

Statistical Report: Quantitative Urine Clinical Chemistry
Mail out date: October 27, 2014

This report summarizes data from the educational quantitative urine clinical chemistry proficiency test of October 27, 2014. Individual evaluation reports are provided for your laboratory for this testing.

Results for the quantitative urine clinical chemistry are listed as the mean $\pm$ 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 ($\pm$ 25%); Creatinine ($\pm$ 17%); Albumin-Creatinine Ratio ($\pm$ 20%); alpha-Amylase (not evaluated); Calcium ($\pm$ 15%); Chloride ($\pm$ 20%); Glucose ($\pm$ 15%); Magnesium ($\pm$ 20%); Sodium ($\pm$ 15%); Phosphorus ($\pm$ 20%); Potassium ($\pm$ 15%); Total Protein ($\pm$ 30%); Uric Acid ($\pm$ 20%); Urea Nitrogen ($\pm$ 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.

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Albumin

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

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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293.0 ± 20.50	942.7 ± 65.70	3705.7 ± 349.82	380.2 ± 30.52	2622.1 ± 208.12	n = 181	All Methods & Instruments
						<Method Principles>
289.3 ± 18.23	932.6 ± 62.74	3622.2 ± 448.56	375.5 ± 33.01	2593.3 ± 184.69	n = 85	Reporting in mg/dL
297.3 ± 21.27	950.6 ± 66.65	3747.0 ± 319.41	383.9 ± 27.59	2648.0 ± 214.26	n = 80	Reporting in mg/L
292.1 ± 22.36	957.5 ± 66.22	3743.6 ± 292.64	385.4 ± 22.98	2655.8 ± 217.89	n = 16	Reporting in ug/mL
						<Instruments>
311.5 ± 10.00	959.8 ± 54.81	3598.3 ± 1102.33	397.9 ± 7.52	2586.3 ± 517.31	n = 8	Abbott Architect c System
283.4 ± 6.35	896.3 ± 44.32	3443.6 ± 309.49	354.5 ± 23.44	2551.8 ± 122.46	n = 39	Beckman Coulter AU Chemistry System
311.7 ± 42.32	1029.9 ± 50.84	3667.0 ± 59.66	356.9 ± 10.08	2605.2 ± 36.33	n = 3	Beckman Coulter Immage
295.1 ± 6.40	964.2 ± 29.48	3783.3 ± 340.76	381.9 ± 15.28	2670.7 ± 173.32	n = 5	Beckman Coulter UniCel DxC 600
294.0 ± 23.66	967.7 ± 49.07	3684.5 ± 329.63	398.0 ± 8.74	2637.6 ± 216.10	n = 5	Beckman Coulter UniCel DxC 800
315.9 ± 30.33	1069.2 ± 89.50	4065.0 ± 125.49	422.6 ± 13.67	2983.6 ± 91.67	n = 4	Nephelometer
293.5 ± 30.87	934.9 ± 42.53	2181.8 ± 1196.53	370.0 ± 29.20	1884.5 ± 658.60	n = 3	Ortho Vitros 5,1FS
