4 ± 19.76	n = 3	Beckman Coulter Immage
555.2 ± 28.05	2412.6 ± 193.69	946.6 ± 42.06	660.5 ± 34.54	397.1 ± 20.93	n = 5	Beckman Coulter UniCel DxC 600
553.7 ± 12.34	2239.7 ± 103.43	927.0 ± 17.01	651.5 ± 19.24	395.5 ± 7.26	n = 5	Beckman Coulter UniCel DxC 800
579.3 ± 28.85	2484.2 ± 109.21	1125.2 ± 54.59	709.1 ± 22.35	424.3 ± 20.23	n = 4	Nephelometer
521.4 ± 18.71	1746.2 ± 445.66	885.6 ± 48.52	593.4 ± 61.57	358.4 ± 28.49	n = 3	Ortho Vitros 5,1FS
563.5 ± 36.10	1608.7 ± 767.63	948.1 ± 74.15	651.1 ± 66.06	403.7 ± 39.27	n = 11	Ortho Vitros 5600
551.3 ± 31.58	2348.2 ± 127.05	946.2 ± 52.52	648.9 ± 36.03	406.3 ± 17.74	n = 19	Roche cobas c501
588.2 ± 37.32	2258.7 ± 113.23	946.1 ± 58.39	671.4 ± 39.40	436.2 ± 25.41	n = 14	Roche MODULAR D/P
494.3 ± 24.98	2167.1 ± 78.63	859.4 ± 54.38	580.5 ± 25.05	367.2 ± 11.76	n = 14	Siemens ADVIA 1800
477.0 ± 8.16	2153.6 ± 27.64	864.2 ± 20.34	565.0 ± 37.69	364.8 ± 5.56	n = 3	Siemens ADVIA 2400
566.8 ± 25.75	2091.4 ± 604.73	947.8 ± 82.71	655.8 ± 30.49	403.7 ± 17.56	n = 5	Siemens Dimension EXL
551.1 ± 46.59	2318.0 ± 245.83	955.4 ± 22.07	651.5 ± 35.23	399.0 ± 26.19	n = 4	Siemens Dimension RxL
583.3 ± 25.23	2379.9 ± 134.18	989.5 ± 33.57	682.9 ± 28.31	421.0 ± 20.14	n = 26	Siemens Dimension Vista
						<Reagents>
536.2 ± 18.44	2215.3 ± 209.19	917.3 ± 72.70	633.5 ± 29.27	404.1 ± 13.89	n = 8	Abbott
546.6 ± 23.54	2279.8 ± 167.48	943.4 ± 38.41	645.4 ± 29.37	389.8 ± 20.56	n = 13	Beckman Coulter
519.0 ± 24.61	2202.5 ± 179.15	903.1 ± 27.70	623.9 ± 31.77	377.1 ± 16.77	n = 32	Beckman Coulter AU Series
507.3 ± 25.43	2290.1 ± 98.97	879.4 ± 28.81	629.5 ± 23.68	370.4 ± 24.71	n = 6	Kamiya
566.4 ± 26.63	1609.0 ± 652.63	968.3 ± 58.13	667.6 ± 38.43	409.0 ± 28.58	n = 9	Ortho Clinical Diagnostics
516.8 ± 48.45	1666.7 ± 802.63	862.3 ± 30.96	567.3 ± 58.48	351.6 ± 45.08	n = 5	Randox
555.9 ± 30.54	2330.9 ± 153.72	939.3 ± 51.26	654.1 ± 37.17	403.5 ± 21.09	n = 25	Roche cobas c501/c311/c502/c701
588.2 ± 37.32	2258.7 ± 113.23	946.1 ± 58.39	671.4 ± 39.40	436.2 ± 25.41	n = 14	Roche Hitachi and Modular D/P
574.5 ± 13.55	2443.7 ± 182.28	996.5 ± 44.11	694.4 ± 23.26	410.1 ± 15.42	n = 4	Roche Integra and MIRA S
488.7 ± 23.59	2154.9 ± 73.64	858.1 ± 47.54	578.4 ± 28.12	366.4 ± 10.31	n = 18	Siemens ADVIA/ADVIA Centaur
577.4 ± 29.19	2386.8 ± 147.47	979.3 ± 41.73	674.5 ± 33.26	412.9 ± 26.16	n = 35	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

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

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
46.9 ± 3.13	122.7 ± 8.30	71.9 ± 5.01	76.8 ± 4.62	95.1 ± 6.21	n = 264	All Methods & Instruments
						<Method Principles>
46.9 ± 3.13	122.7 ± 8.29	71.9 ± 4.99	76.7 ± 4.59	95.1 ± 6.17	n = 259	Reporting in mg/dL
47.2 ± 4.11	121.1 ± 9.53	71.3 ± 5.81	76.6 ± 6.99	94.1 ± 6.85	n = 3	Reporting in mg/L
						<Instruments>
44.7 ± 1.30	115.9 ± 2.53	67.5 ± 1.62	72.7 ± 1.89	89.9 ± 1.53	n = 16	Abbott Architect c System
50.2 ± 1.25	134.0 ± 5.43	80.1 ± 3.16	82.3 ± 2.14	104.4 ± 3.81	n = 55	Beckman Coulter AU Chemistry System
51.4 ± 1.26	131.8 ± 2.28	77.1 ± 1.66	83.7 ± 1.34	102.9 ± 2.65	n = 9	Beckman Coulter UniCel DxC 600
49.6 ± 0.66	125.5 ± 1.77	74.1 ± 0.82	79.8 ± 1.15	98.0 ± 1.07	n = 9	Beckman Coulter UniCel DxC 800
46.1 ± 1.10	113.0 ± 3.54	68.5 ± 2.39	72.3 ± 1.74	90.8 ± 3.22	n = 8	Ortho Vitros 5,1FS
45.5 ± 1.50	112.9 ± 2.92	67.8 ± 2.05	71.7 ± 2.01	89.7 ± 2.64	n = 17	Ortho Vitros 5600
48.9 ± 1.80	123.7 ± 4.12	72.3 ± 2.12	77.9 ± 2.85	95.3 ± 3.47	n = 31	Roche cobas c501
45.1 ± 1.40	118.3 ± 2.25	68.6 ± 1.52	73.6 ± 1.05	91.2 ± 1.98	n = 5	Roche Cobas INTEGRA
46.1 ± 1.09	118.1 ± 3.00	69.0 ± 1.45	74.9 ± 2.36	91.3 ± 2.12	n = 20	Roche MODULAR D/P
45.0 ± 2.10	117.6 ± 5.34	68.5 ± 3.39	73.8 ± 3.66	90.5 ± 3.99	n = 17	Siemens ADVIA 1800
45.3 ± 2.57	116.1 ± 4.38	68.2 ± 3.16	73.6 ± 2.68	91.3 ± 1.96	n = 3	Siemens ADVIA 2400
46.7 ± 1.63	125.5 ± 4.04	73.2 ± 2.70	76.9 ± 2.61	96.1 ± 2.60	n = 8	Siemens Dimension EXL