295.3 ± 38.38	953.9 ± 57.13	2213.4 ± 1413.50	375.2 ± 40.98	1859.4 ± 846.39	n = 11	Ortho Vitros 5600
298.7 ± 10.81	965.9 ± 45.77	4072.3 ± 284.66	396.9 ± 23.68	2780.5 ± 181.60	n = 17	Roche cobas c501
320.1 ± 31.23	995.6 ± 48.79	3985.3 ± 268.12	400.9 ± 42.29	2802.9 ± 199.71	n = 3	Roche Cobas INTEGRA
283.3 ± 11.36	943.7 ± 32.30	3765.3 ± 100.67	398.9 ± 19.47	2630.5 ± 133.72	n = 16	Roche MODULAR D/P
284.8 ± 10.23	892.1 ± 55.38	3554.2 ± 69.84	355.1 ± 15.68	2454.2 ± 139.44	n = 14	Siemens ADVIA 1800
285.2 ± 12.86	900.3 ± 64.13	3157.9 ± 417.21	358.7 ± 14.35	2437.7 ± 122.41	n = 3	Siemens ADVIA 2400
326.3 ± 8.61	832.4 ± 119.63	3790.7 ± 278.72	394.6 ± 11.69	2871.2 ± 192.32	n = 5	Siemens Dimension EXL
274.3 ± 30.84	956.9 ± 15.93	3737.5 ± 466.97	372.0 ± 5.56	2468.1 ± 565.58	n = 5	Siemens Dimension RXL
305.7 ± 21.10	996.8 ± 51.65	3764.6 ± 206.17	394.7 ± 17.33	2652.3 ± 144.58	n = 25	Siemens Dimension Vista
						<Reagents>
311.5 ± 9.99	967.8 ± 57.99	3754.9 ± 1111.14	396.2 ± 9.08	2609.6 ± 575.44	n = 7	Abbott
293.5 ± 6.16	979.4 ± 44.05	3709.9 ± 289.34	379.0 ± 24.27	2641.7 ± 168.02	n = 13	Beckman Coulter
283.4 ± 5.32	908.0 ± 43.96	3403.5 ± 340.90	358.7 ± 25.02	2537.9 ± 136.78	n = 30	Beckman Coulter AU Series
285.3 ± 8.22	861.3 ± 22.35	3561.4 ± 225.57	346.9 ± 10.93	2597.3 ± 101.88	n = 7	Kamiya
314.7 ± 14.84	965.6 ± 40.77	2001.5 ± 1344.70	395.8 ± 12.79	1693.1 ± 792.40	n = 9	Ortho Clinical Diagnostics
252.8 ± 10.00	907.0 ± 57.79	2555.4 ± 1320.19	326.4 ± 8.73	2160.7 ± 715.55	n = 5	Randox
295.4 ± 11.49	949.6 ± 44.32	3945.9 ± 398.25	393.4 ± 20.84	2723.5 ± 203.13	n = 23	Roche cobas c501/c311/c502/c701
283.3 ± 11.36	943.7 ± 32.30	3765.3 ± 100.67	398.9 ± 19.47	2630.5 ± 133.72	n = 16	Roche Hitachi and Modular D/P
311.2 ± 23.12	983.4 ± 45.57	3913.9 ± 207.52	391.4 ± 28.26	2692.7 ± 194.56	n = 5	Roche Integra and MIRA S
284.7 ± 10.47	895.8 ± 55.27	3397.5 ± 508.70	357.1 ± 16.24	2462.0 ± 149.81	n = 18	Siemens ADVIA/ADVIA Centaur
307.5 ± 22.18	973.3 ± 71.40	3784.9 ± 230.48	391.0 ± 17.88	2697.6 ± 177.86	n = 35	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Creatinine

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

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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43.3 ± 3.43	156.3 ± 9.48	72.0 ± 5.40	78.5 ± 4.92	108.9 ± 7.25	n = 264	All Methods & Instruments
43.3 ± 3.39	156.2 ± 9.36	71.9 ± 5.35	78.4 ± 4.85	108.8 ± 7.17	n = 259	<Method Principles>
49.2 ± 4.67	174.4 ± 14.39	80.2 ± 6.84	88.5 ± 7.01	121.4 ± 10.10	n = 3	Reporting in mg/dL
						Reporting in mg/L
						<Instruments>
40.5 ± 1.21	148.2 ± 3.62	67.7 ± 1.30	74.7 ± 1.51	103.3 ± 2.38	n = 14	Abbott Architect c System
49.2 ± 1.74	168.7 ± 6.21	80.9 ± 3.22	85.6 ± 3.27	120.2 ± 4.31	n = 54	Beckman Coulter AU Chemistry System
46.3 ± 1.30	167.3 ± 3.62	76.6 ± 1.64	84.0 ± 2.78	115.1 ± 3.83	n = 10	Beckman Coulter UniCel DxC 600
44.2 ± 0.91	160.9 ± 2.09	73.7 ± 1.24	81.6 ± 1.15	113.0 ± 0.83	n = 8	Beckman Coulter UniCel DxC 800
40.7 ± 1.02	148.6 ± 2.99	67.5 ± 2.10	77.8 ± 2.11	103.6 ± 2.62	n = 9	Ortho Vitros 5,1FS
39.7 ± 1.11	144.2 ± 2.91	65.2 ± 1.85	75.5 ± 1.65	100.5 ± 3.54	n = 17	Ortho Vitros 5600
43.4 ± 1.04	157.1 ± 4.07	72.2 ± 2.01	80.6 ± 2.25	110.0 ± 3.56	n = 29	Roche cobas c501
42.1 ± 1.21	152.4 ± 4.28	69.1 ± 1.33	76.0 ± 2.03	106.3 ± 1.71	n = 6	Roche Cobas INTEGRA
41.5 ± 1.38	151.6 ± 5.06	69.3 ± 2.33	76.8 ± 2.67	105.9 ± 3.47	n = 22	Roche MODULAR D/P
41.7 ± 1.26	150.5 ± 4.06	69.2 ± 1.45	76.2 ± 1.98	105.6 ± 2.27	n = 18	Siemens ADVIA 1800
39.3 ± 0.42	144.5 ± 1.22	67.4 ± 0.36	74.1 ± 0.84	103.4 ± 3.54	n = 3	Siemens ADVIA 2400
44.2 ± 1.24	156.8 ± 3.13	72.6 ± 1.37	79.6 ± 2.36	109.8 ± 2.18	n = 8	Siemens Dimension EXL
42.5 ± 1.46	155.0 ± 7.59	71.6 ± 3.51	77.5 ± 3.30	107.5 ± 5.03	n = 7	Siemens Dimension RXL
43.2 ± 1.64	158.1 ± 4.28	72.5 ± 1.92	75.4 ± 2.34	109.4 ± 2.61	n = 40	Siemens Dimension Vista
						<Reagents>
40.5 ± 1.21	148.2 ± 3.62	67.7 ± 1.30	74.7 ± 1.51	103.3 ± 2.38	n = 14	Abbott
45.3 ± 1.57	164.1 ± 4.93	75.2 ± 2.12	82.6 ± 2.61	113.7 ± 3.61	n = 18	Beckman Coulter
49.4 ± 1.39	169.6 ± 5.08	81.3 ± 2.63	85.9 ± 2.64	120.7 ± 3.34	n = 49	Beckman Coulter AU Series
40.0 ± 1.23	146.0 ± 3.92	66.0 ± 2.32	76.2 ± 2.20	101.5 ± 3.71	n = 27	Ortho Clinical Diagnostics
43.2 ± 1.58	156.2 ± 5.23	71.7 ± 2.74	79.9 ± 3.09	108.8 ± 5.01	n = 35	Roche cobas c501/c311/c502/c701
41.5 ± 1.38	151.6 ± 5.06	69.3 ± 2.33	76.8 ± 2.67	105.9 ± 3.47	n = 22	Roche Hitachi and Modular D/P
42.0 ± 1.02	151.2 ± 4.24	68.8 ± 1.18	75.8 ± 1.91	105.7 ± 1.82	n = 9	Roche Integra and MIRA S