46.7 ± 1.63	125.1 ± 2.82	72.3 ± 1.40	77.4 ± 2.20	95.1 ± 1.76	n = 6	Siemens Dimension RxL
43.8 ± 1.42	124.0 ± 2.85	71.5 ± 2.04	76.4 ± 2.29	95.4 ± 2.59	n = 41	Siemens Dimension Vista
						<Reagents>
44.7 ± 1.30	115.9 ± 2.53	67.5 ± 1.62	72.7 ± 1.89	89.9 ± 1.53	n = 16	Abbott
50.4 ± 1.29	128.4 ± 4.01	75.4 ± 2.02	81.7 ± 2.51	100.2 ± 3.29	n = 18	Beckman Coulter
50.3 ± 1.18	134.9 ± 4.25	80.6 ± 2.23	82.5 ± 1.77	105.0 ± 2.89	n = 50	Beckman Coulter AU Series
45.7 ± 1.41	112.6 ± 3.35	67.9 ± 2.26	71.8 ± 1.94	89.9 ± 3.02	n = 26	Ortho Clinical Diagnostics
48.8 ± 2.03	123.2 ± 4.74	72.1 ± 2.53	77.6 ± 3.29	95.1 ± 3.82	n = 37	Roche cobas c501/c311/c502/c701
46.1 ± 1.09	118.1 ± 3.00	69.0 ± 1.45	74.9 ± 2.36	91.3 ± 2.12	n = 20	Roche Hitachi and Modular D/P
45.7 ± 1.15	117.8 ± 2.18	68.6 ± 1.37	73.6 ± 1.02	90.8 ± 1.70	n = 8	Roche Integra and MIRA S
44.9 ± 2.07	117.0 ± 4.95	68.3 ± 3.19	73.6 ± 3.25	90.5 ± 3.45	n = 22	Siemens ADVIA/ADVIA Centaur
44.5 ± 2.01	124.2 ± 3.35	71.7 ± 2.32	76.4 ± 2.49	95.3 ± 2.67	n = 57	Siemens Dimension

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: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
1157.7 ± 132.28	1846.2 ± 189.49	1295.5 ± 140.96	832.4 ± 82.86	409.6 ± 48.96	n = 157	All Methods & Instruments
						<Method Principles>
1173.1 ± 125.82	1849.2 ± 191.92	1309.1 ± 122.64	840.9 ± 82.47	417.0 ± 47.10	n = 98	Reporting in mg/g
1129.2 ± 135.98	1842.0 ± 190.67	1266.5 ± 169.86	816.9 ± 80.80	396.7 ± 47.70	n = 54	Reporting in ug/mg
835.2 ± 600.83	1302.1 ± 926.65	885.8 ± 634.25	601.3 ± 431.41	289.2 ± 208.36	n = 3	Other
						<Instruments>
1107.7 ± 99.34	1810.5 ± 248.49	1266.4 ± 136.54	812.6 ± 56.64	385.6 ± 44.80	n = 15	Clinical Analyzer calculation
1056.0 ± 126.37	1715.5 ± 88.38	1211.2 ± 98.92	786.3 ± 77.12	387.9 ± 37.93	n = 6	Manual Calculation
						<Reagents>
1169.2 ± 131.96	1857.6 ± 180.43	1304.0 ± 139.68	837.7 ± 85.44	414.1 ± 48.65	n = 135	Lab Information System
1107.7 ± 99.34	1810.5 ± 248.49	1266.4 ± 136.54	812.6 ± 56.64	385.6 ± 44.80	n = 15	Clinical Analyzer calculation
1056.0 ± 126.37	1715.5 ± 88.38	1211.2 ± 98.92	786.3 ± 77.12	387.9 ± 37.93	n = 6	Manual Calculation

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Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
9.34 ± 0.42	5.65 ± 0.86	3.11 ± 1.08	8.23 ± 0.32	5.03 ± 0.28	n = 165	All Methods & Instruments
						<Method Principles>
9.36 ± 0.41	6.07 ± 0.77	4.13 ± 1.26	8.26 ± 0.30	5.18 ± 0.33	n = 64	o-Cresolphthalein
9.36 ± 0.55	5.60 ± 0.78	2.79 ± 0.53	8.21 ± 0.36	4.99 ± 0.17	n = 69	Arsenazo dye
9.32 ± 0.15	4.92 ± 0.49	2.30 ± 0.19	8.07 ± 0.25	4.73 ± 0.15	n = 12	Ion selective electrode
9.31 ± 0.19	4.83 ± 0.59	2.37 ± 0.36	8.27 ± 0.14	4.98 ± 0.11	n = 16	5-nitro-5-methyl-BAPTA
						<Instruments>
9.03 ± 0.12	5.27 ± 0.65	2.82 ± 0.25	8.01 ± 0.09	4.94 ± 0.12	n = 10	Abbott Architect c System
9.13 ± 0.23	5.75 ± 0.84	3.05 ± 0.45	8.05 ± 0.23	4.91 ± 0.15	n = 29	Beckman Coulter AU Chemistry System
9.37 ± 0.17	5.32 ± 0.04	2.45 ± 0.12	8.09 ± 0.43	4.81 ± 0.51	n = 5	Beckman Coulter UniCel DxC 600
9.27 ± 0.15	4.83 ± 0.38	2.20 ± 0.16	8.00 ± 0.00	4.74 ± 0.14	n = 6	Beckman Coulter UniCel DxC 800
10.06 ± 0.10	5.75 ± 0.11	2.32 ± 0.38	8.51 ± 0.22	5.12 ± 0.07	n = 6	Ortho Vitros 5,1FS
10.17 ± 0.27	5.54 ± 0.47	2.31 ± 0.43	8.61 ± 0.23	5.12 ± 0.13	n = 13	Ortho Vitros 5600
9.28 ± 0.23	4.98 ± 0.54	2.42 ± 0.34	8.22 ± 0.19	4.98 ± 0.14	n = 15	Roche cobas c501
9.50 ± 0.75	5.80 ± 0.71	2.96 ± 0.53	8.35 ± 0.52	4.87 ± 0.56	n = 13	Roche MODULAR D/P
9.23 ± 0.23	6.14 ± 0.22	3.03 ± 0.12	8.11 ± 0.27	4.97 ± 0.18	n = 14	Siemens ADVIA 1800
9.28 ± 0.24	5.46 ± 0.71	2.86 ± 0.26	8.43 ± 0.32	5.10 ± 0.09	n = 3	Siemens ADVIA 2400
9.43 ± 0.29	6.40 ± 0.30	<5	8.38 ± 0.21	5.28 ± 0.23	n = 5	Siemens Dimension EXL
9.32 ± 0.34	6.36 ± 0.75	<5	8.30 ± 0.21	5.35 ± 0.24	n = 33	Siemens Dimension Vista
						<Reagents>
9.03 ± 0.12	5.27 ± 0.65	2.82 ± 0.25	8.01 ± 0.09	4.94 ± 0.12	n = 10	Abbott