41.5 ± 1.50	150.0 ± 4.89	68.9 ± 1.69	76.0 ± 2.06	105.5 ± 2.95	n = 22	Siemens ADVIA/ADVIA Centaur
43.2 ± 1.71	157.4 ± 4.76	72.4 ± 2.15	76.0 ± 2.85	109.1 ± 3.16	n = 57	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

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: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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672.6 ± 84.39	603.0 ± 58.21	5080.5 ± 642.45	480.2 ± 57.98	2393.0 ± 251.73	n = 157	All Methods & Instruments
695.2 ± 79.69	614.0 ± 53.86	5176.4 ± 633.73	491.2 ± 52.69	2437.1 ± 247.53	n = 99	<Method Principles>
634.6 ± 72.56	582.2 ± 57.26	4936.8 ± 613.95	460.2 ± 59.97	2327.9 ± 223.80	n = 54	Reporting in mg/g
						Reporting in ug/mg
642.9 ± 77.49	583.4 ± 44.39	4463.8 ± 1839.42	464.1 ± 30.47	2112.8 ± 936.89	n = 16	<Instruments>
595.5 ± 48.61	496.8 ± 93.65	3745.0 ± 1500.70	406.5 ± 21.69	1873.9 ± 694.88	n = 4	Clinical Analyzer calculation
						Manual Calculation
679.7 ± 83.59	607.6 ± 57.38	5106.6 ± 636.93	486.7 ± 56.86	2400.2 ± 247.60	n = 135	<Reagents>
642.9 ± 77.49	583.4 ± 44.39	4463.8 ± 1839.42	464.1 ± 30.47	2112.8 ± 936.89	n = 16	Lab Information System
595.5 ± 48.61	496.8 ± 93.65	3745.0 ± 1500.70	406.5 ± 21.69	1873.9 ± 694.88	n = 4	Clinical Analyzer calculation
						Manual Calculation

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL):

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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8.01 ± 0.39	6.04 ± 1.04	3.17 ± 0.87	7.40 ± 0.32	2.47 ± 1.34	n = 166	All Methods & Instruments
8.21 ± 0.31	6.21 ± 1.03	4.12 ± 1.24	7.48 ± 0.29	3.80 ± 1.77	n = 64	<Method Principles>
7.95 ± 0.29	5.83 ± 0.91	2.95 ± 0.14	7.36 ± 0.33	2.05 ± 0.46	n = 69	o-Cresolphthalein
7.17 ± 0.08	5.80 ± 1.27	2.70 ± 0.16	7.22 ± 0.11	1.90 ± 0.16	n = 12	Arsenazo dye
7.87 ± 0.17	6.20 ± 1.17	2.79 ± 0.11	7.37 ± 0.25	1.68 ± 0.23	n = 16	Ion selective electrode
7.69 ± 0.39	6.95 ± 1.67	2.70 ± 0.10	6.93 ± 0.30	1.97 ± 0.46	n = 3	5-nitro-5-methyl-BAPTA
						Other
						<Instruments>
7.62 ± 0.11	5.60 ± 0.81	2.87 ± 0.09	7.03 ± 0.14	<2	n = 10	Abbott Architect c System
8.15 ± 0.18	6.13 ± 0.91	3.01 ± 0.06	7.38 ± 0.21	1.95 ± 0.38	n = 29	Beckman Coulter AU Chemistry System
7.19 ± 0.05	5.76 ± 1.37	2.72 ± 0.18	7.18 ± 0.08	2.00 ± 0.04	n = 5	Beckman Coulter UniCel DxC 600
7.12 ± 0.08	6.04 ± 1.20	2.71 ± 0.13	7.23 ± 0.13	1.88 ± 0.16	n = 6	Beckman Coulter UniCel DxC 800
7.92 ± 0.30	5.76 ± 0.77	3.03 ± 0.14	7.69 ± 0.21	2.38 ± 0.68	n = 6	Ortho Vitros 5,1FS
7.94 ± 0.17	5.50 ± 0.76	2.97 ± 0.17	7.67 ± 0.18	2.35 ± 0.57	n = 12	Ortho Vitros 5600
7.89 ± 0.31	6.07 ± 1.18	2.81 ± 0.14	7.47 ± 0.34	1.66 ± 0.23	n = 14	Roche cobas c501
8.12 ± 0.31	6.18 ± 1.20	2.76 ± 0.20	7.32 ± 0.28	1.70 ± 0.61	n = 14	Roche MODULAR D/P
7.97 ± 0.37	5.71 ± 0.87	2.86 ± 0.16	7.27 ± 0.26	1.84 ± 0.31	n = 15	Siemens ADVIA 1800
7.92 ± 0.24	5.90 ± 1.44	2.95 ± 0.19	7.25 ± 0.27	1.95 ± 0.36	n = 3	Siemens ADVIA 2400
8.69 ± 0.17	7.14 ± 0.52	<5	7.90 ± 0.06	<5	n = 5	Siemens Dimension EXL
8.21 ± 0.24	6.25 ± 0.95	<5	7.53 ± 0.22	<5	n = 33	Siemens Dimension Vista
						<Reagents>
7.62 ± 0.11	5.60 ± 0.81	2.87 ± 0.09	7.03 ± 0.14	<2	n = 10	Abbott
7.17 ± 0.08	5.80 ± 1.27	2.70 ± 0.16	7.22 ± 0.11	1.90 ± 0.16	n = 12	Beckman Coulter
8.15 ± 0.19	6.16 ± 0.91	3.01 ± 0.07	7.38 ± 0.21	1.93 ± 0.35	n = 28	Beckman Coulter AU Series
7.75 ± 0.45	6.16 ± 0.73	2.80 ± 0.18	7.12 ± 0.41	2.57 ± 0.59	n = 3	Genzyme
7.95 ± 0.20	5.59 ± 0.77	2.99 ± 0.16	7.67 ± 0.19	2.36 ± 0.61	n = 18	Ortho Clinical Diagnostics
7.85 ± 0.19	6.12 ± 1.17	2.80 ± 0.12	7.39 ± 0.29	1.66 ± 0.22	n = 18	Roche cobas c501/c311/c502/c701
8.15 ± 0.30	6.22 ± 1.29	2.76 ± 0.21	7.33 ± 0.29	1.70 ± 0.66	n = 13	Roche Hitachi and Modular D/P
8.04 ± 0.10	5.77 ± 0.63	2.76 ± 0.08	7.42 ± 0.06	1.73 ± 0.22	n = 3	Roche Integra and MIRA S
7.98 ± 0.39	5.75 ± 0.94	2.87 ± 0.17	7.27 ± 0.26	1.90 ± 0.37	n = 19	Siemens ADVIA/ADVIA Centaur
8.27 ± 0.29	6.38 ± 1.02	<5	7.57 ± 0.27	<5	n = 40	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L):

Specimen: U26 -----		Specimen: U27 -----		Specimen: U28 -----		Specimen: U29 -----		Specimen: U30 -----		Number -----	Instrument or Reagent System -----
223.99 ±	5.63	48.51 ±	2.88	133.24 ±	5.23	106.95 ±	5.15	103.98 ±	4.68	n = 184	All Methods & Instruments
											<Method Principles>
223.98 ±	5.59	48.45 ±	2.74	133.46 ±	5.28	107.12 ±	5.33	104.12 ±	4.64	n = 167	Ion selective electrode (diluted)
225.06 ±	8.17	49.51 ±	3.37	131.96 ±	3.82	106.17 ±	2.81	103.25 ±	4.03	n = 15	Ion selective electrode (undiluted)