9.32 ± 0.15	4.92 ± 0.49	2.30 ± 0.19	8.07 ± 0.25	4.73 ± 0.15	n = 12	Beckman Coulter
9.12 ± 0.23	5.72 ± 0.85	3.02 ± 0.43	8.04 ± 0.22	4.91 ± 0.15	n = 28	Beckman Coulter AU Series
10.12 ± 0.22	5.62 ± 0.39	2.31 ± 0.41	8.58 ± 0.23	5.12 ± 0.10	n = 19	Ortho Clinical Diagnostics
9.30 ± 0.24	4.94 ± 0.59	2.41 ± 0.37	8.25 ± 0.21	4.99 ± 0.14	n = 20	Roche cobas c501/c311/c502/c701
9.56 ± 0.76	5.89 ± 0.59	3.03 ± 0.49	8.41 ± 0.50	4.85 ± 0.60	n = 12	Roche Hitachi and Modular D/P
9.46 ± 0.16	5.19 ± 0.47	2.36 ± 0.25	8.20 ± 0.14	4.72 ± 0.33	n = 3	Roche Integra and MIRA S
9.24 ± 0.22	5.85 ± 0.75	2.93 ± 0.37	8.13 ± 0.31	4.98 ± 0.19	n = 19	Siemens ADVIA/ADVIA Centaur
9.34 ± 0.33	6.38 ± 0.68	<5	8.31 ± 0.21	5.34 ± 0.24	n = 38	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
182.76 ± 3.87	84.01 ± 5.24	32.97 ± 2.15	228.91 ± 5.51	49.11 ± 3.79	n = 185	All Methods & Instruments
						<Method Principles>
182.76 ± 3.93	84.16 ± 5.41	32.98 ± 2.07	228.77 ± 5.31	49.11 ± 3.86	n = 168	Ion selective electrode (diluted)
183.13 ± 3.23	83.42 ± 2.97	33.24 ± 2.85	230.82 ± 6.96	49.45 ± 2.86	n = 15	Ion selective electrode (undiluted)
						<Instruments>
181.66 ± 1.48	83.93 ± 0.71	33.54 ± 0.57	227.23 ± 2.44	49.91 ± 0.43	n = 15	Abbott Architect c System
185.03 ± 1.86	84.38 ± 0.95	34.50 ± 0.78	234.28 ± 2.74	50.99 ± 0.94	n = 34	Beckman Coulter AU Chemistry System
178.35 ± 2.54	83.42 ± 1.10	32.43 ± 0.86	221.26 ± 4.29	49.41 ± 0.99	n = 8	Beckman Coulter UniCel DxC 600
179.09 ± 1.56	84.61 ± 1.22	33.62 ± 0.68	223.16 ± 1.37	49.50 ± 0.90	n = 8	Beckman Coulter UniCel DxC 800
180.30 ± 1.92	76.10 ± 1.33	29.97 ± 1.39	232.85 ± 2.70	42.76 ± 1.37	n = 21	Roche cobas c501
182.38 ± 2.32	76.15 ± 1.10	28.84 ± 1.22	232.03 ± 4.55	42.98 ± 1.12	n = 14	Roche MODULAR D/P
180.63 ± 1.52	84.26 ± 0.87	33.64 ± 0.71	224.91 ± 2.31	50.54 ± 0.57	n = 15	Siemens ADVIA 1800
180.44 ± 1.02	84.28 ± 0.51	33.72 ± 0.51	224.26 ± 1.37	50.28 ± 0.51	n = 3	Siemens ADVIA 2400
185.76 ± 1.92	97.61 ± 3.71	52.41 ± 5.61	230.41 ± 2.24	61.67 ± 2.83	n = 8	Siemens Dimension EXL
182.88 ± 2.04	91.21 ± 1.46	44.00 ± 2.45	227.35 ± 1.58	55.84 ± 1.27	n = 4	Siemens Dimension RxL
186.25 ± 2.44	88.40 ± 1.34	33.43 ± 1.47	227.82 ± 3.59	49.30 ± 1.00	n = 39	Siemens Dimension Vista
						<Reagents>
181.66 ± 1.48	83.93 ± 0.71	33.54 ± 0.57	227.23 ± 2.44	49.91 ± 0.43	n = 15	Abbott
179.29 ± 2.88	84.12 ± 1.28	33.04 ± 1.10	222.89 ± 4.24	49.46 ± 1.06	n = 18	Beckman Coulter
185.02 ± 1.92	84.32 ± 0.90	34.44 ± 0.73	234.34 ± 2.84	50.95 ± 0.95	n = 32	Beckman Coulter AU Series
165.24 ± 12.34	82.56 ± 1.02	44.40 ± 10.24	179.41 ± 32.22	50.26 ± 2.26	n = 3	Ortho Clinical Diagnostics
179.72 ± 2.78	75.74 ± 1.75	29.95 ± 1.33	231.41 ± 5.27	42.67 ± 1.31	n = 26	Roche cobas c501/c311/c502/c701
182.38 ± 2.32	76.15 ± 1.10	28.84 ± 1.22	232.03 ± 4.55	42.98 ± 1.12	n = 14	Roche Hitachi and Modular D/P
180.44 ± 1.72	84.26 ± 0.91	33.73 ± 0.71	224.53 ± 2.09	50.50 ± 0.57	n = 20	Siemens ADVIA/ADVIA Centaur
185.96 ± 2.54	88.87 ± 2.03	33.44 ± 1.50	228.35 ± 3.44	50.88 ± 4.28	n = 53	Siemens Dimension

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Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
1.2 ± 1.00	422.2 ± 15.36	307.9 ± 11.11	1.2 ± 1.06	364.6 ± 11.85	n = 123	All Methods & Instruments
						<Method Principles>
1.1 ± 1.01	419.6 ± 13.56	305.4 ± 9.24	1.2 ± 1.05	363.1 ± 12.07	n = 74	Hexokinase, UV
1.1 ± 0.50	418.0 ± 18.67	305.4 ± 9.45	<1	361.5 ± 13.93	n = 26	Hexokinase, colorimetric
<20.0	438.7 ± 5.26	325.0 ± 5.20	<20	372.7 ± 3.62	n = 15	Glucose oxidase, colorimetric
6.0 ± 3.69	422.4 ± 5.04	309.2 ± 5.62	5.4 ± 4.13	366.8 ± 4.74	n = 8	Glucose oxidase, O2 electrode
						<Instruments>
<1.0	437.6 ± 6.33	315.5 ± 3.61	<1	379.5 ± 6.22	n = 7	Abbott Architect c System
5.1 ± 5.59	414.9 ± 11.80	302.5 ± 8.80	5.1 ± 5.59	358.7 ± 12.17	n = 18	Beckman Coulter AU Chemistry System
4.8 ± 1.44	423.5 ± 6.13	306.4 ± 6.77	4.1 ± 2.33	364.1 ± 6.49	n = 4	Beckman Coulter UniCel DxC 600
6.7 ± 4.15	423.4 ± 6.45	310.2 ± 4.54	6.3 ± 4.29	366.7 ± 7.21	n = 4	Beckman Coulter UniCel DxC 800
<20	443.4 ± 2.88	328.6 ± 3.04	<20	374.5 ± 1.07	n = 5	Ortho Vitros 5,1FS
<20	437.9 ± 4.84	323.6 ± 4.92	<20	372.2 ± 4.19	n = 10	Ortho Vitros 5600
1.4 ± 0.98	422.6 ± 4.64	306.1 ± 5.01	1.4 ± 0.98	362.8 ± 5.56	n = 12	Roche cobas c501
<2	430.8 ± 5.83	311.8 ± 6.95	<2	373.2 ± 5.95	n = 12	Roche MODULAR D/P
1.9 ± 1.92	420.4 ± 9.31	306.1 ± 7.74	1.9 ± 1.92	363.3 ± 7.73	n = 11	Siemens ADVIA 1800
1.5 ± 1.86	428.3 ± 22.53	314.4 ± 15.36	1.5 ± 1.86	373.1 ± 18.46	n = 3	Siemens ADVIA 2400
0.6 ± 0.67	425.5 ± 8.94	307.5 ± 3.90	0.6 ± 0.67	368.2 ± 3.87	n = 4	Siemens Dimension EXL
<1.0 ± 0.00	405.6 ± 10.09	298.6 ± 6.73	<1	353.6 ± 8.68	n = 24	Siemens Dimension Vista
						<Reagents>
<1	437.6 ± 6.33	315.5 ± 3.61	<1	379.5 ± 6.22	n = 7	Abbott
6.0 ± 3.43	423.3 ± 5.81	308.4 ± 5.67	5.5 ± 3.85	365.5 ± 6.39	n = 9	Beckman Coulter
5.5 ± 5.56	414.8 ± 11.58	302.4 ± 8.24	5.5 ± 5.56	358.1 ± 10.87	n = 17	Beckman Coulter AU Series
<20	439.2 ± 5.44	325.1 ± 5.01	<20	373.0 ± 3.69	n = 16	Ortho Clinical Diagnostics
1.7 ± 0.78	421.5 ± 7.45	305.3 ± 6.46	1.7 ± 0.78	361.2 ± 8.39	n = 16	Roche cobas c501/c311/c502/c701
<2	430.8 ± 5.83	311.8 ± 6.95	<2	373.2 ± 5.95	n = 12	Roche Hitachi and Modular D/P
1.9 ± 1.90	420.4 ± 12.70	306.9 ± 10.31	1.9 ± 1.90	363.7 ± 11.18	n = 16	Siemens ADVIA/ADVIA Centaur
<1	407.9 ± 11.95	300.0 ± 7.23	<1	355.7 ± 9.86	n = 28	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
7.49 ± 0.37	14.78 ± 0.77	11.19 ± 0.68	3.45 ± 0.33	5.44 ± 0.40	n = 114	All Methods & Instruments
						<Method Principles>
7.24 ± 0.30	14.34 ± 0.46	10.88 ± 0.43	3.31 ± 0.18	5.22 ± 0.30	n = 12	Calmagite
7.56 ± 0.16	14.97 ± 0.43	11.51 ± 0.43	3.53 ± 0.14	5.59 ± 0.16	n = 29	Methylthymol blue
7.44 ± 0.45	14.98 ± 0.89	11.30 ± 0.69	3.50 ± 0.28	5.54 ± 0.43	n = 49	Xylidyl blue (Magon)
7.78 ± 0.15	14.08 ± 0.34	10.51 ± 0.29	2.31 ± 0.28	4.96 ± 0.17	n = 9	Formazon dye
7.32 ± 0.52	15.04 ± 0.38	11.33 ± 0.41	3.78 ± 0.04	5.45 ± 0.34	n = 5	Chlorophosphonazo III
6.42 ± 0.82	13.23 ± 1.15	9.97 ± 1.06	2.81 ± 0.44	4.65 ± 0.63	n = 6	Arsenazo dye
7.56 ± 0.52	14.74 ± 0.54	10.92 ± 0.31	3.47 ± 0.38	5.33 ± 0.30	n = 4	Other
						<Instruments>
6.17 ± 0.66	12.95 ± 0.74	9.67 ± 0.85	2.66 ± 0.30	4.47 ± 0.52	n = 5	Abbott Architect c System
7.28 ± 0.18	14.28 ± 1.37	10.82 ± 0.95	3.44 ± 0.08	5.38 ± 0.16	n = 16	Beckman Coulter AU Chemistry System
7.22 ± 0.30	14.22 ± 0.69	10.90 ± 0.11	3.30 ± 0.11	5.26 ± 0.25	n = 4	Beckman Coulter UniCel DxC 600
7.01 ± 0.03	14.21 ± 0.36	10.81 ± 0.61	3.24 ± 0.14	5.10 ± 0.18	n = 5	Beckman Coulter UniCel DxC 800
7.65 ± 0.19	13.97 ± 0.34	10.37 ± 0.23	2.22 ± 0.15	4.85 ± 0.19	n = 3	Ortho Vitros 5,1FS
7.82 ± 0.11	14.13 ± 0.30	10.56 ± 0.27	2.37 ± 0.29	4.96 ± 0.08	n = 7	Ortho Vitros 5600
7.79 ± 0.08	15.57 ± 0.26	11.72 ± 0.27	3.73 ± 0.10	5.76 ± 0.10	n = 9	Roche cobas c501
7.08 ± 0.47	14.08 ± 0.78	10.93 ± 0.25	3.40 ± 0.27	5.28 ± 0.54	n = 10	Roche MODULAR D/P
7.63 ± 0.21	15.40 ± 0.48	11.57 ± 0.52	3.54 ± 0.26	5.73 ± 0.31	n = 10	Siemens ADVIA 1800
7.42 ± 0.41	14.90 ± 0.23	11.23 ± 0.18	3.19 ± 0.26	5.26 ± 0.21	n = 3	Siemens ADVIA 2400
7.54 ± 0.16	14.97 ± 0.43	11.53 ± 0.45	3.55 ± 0.13	5.60 ± 0.15	n = 28	Siemens Dimension Vista
						<Reagents>
6.17 ± 0.66	12.95 ± 0.74	9.67 ± 0.85	2.66 ± 0.30	4.47 ± 0.52	n = 5	Abbott
7.17 ± 0.26	14.32 ± 0.49	10.90 ± 0.24	3.29 ± 0.14	5.21 ± 0.26	n = 10	Beckman Coulter
7.26 ± 0.17	14.14 ± 1.44	10.75 ± 0.99	3.44 ± 0.08	5.37 ± 0.18	n = 15	Beckman Coulter AU Series
7.44 ± 0.56	14.53 ± 0.41	10.80 ± 0.23	3.30 ± 0.29	5.20 ± 0.14	n = 3	In-House
7.78 ± 0.14	14.08 ± 0.31	10.50 ± 0.27	2.31 ± 0.26	4.95 ± 0.14	n = 10	Ortho Clinical Diagnostics
7.77 ± 0.21	15.55 ± 0.42	11.74 ± 0.42	3.73 ± 0.14	5.74 ± 0.11	n = 14	Roche cobas c501/c311/c502/c701
7.08 ± 0.47	14.08 ± 0.78	10.93 ± 0.25	3.40 ± 0.27	5.28 ± 0.54	n = 10	Roche Hitachi and Modular D/P
7.66 ± 0.33	15.31 ± 0.51	11.50 ± 0.48	3.52 ± 0.31	5.66 ± 0.35	n = 15	Siemens ADVIA/ADVIA Centaur