											<Instruments>
220.51 ±	2.97	49.05 ±	0.63	132.10 ±	1.25	105.98 ±	1.19	103.41 ±	1.22	n = 14	Abbott Architect c System
224.52 ±	2.31	50.53 ±	0.76	133.35 ±	1.49	107.03 ±	0.77	104.54 ±	0.98	n = 34	Beckman Coulter AU Chemistry System
220.89 ±	4.43	48.85 ±	1.30	132.68 ±	1.12	106.66 ±	1.17	103.37 ±	1.06	n = 9	Beckman Coulter UniCel DxC 600
222.03 ±	5.35	50.13 ±	1.90	133.51 ±	1.33	107.61 ±	1.13	104.00 ±	0.47	n = 7	Beckman Coulter UniCel DxC 800
223.13 ±	3.42	42.89 ±	1.24	124.54 ±	0.89	97.96 ±	0.98	94.06 ±	1.06	n = 19	Roche cobas c501
225.75 ±	5.68	45.23 ±	1.66	128.05 ±	2.21	100.39 ±	1.87	97.55 ±	1.84	n = 16	Roche MODULAR D/P
218.83 ±	1.85	49.82 ±	0.53	132.21 ±	1.16	106.71 ±	0.92	103.44 ±	1.06	n = 16	Siemens ADVIA 1800
217.84 ±	1.54	49.28 ±	0.51	131.00 ±	0.90	105.28 ±	0.51	102.56 ±	1.02	n = 3	Siemens ADVIA 2400
228.83 ±	4.01	65.34 ±	2.90	139.02 ±	2.97	116.03 ±	2.28	107.68 ±	1.62	n = 8	Siemens Dimension EXL
222.07 ±	4.20	59.80 ±	5.40	135.70 ±	3.97	113.31 ±	4.58	107.42 ±	1.98	n = 5	Siemens Dimension RXL
228.82 ±	3.34	48.07 ±	0.91	139.02 ±	1.70	111.83 ±	1.31	108.25 ±	1.04	n = 38	Siemens Dimension Vista
											<Reagents>
220.51 ±	2.97	49.05 ±	0.63	132.10 ±	1.25	105.98 ±	1.19	103.41 ±	1.22	n = 14	Abbott
221.80 ±	4.64	49.38 ±	1.55	133.10 ±	1.23	107.09 ±	1.13	103.86 ±	0.96	n = 18	Beckman Coulter
224.60 ±	2.49	50.58 ±	0.78	133.29 ±	1.55	107.04 ±	0.81	104.55 ±	1.01	n = 32	Beckman Coulter AU Series
194.73 ±	22.54	50.84 ±	3.09	131.79 ±	1.96	107.27 ±	1.51	103.53 ±	2.17	n = 4	Ortho Clinical Diagnostics
221.75 ±	5.25	43.05 ±	1.38	124.49 ±	1.65	98.07 ±	1.75	93.88 ±	1.29	n = 23	Roche cobas c501/c311/c502/c701
225.75 ±	5.68	45.23 ±	1.66	128.05 ±	2.21	100.39 ±	1.87	97.55 ±	1.84	n = 16	Roche Hitachi and Modular D/P
218.66 ±	1.84	49.69 ±	0.60	131.89 ±	1.28	106.55 ±	1.09	103.39 ±	1.16	n = 20	Siemens ADVIA/ADVIA Centaur
228.33 ±	4.02	50.75 ±	6.91	138.92 ±	2.28	112.31 ±	2.34	108.10 ±	1.26	n = 53	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL):

Specimen: U26 -----	Specimen: U27 -----	Specimen: U28 -----	Specimen: U29 -----	Specimen: U30 -----	Number -----	Instrument or Reagent System -----
1.1 ± 0.91	573.3 ± 25.65	28.4 ± 1.46	281.6 ± 8.16	17.5 ± 1.64	n = 124	All Methods & Instruments
						<Method Principles>
1.1 ± 1.01	568.5 ± 24.14	28.4 ± 1.22	280.1 ± 7.43	17.4 ± 1.19	n = 74	Hexokinase, UV
1.0 ± 0.44	567.3 ± 25.56	27.7 ± 1.38	281.4 ± 9.75	16.9 ± 1.39	n = 26	Hexokinase, colorimetric
<20	603.7 ± 11.04	30.3 ± 1.07	287.1 ± 6.64	20.9 ± 1.23	n = 15	Glucose oxidase, colorimetric
5.5 ± 4.24	578.1 ± 3.71	27.8 ± 1.48	283.4 ± 6.16	17.4 ± 1.28	n = 8	Glucose oxidase, O2 electrode
						<Instruments>
<1	581.9 ± 49.51	28.2 ± 0.47	288.6 ± 4.70	17.2 ± 0.47	n = 7	Abbott Architect c System
4.8 ± 5.54	563.6 ± 10.26	28.4 ± 0.55	277.8 ± 4.94	17.5 ± 0.64	n = 17	Beckman Coulter AU Chemistry System
4.5 ± 2.30	578.3 ± 4.29	28.2 ± 0.41	283.8 ± 5.17	17.6 ± 0.66	n = 4	Beckman Coulter UniCel DxC 600
6.0 ± 4.60	572.0 ± 14.30	27.6 ± 1.80	282.5 ± 8.58	17.3 ± 1.58	n = 4	Beckman Coulter UniCel DxC 800
<20	604.5 ± 7.95	31.7 ± 2.18	284.8 ± 1.27	22.4 ± 2.05	n = 5	Ortho Vitros 5,1FS
<20	604.8 ± 12.85	30.1 ± 0.98	288.0 ± 7.64	20.5 ± 0.81	n = 10	Ortho Vitros 5600
<2	572.6 ± 12.74	29.0 ± 0.93	283.9 ± 7.05	18.1 ± 0.87	n = 11	Roche cobas c501
1.6 ± 0.72	589.0 ± 9.68	29.1 ± 0.52	287.0 ± 6.73	18.1 ± 0.82	n = 13	Roche MODULAR D/P
2.2 ± 2.08	571.3 ± 10.97	28.7 ± 0.71	281.8 ± 6.17	17.7 ± 0.56	n = 12	Siemens ADVIA 1800
1.5 ± 1.86	583.7 ± 4.06	29.0 ± 0.00	283.3 ± 1.37	18.0 ± 0.00	n = 3	Siemens ADVIA 2400
0.0 ± 0.00	581.0 ± 11.31	29.0 ± 0.75	281.6 ± 1.90	17.7 ± 0.90	n = 4	Siemens Dimension EXL
<1	544.6 ± 20.78	26.6 ± 0.69	273.5 ± 7.11	15.6 ± 0.66	n = 25	Siemens Dimension Vista
						<Reagents>
<1	581.9 ± 49.51	28.2 ± 0.47	288.6 ± 4.70	17.2 ± 0.47	n = 7	Abbott
5.6 ± 3.95	578.4 ± 3.52	27.8 ± 1.35	284.3 ± 5.83	17.3 ± 1.19	n = 9	Beckman Coulter
5.2 ± 5.54	563.6 ± 10.24	28.4 ± 0.55	277.8 ± 4.94	17.5 ± 0.59	n = 16	Beckman Coulter AU Series
<20	604.0 ± 10.64	30.4 ± 1.31	287.1 ± 6.33	21.2 ± 1.53	n = 16	Ortho Clinical Diagnostics
<2	569.9 ± 12.68	28.8 ± 0.85	281.9 ± 8.10	17.9 ± 0.82	n = 15	Roche cobas c501/c311/c502/c701
1.6 ± 0.72	589.0 ± 9.68	29.1 ± 0.52	287.0 ± 6.73	18.1 ± 0.82	n = 13	Roche Hitachi and Modular D/P
1.9 ± 1.99	575.3 ± 11.64	28.8 ± 0.53	282.9 ± 5.60	17.8 ± 0.51	n = 16	Siemens ADVIA/ADVIA Centaur
<1	550.7 ± 23.93	26.7 ± 1.01	275.0 ± 7.14	15.7 ± 0.91	n = 30	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL):