7.54 ± 0.16	14.97 ± 0.42	11.53 ± 0.44	3.55 ± 0.13	5.60 ± 0.15	n = 29	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
190.5 ± 4.41	95.5 ± 4.98	51.2 ± 3.56	225.7 ± 8.67	50.3 ± 2.05	n = 214	All Methods & Instruments
						<Method Principles>
190.2 ± 4.20	95.0 ± 4.49	50.8 ± 3.46	224.7 ± 7.53	50.2 ± 1.81	n = 184	Ion selective electrode (diluted)
203.5 ± 13.33	101.4 ± 6.35	54.0 ± 3.18	238.2 ± 13.32	53.4 ± 3.73	n = 29	Ion selective electrode (undiluted)
						<Instruments>
189.0 ± 1.51	95.0 ± 1.03	51.3 ± 0.57	223.9 ± 2.68	50.0 ± 0.00	n = 15	Abbott Architect c System
191.9 ± 2.98	96.6 ± 1.26	52.2 ± 1.07	229.3 ± 3.26	50.7 ± 0.99	n = 36	Beckman Coulter AU Chemistry System
187.7 ± 3.83	96.0 ± 1.07	50.8 ± 1.26	219.8 ± 4.74	50.5 ± 1.28	n = 9	Beckman Coulter UniCel DxC 600
185.8 ± 1.89	97.5 ± 2.22	53.0 ± 2.36	218.9 ± 2.21	52.6 ± 2.41	n = 7	Beckman Coulter UniCel DxC 800
215.9 ± 4.09	105.8 ± 2.33	54.5 ± 1.93	248.1 ± 2.39	55.8 ± 1.79	n = 8	Ortho Vitros 5,1FS
212.2 ± 5.03	105.4 ± 4.09	55.3 ± 2.98	244.8 ± 3.23	56.4 ± 2.85	n = 14	Ortho Vitros 5600
192.6 ± 1.85	96.7 ± 1.74	52.5 ± 2.02	227.5 ± 1.75	50.9 ± 1.82	n = 23	Roche cobas c501
194.6 ± 1.75	97.4 ± 1.22	52.6 ± 1.22	228.7 ± 2.26	50.8 ± 0.84	n = 16	Roche MODULAR D/P
192.6 ± 1.33	96.5 ± 0.73	51.9 ± 0.63	229.0 ± 1.79	50.4 ± 0.55	n = 15	Siemens ADVIA 1800
193.8 ± 1.54	96.6 ± 1.02	52.0 ± 0.90	231.0 ± 0.90	50.3 ± 0.51	n = 3	Siemens ADVIA 2400
187.7 ± 1.86	92.0 ± 0.00	48.1 ± 0.75	220.1 ± 1.77	49.0 ± 0.91	n = 8	Siemens Dimension EXL
186.5 ± 1.94	92.0 ± 1.14	49.3 ± 0.90	218.8 ± 3.10	49.9 ± 1.13	n = 4	Siemens Dimension RxL
186.4 ± 2.16	87.0 ± 2.00	44.1 ± 1.99	215.4 ± 3.49	48.3 ± 1.45	n = 40	Siemens Dimension Vista
						<Reagents>
189.0 ± 1.51	95.0 ± 1.03	51.3 ± 0.57	223.9 ± 2.68	50.0 ± 0.00	n = 15	Abbott
186.9 ± 3.36	96.8 ± 1.74	51.9 ± 2.06	219.6 ± 3.90	51.4 ± 2.03	n = 19	Beckman Coulter
191.8 ± 2.91	96.5 ± 1.26	52.2 ± 1.10	229.3 ± 3.29	50.7 ± 1.01	n = 34	Beckman Coulter AU Series
213.9 ± 6.18	105.7 ± 4.19	55.0 ± 3.07	246.0 ± 4.02	56.1 ± 2.71	n = 24	Ortho Clinical Diagnostics
192.9 ± 2.09	97.2 ± 1.89	52.6 ± 1.82	227.8 ± 1.92	51.0 ± 1.59	n = 28	Roche cobas c501/c311/c502/c701
194.6 ± 1.75	97.4 ± 1.22	52.6 ± 1.22	228.7 ± 2.26	50.8 ± 0.84	n = 16	Roche Hitachi and Modular D/P
192.9 ± 1.38	96.5 ± 0.86	51.8 ± 0.68	229.4 ± 1.84	50.4 ± 0.55	n = 20	Siemens ADVIA/ADVIA Centaur
186.7 ± 2.07	88.4 ± 3.05	45.4 ± 2.85	216.6 ± 4.18	48.6 ± 1.43	n = 54	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
58.12 ± 2.69	111.02 ± 4.78	123.84 ± 5.51	121.01 ± 4.71	79.54 ± 3.20	n = 143	All Methods & Instruments
						<Method Principles>
57.78 ± 1.69	110.41 ± 3.45	123.16 ± 3.80	120.24 ± 3.19	78.67 ± 2.12	n = 81	Phosphomolybdate - no reduction
60.83 ± 2.86	111.76 ± 6.89	126.14 ± 5.23	121.50 ± 5.36	81.54 ± 4.52	n = 5	Phosphomolybdate reduction (ANS)
59.22 ± 4.52	111.59 ± 7.04	124.41 ± 7.75	121.16 ± 8.37	80.78 ± 4.13	n = 42	Phosphomolybdate reduction (PMA phe
60.69 ± 1.75	111.07 ± 10.20	123.30 ± 16.25	118.83 ± 13.99	83.23 ± 1.03	n = 4	Phosphomolyb.reduct.-ascorbic/malon
59.36 ± 3.12	113.33 ± 3.22	130.44 ± 8.60	125.84 ± 4.39	82.43 ± 3.67	n = 8	Other
						<Instruments>
56.80 ± 0.89	107.32 ± 1.34	121.40 ± 1.54	118.13 ± 1.13	77.59 ± 0.81	n = 7	Abbott Architect c System
57.55 ± 1.21	109.77 ± 2.60	122.81 ± 3.18	119.66 ± 3.14	78.44 ± 1.88	n = 26	Beckman Coulter AU Chemistry System
60.20 ± 0.42	115.79 ± 0.72	131.82 ± 6.84	125.25 ± 4.52	83.13 ± 1.26	n = 5	Beckman Coulter UniCel DxC 600
59.11 ± 1.89	110.37 ± 3.69	124.18 ± 4.18	120.19 ± 3.87	79.52 ± 3.32	n = 6	Beckman Coulter UniCel DxC 800
64.95 ± 0.72	116.46 ± 0.77	130.12 ± 1.36	126.01 ± 1.92	85.47 ± 1.11	n = 4	Ortho Vitros 5,1FS
64.12 ± 1.41	117.33 ± 1.68	130.84 ± 1.95	126.74 ± 2.22	85.30 ± 1.31	n = 12	Ortho Vitros 5600
59.02 ± 1.22	111.99 ± 2.75	124.97 ± 2.29	122.74 ± 2.11	80.17 ± 1.87	n = 14	Roche cobas c501
57.37 ± 1.62	109.79 ± 3.13	122.34 ± 3.28	120.02 ± 3.65	78.94 ± 3.06	n = 13	Roche MODULAR D/P
58.35 ± 2.24	113.48 ± 4.79	126.00 ± 5.36	121.70 ± 4.25	79.10 ± 2.53	n = 11	Siemens ADVIA 1800
58.39 ± 1.07	109.39 ± 1.75	123.08 ± 0.50	119.65 ± 0.83	79.52 ± 1.13	n = 3	Siemens ADVIA 2400
56.54 ± 1.93	106.79 ± 7.33	118.96 ± 6.08	115.35 ± 9.20	78.38 ± 2.37	n = 30	Siemens Dimension Vista
						<Reagents>
56.80 ± 0.89	107.32 ± 1.34	121.40 ± 1.54	118.13 ± 1.13	77.59 ± 0.81	n = 7	Abbott
59.88 ± 1.00	112.56 ± 3.92	127.00 ± 6.64	122.57 ± 4.58	81.55 ± 2.97	n = 11	Beckman Coulter
57.62 ± 1.17	109.97 ± 2.30	123.04 ± 3.02	119.87 ± 2.92	78.58 ± 1.75	n = 25	Beckman Coulter AU Series
64.41 ± 1.25	117.08 ± 1.52	130.61 ± 1.79	126.54 ± 2.15	85.34 ± 1.25	n = 16	Ortho Clinical Diagnostics
58.81 ± 1.62	111.88 ± 3.40	124.71 ± 3.03	122.36 ± 2.73	79.84 ± 2.24	n = 19	Roche cobas c501/c311/c502/c701
57.37 ± 1.62	109.79 ± 3.13	122.34 ± 3.28	120.02 ± 3.65	78.94 ± 3.06	n = 13	Roche Hitachi and Modular D/P
57.93 ± 2.28	112.19 ± 4.54	124.20 ± 5.47	120.46 ± 3.55	78.85 ± 2.43	n = 16	Siemens ADVIA/ADVIA Centaur
56.61 ± 2.11	107.09 ± 7.94	119.40 ± 7.45	116.14 ± 9.71	78.56 ± 2.64	n = 32	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
23.41 ± 1.08	50.22 ± 3.53	55.79 ± 4.53	42.86 ± 2.21	33.27 ± 2.24	n = 213	All Methods & Instruments
						<Method Principles>
23.26 ± 1.10	49.78 ± 3.50	55.20 ± 4.66	42.59 ± 2.19	33.29 ± 2.35	n = 183	Ion selective electrode (diluted)
24.18 ± 0.60	53.11 ± 2.03	58.97 ± 2.28	44.61 ± 1.30	32.93 ± 1.55	n = 29	Ion selective electrode (undiluted)
						<Instruments>
23.19 ± 0.17	50.09 ± 0.30	56.29 ± 0.56	42.50 ± 0.41	33.79 ± 0.35	n = 15	Abbott Architect c System
23.89 ± 0.43	52.47 ± 1.04	58.45 ± 1.53	44.03 ± 0.78	34.80 ± 0.78	n = 35	Beckman Coulter AU Chemistry System
23.46 ± 0.36	49.39 ± 0.69	54.34 ± 0.68	42.69 ± 0.56	33.34 ± 0.42	n = 9	Beckman Coulter UniCel DxC 600
23.61 ± 0.27	49.41 ± 0.46	55.02 ± 0.52	43.07 ± 0.41	33.62 ± 0.27	n = 8	Beckman Coulter UniCel DxC 800
24.53 ± 0.43	54.19 ± 0.73	60.34 ± 0.84	45.27 ± 0.69	32.08 ± 0.70	n = 8	Ortho Vitros 5,1FS
24.61 ± 0.57	54.42 ± 1.33	60.47 ± 1.42	45.45 ± 0.98	32.12 ± 0.77	n = 14	Ortho Vitros 5600
23.53 ± 0.41	50.99 ± 1.19	56.76 ± 1.13	43.07 ± 0.74	34.37 ± 0.61	n = 23	Roche cobas c501
23.39 ± 0.35	48.77 ± 1.31	54.66 ± 1.64	41.74 ± 1.35	33.73 ± 0.84	n = 15	Roche MODULAR D/P
23.88 ± 0.22	51.60 ± 0.70	57.28 ± 0.91	43.82 ± 0.57	34.64 ± 0.48	n = 16	Siemens ADVIA 1800
24.08 ± 0.15	51.90 ± 0.73	57.36 ± 0.67	44.03 ± 0.05	34.75 ± 0.54	n = 3	Siemens ADVIA 2400
22.90 ± 0.15	49.52 ± 0.27	54.42 ± 0.78	42.04 ± 0.41	32.53 ± 0.27	n = 8	Siemens Dimension EXL
22.78 ± 0.41	47.44 ± 1.01	52.24 ± 1.74	41.36 ± 1.04	31.78 ± 0.60	n = 4	Siemens Dimension RxL
21.15 ± 0.35	43.23 ± 0.91	46.06 ± 1.35	38.68 ± 0.84	28.74 ± 0.62	n = 40	Siemens Dimension Vista
						<Reagents>
23.19 ± 0.17	50.09 ± 0.30	56.29 ± 0.56	42.50 ± 0.41	33.79 ± 0.35	n = 15	Abbott
23.55 ± 0.32	49.47 ± 0.62	54.67 ± 0.66	42.93 ± 0.50	33.55 ± 0.41	n = 19	Beckman Coulter
23.87 ± 0.44	52.42 ± 1.08	58.38 ± 1.56	44.04 ± 0.79	34.79 ± 0.78	n = 33	Beckman Coulter AU Series
24.53 ± 0.52	54.17 ± 1.17	60.31 ± 1.19	45.31 ± 0.86	32.04 ± 0.73	n = 24	Ortho Clinical Diagnostics
23.62 ± 0.40	51.16 ± 1.21	56.88 ± 1.12	43.13 ± 0.74	34.51 ± 0.66	n = 28	Roche cobas c501/c311/c502/c701
23.39 ± 0.35	48.77 ± 1.31	54.66 ± 1.64	41.74 ± 1.35	33.73 ± 0.84	n = 15	Roche Hitachi and Modular D/P
23.90 ± 0.22	51.58 ± 0.71	57.19 ± 0.87	43.79 ± 0.53	34.62 ± 0.50	n = 21	Siemens ADVIA/ADVIA Centaur
21.51 ± 0.86	44.40 ± 2.74	47.58 ± 3.77	39.45 ± 1.79	29.47 ± 1.78	n = 54	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 13 April 2015

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
63.01 ± 3.81	252.41 ± 19.09	109.11 ± 7.91	76.03 ± 4.47	45.70 ± 2.91	n = 218	All Methods & Instruments
						<Method Principles>
63.29 ± 4.02	251.45 ± 18.33	109.73 ± 7.46	76.10 ± 4.36	45.79 ± 2.94	n = 62	Biuret (alkaline cupric sulfate)
60.38 ± 1.62	256.58 ± 8.52	100.86 ± 3.85	71.96 ± 2.26	43.67 ± 1.61	n = 42	Tubidimetric/Benzethonium Chloride
64.63 ± 3.17	251.69 ± 23.41	112.37 ± 5.20	77.64 ± 3.07	46.94 ± 2.36	n = 95	Pyrogallol red
91.47 ± 6.53	441.88 ± 12.23	192.71 ± 10.60	81.36 ± 4.55	70.61 ± 8.91	n = 14	Pyrocatechol Violet
58.96 ± 1.01	244.18 ± 16.05	106.34 ± 5.00	70.20 ± 1.32	41.47 ± 1.22	n = 4	Other
						<Instruments>
61.39 ± 0.71	263.48 ± 8.01	105.49 ± 1.49	73.81 ± 1.56	45.72 ± 0.85	n = 14	Abbott Architect c System
64.15 ± 3.39	265.27 ± 15.05	112.77 ± 3.86	78.04 ± 2.17	47.06 ± 1.74	n = 43	Beckman Coulter AU Chemistry System
66.93 ± 1.76	253.33 ± 38.98	127.20 ± 3.48	80.71 ± 1.54	47.13 ± 1.22	n = 8	Beckman Coulter UniCel DxC 600
67.40 ± 2.11	247.55 ± 35.19	128.18 ± 4.39	80.98 ± 0.96	47.23 ± 1.51	n = 7	Beckman Coulter UniCel DxC 800
89.11 ± 5.01	435.79 ± 13.50	187.67 ± 9.65	79.94 ± 3.50	65.41 ± 4.18	n = 6	Ortho Vitros 5,1FS
93.03 ± 8.50	421.43 ± 113.51	204.02 ± 52.68	81.20 ± 4.78	70.95 ± 11.88	n = 14	Ortho Vitros 5600
60.94 ± 1.23	259.97 ± 7.40	101.24 ± 1.91	72.33 ± 1.79	43.66 ± 1.05	n = 24	Roche cobas c501
60.02 ± 2.19	249.35 ± 4.88	99.39 ± 1.91	71.10 ± 2.34	42.36 ± 0.74	n = 3	Roche cobas c502
58.03 ± 1.76	246.07 ± 11.64	94.26 ± 3.16	68.31 ± 2.16	41.77 ± 1.32	n = 3	Roche Cobas INTEGRA
58.85 ± 0.94	252.93 ± 4.14	98.10 ± 1.23	70.52 ± 1.16	42.52 ± 0.54	n = 17	Roche MODULAR D/P
59.20 ± 1.58	240.38 ± 7.68	110.16 ± 2.77	71.71 ± 1.36	41.82 ± 1.31	n = 16	Siemens ADVIA 1800
60.03 ± 1.69	247.67 ± 6.71	108.29 ± 2.47	71.95 ± 1.71	41.69 ± 1.93	n = 3	Siemens ADVIA 2400
66.79 ± 2.66	256.13 ± 7.20	112.02 ± 2.24	79.44 ± 2.77	49.25 ± 1.01	n = 6	Siemens Dimension EXL
65.10 ± 2.01	257.33 ± 6.86	111.55 ± 2.75	77.23 ± 2.26	47.53 ± 1.36	n = 4	Siemens Dimension RxL
65.77 ± 1.76	234.64 ± 13.22	111.83 ± 2.58	77.95 ± 1.73	47.88 ± 1.21	n = 40	Siemens Dimension Vista
						<Reagents>
61.46 ± 0.76	264.22 ± 8.21	105.66 ± 1.61	74.01 ± 1.68	45.80 ± 1.00	n = 15	Abbott
66.75 ± 2.16	253.00 ± 34.79	126.97 ± 4.45	80.52 ± 1.52	46.97 ± 1.34	n = 17	Beckman Coulter
64.12 ± 3.49	264.57 ± 14.42	112.54 ± 3.95	78.02 ± 2.23	47.10 ± 1.78	n = 40	Beckman Coulter AU Series
92.14 ± 6.05	456.19 ± 41.00	202.83 ± 39.88	81.16 ± 4.16	69.98 ± 8.53	n = 20	Ortho Clinical Diagnostics
60.79 ± 1.30	257.40 ± 8.68	100.76 ± 2.11	72.15 ± 1.85	43.56 ± 1.06	n = 29	Roche cobas c501/c311/c502/c701
58.85 ± 0.94	252.93 ± 4.14	98.10 ± 1.23	70.52 ± 1.16	42.52 ± 0.54	n = 17	Roche Hitachi and Modular D/P
58.88 ± 2.14	250.84 ± 12.65	95.70 ± 3.67	69.32 ± 2.64	42.24 ± 1.32	n = 4	Roche Integra and MIRA S
59.20 ± 1.67	241.14 ± 7.92	109.66 ± 2.83	71.63 ± 1.57	41.74 ± 1.58	n = 20	Siemens ADVIA/ADVIA Centaur
65.78 ± 1.83	239.78 ± 16.40	111.90 ± 2.55	78.07 ± 1.92	48.06 ± 1.29	n = 52	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
9.94 ± 0.85	30.66 ± 1.79	27.33 ± 1.66	11.41 ± 0.92	20.29 ± 1.26	n = 148	All Methods & Instruments
						<Method Principles>
9.96 ± 1.00	30.67 ± 1.62	27.27 ± 1.46	11.51 ± 1.25	20.31 ± 1.23	n = 7	Uricase (NAD-NADH reaction)
9.94 ± 0.76	29.65 ± 1.71	26.58 ± 1.65	11.40 ± 0.77	19.76 ± 1.13	n = 50	Uricase/allantoin (differential abs
9.95 ± 0.86	31.19 ± 1.49	27.74 ± 1.47	11.43 ± 0.95	20.58 ± 1.17	n = 89	Uricase/peroxidase (colorimetric)
						<Instruments>
9.56 ± 0.31	29.78 ± 0.74	26.45 ± 0.69	10.91 ± 0.20	19.20 ± 0.34	n = 8	Abbott Architect c System
10.61 ± 0.45	32.40 ± 0.64	29.05 ± 0.89	12.07 ± 0.17	21.56 ± 0.64	n = 26	Beckman Coulter AU Chemistry System
11.16 ± 0.24	32.44 ± 0.86	28.57 ± 0.79	12.87 ± 0.30	21.75 ± 0.37	n = 5	Beckman Coulter UniCel DxC 600
11.32 ± 0.23	32.22 ± 0.45	28.68 ± 0.63	12.80 ± 0.28	21.59 ± 0.45	n = 6	Beckman Coulter UniCel DxC 800
9.62 ± 0.33	31.01 ± 0.45	27.89 ± 0.68	11.21 ± 0.57	20.42 ± 0.39	n = 5	Ortho Vitros 5,1FS
9.24 ± 0.51	30.74 ± 0.83	27.19 ± 0.64	10.64 ± 0.50	20.36 ± 0.62	n = 10	Ortho Vitros 5600
9.39 ± 0.33	30.47 ± 0.81	27.07 ± 1.01	10.86 ± 0.38	20.09 ± 0.59	n = 15	Roche cobas c501
8.86 ± 0.30	28.81 ± 0.82	25.54 ± 0.64	10.12 ± 0.37	18.66 ± 0.55	n = 13	Roche MODULAR D/P
10.21 ± 0.68	31.81 ± 1.09	28.42 ± 0.72	11.70 ± 0.61	21.08 ± 1.01	n = 13	Siemens ADVIA 1800
10.25 ± 0.45	31.27 ± 0.69	27.72 ± 0.78	11.43 ± 0.60	20.56 ± 0.47	n = 3	Siemens ADVIA 2400
11.01 ± 0.46	32.46 ± 0.90	29.59 ± 0.64	12.28 ± 0.90	21.69 ± 0.64	n = 4	Siemens Dimension EXL
10.01 ± 0.42	28.74 ± 0.64	25.76 ± 0.62	11.47 ± 0.43	19.38 ± 0.45	n = 30	Siemens Dimension Vista
						<Reagents>
9.56 ± 0.31	29.78 ± 0.74	26.45 ± 0.69	10.91 ± 0.20	19.20 ± 0.34	n = 8	Abbott
11.26 ± 0.25	32.26 ± 0.69	28.62 ± 0.71	12.83 ± 0.30	21.68 ± 0.40	n = 11	Beckman Coulter
10.59 ± 0.45	32.43 ± 0.66	29.06 ± 0.93	12.07 ± 0.16	21.56 ± 0.63	n = 25	Beckman Coulter AU Series
9.36 ± 0.48	30.85 ± 0.69	27.45 ± 0.74	10.77 ± 0.60	20.37 ± 0.54	n = 16	Ortho Clinical Diagnostics
9.40 ± 0.33	30.53 ± 0.82	27.12 ± 1.00	10.83 ± 0.50	20.07 ± 0.60	n = 20	Roche cobas c501/c311/c502/c701
8.86 ± 0.30	28.81 ± 0.82	25.54 ± 0.64	10.12 ± 0.37	18.66 ± 0.55	n = 13	Roche Hitachi and Modular D/P
10.19 ± 0.60	31.53 ± 1.08	28.18 ± 0.84	11.61 ± 0.57	20.85 ± 0.91	n = 18	Siemens ADVIA/ADVIA Centaur
10.09 ± 0.52	28.76 ± 0.72	25.78 ± 0.68	11.50 ± 0.47	19.43 ± 0.55	n = 34	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 13 April 2015

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL):

Specimen: U31	Specimen: U32	Specimen: U33	Specimen: U34	Specimen: U35	Number	Instrument or Reagent System
393.8 ± 16.69	604.1 ± 23.09	342.2 ± 15.30	504.2 ± 20.55	656.9 ± 24.57	n = 157	All Methods & Instruments
						<Method Principles>
393.7 ± 17.53	605.6 ± 24.33	342.7 ± 16.28	506.0 ± 20.67	657.4 ± 25.92	n = 133	Urease w/glutamate dehydrogenase
388.6 ± 17.12	605.8 ± 9.51	337.6 ± 13.57	504.4 ± 20.28	659.1 ± 27.37	n = 7	Urease, conductivity rate
395.0 ± 8.72	594.5 ± 13.17	340.6 ± 9.08	490.1 ± 11.83	653.2 ± 14.69	n = 15	Urease with indicator dye
						<Instruments>
370.2 ± 8.39	584.8 ± 13.70	321.6 ± 9.38	478.9 ± 8.65	635.3 ± 8.08	n = 8	Abbott Architect c System
395.0 ± 8.93	607.7 ± 15.52	343.9 ± 9.00	508.9 ± 11.70	659.2 ± 19.08	n = 29	Beckman Coulter AU Chemistry System
389.3 ± 11.00	599.5 ± 9.14	340.4 ± 9.49	505.9 ± 4.35	652.4 ± 3.57	n = 6	Beckman Coulter UniCel DxC 600
394.3 ± 11.13	597.4 ± 19.45	339.3 ± 10.94	507.2 ± 16.37	660.3 ± 14.29	n = 5	Beckman Coulter UniCel DxC 800
399.1 ± 13.40	601.4 ± 15.47	343.0 ± 12.06	494.6 ± 14.25	666.4 ± 6.69	n = 5	Ortho Vitros 5,1FS
393.4 ± 8.38	593.5 ± 11.42	339.5 ± 7.44	490.5 ± 11.13	651.2 ± 14.36	n = 12	Ortho Vitros 5600
396.0 ± 15.26	602.2 ± 20.71	340.7 ± 14.51	502.3 ± 21.26	657.0 ± 21.28	n = 16	Roche cobas c501
390.3 ± 13.06	596.1 ± 19.35	341.8 ± 11.75	504.7 ± 10.41	651.3 ± 21.54	n = 14	Roche MODULAR D/P
423.9 ± 8.35	655.1 ± 12.98	367.9 ± 14.36	547.9 ± 9.93	706.2 ± 20.58	n = 12	Siemens ADVIA 1800
422.1 ± 5.07	633.2 ± 8.72	366.4 ± 6.30	531.8 ± 10.90	694.9 ± 9.55	n = 3	Siemens ADVIA 2400
421.5 ± 11.28	634.2 ± 16.21	360.9 ± 14.09	528.3 ± 10.97	681.2 ± 19.92	n = 4	Siemens Dimension EXL
384.4 ± 10.58	596.2 ± 17.61	335.1 ± 12.21	496.1 ± 15.06	645.1 ± 18.21	n = 30	Siemens Dimension Vista
						<Reagents>
370.2 ± 8.39	584.8 ± 13.70	321.6 ± 9.38	478.9 ± 8.65	635.3 ± 8.08	n = 8	Abbott
392.9 ± 12.08	601.9 ± 14.80	341.0 ± 10.30	508.2 ± 10.66	656.2 ± 12.36	n = 12	Beckman Coulter
394.9 ± 8.59	607.8 ± 15.70	344.3 ± 10.10	509.6 ± 12.80	659.6 ± 18.91	n = 29	Beckman Coulter AU Series
394.0 ± 9.04	594.3 ± 13.38	340.0 ± 8.21	490.9 ± 11.80	655.5 ± 14.07	n = 18	Ortho Clinical Diagnostics
397.4 ± 14.51	606.9 ± 21.75	343.2 ± 14.84	505.7 ± 21.70	661.2 ± 23.22	n = 22	Roche cobas c501/c311/c502/c701
390.3 ± 13.06	596.1 ± 19.35	341.8 ± 11.75	504.7 ± 10.41	651.3 ± 21.54	n = 14	Roche Hitachi and Modular D/P
420.7 ± 13.41	647.5 ± 20.32	366.4 ± 15.06	542.2 ± 16.63	699.2 ± 25.82	n = 16	Siemens ADVIA/ADVIA Centaur
386.0 ± 15.60	598.7 ± 21.40	336.5 ± 14.23	497.6 ± 18.93	647.2 ± 21.52	n = 35	Siemens Dimension