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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14.51 ± 0.67	10.46 ± 0.50	6.74 ± 0.36	9.68 ± 0.44	2.61 ± 0.34	n = 115	All Methods & Instruments
<Method Principles>						
14.31 ± 0.42	10.21 ± 0.28	6.59 ± 0.25	9.39 ± 0.37	2.54 ± 0.16	n = 12	Calmagite
14.57 ± 0.28	10.67 ± 0.23	6.78 ± 0.17	9.77 ± 0.18	2.62 ± 0.22	n = 31	Methylthymol blue
14.80 ± 0.72	10.48 ± 0.63	6.87 ± 0.34	9.77 ± 0.46	2.71 ± 0.33	n = 49	Xylidyl blue (Magon)
13.69 ± 0.23	10.21 ± 0.15	6.30 ± 0.12	9.47 ± 0.09	2.01 ± 0.07	n = 9	Formazon dye
14.54 ± 0.57	10.68 ± 0.56	6.80 ± 0.30	9.60 ± 0.64	2.65 ± 0.18	n = 5	Chlorophosphonazo III
13.29 ± 0.19	9.54 ± 0.42	5.81 ± 0.59	8.52 ± 0.61	2.29 ± 0.21	n = 5	Arsenazo dye
14.29 ± 1.11	10.24 ± 0.48	6.49 ± 0.41	9.46 ± 0.54	3.12 ± 0.42	n = 4	Other
<Instruments>						
13.29 ± 0.19	9.43 ± 0.27	5.63 ± 0.43	8.31 ± 0.35	2.22 ± 0.15	n = 4	Abbott Architect c System
14.57 ± 0.58	10.12 ± 0.56	6.77 ± 0.26	9.65 ± 0.28	2.57 ± 0.22	n = 15	Beckman Coulter AU Chemistry System
14.51 ± 0.65	10.27 ± 0.32	6.59 ± 0.26	9.22 ± 0.20	2.57 ± 0.09	n = 4	Beckman Coulter UniCel DxC 600
14.27 ± 0.33	10.09 ± 0.17	6.47 ± 0.27	9.50 ± 0.56	2.42 ± 0.23	n = 5	Beckman Coulter UniCel DxC 800
13.80 ± 0.27	10.30 ± 0.18	6.55 ± 0.19	9.56 ± 0.10	2.13 ± 0.23	n = 3	Ortho Vitros 5,1FS
13.67 ± 0.18	10.20 ± 0.12	6.26 ± 0.08	9.46 ± 0.10	2.01 ± 0.23	n = 7	Ortho Vitros 5600
15.30 ± 0.31	11.08 ± 0.25	7.05 ± 0.19	10.22 ± 0.24	2.77 ± 0.18	n = 9	Roche cobas c501
14.14 ± 0.31	10.07 ± 0.24	6.64 ± 0.42	9.34 ± 0.29	2.79 ± 0.58	n = 11	Roche MODULAR D/P
15.26 ± 0.49	10.89 ± 0.35	7.03 ± 0.27	10.06 ± 0.21	2.74 ± 0.33	n = 11	Siemens ADVIA 1800
15.07 ± 0.31	10.87 ± 0.14	7.01 ± 0.10	10.09 ± 0.07	2.84 ± 0.10	n = 3	Siemens ADVIA 2400
14.55 ± 0.28	10.67 ± 0.24	6.78 ± 0.17	9.75 ± 0.17	2.62 ± 0.22	n = 29	Siemens Dimension Vista
<Reagents>						
13.29 ± 0.19	9.43 ± 0.27	5.63 ± 0.43	8.31 ± 0.35	2.22 ± 0.15	n = 4	Abbott
14.28 ± 0.34	10.14 ± 0.23	6.53 ± 0.25	9.26 ± 0.27	2.54 ± 0.18	n = 10	Beckman Coulter
14.22 ± 1.31	10.09 ± 0.64	6.77 ± 0.27	9.65 ± 0.30	2.57 ± 0.24	n = 14	Beckman Coulter AU Series
13.87 ± 1.04	10.04 ± 0.38	6.33 ± 0.30	9.25 ± 0.46	3.28 ± 0.24	n = 3	In-House
13.71 ± 0.22	10.22 ± 0.15	6.34 ± 0.17	9.49 ± 0.10	2.05 ± 0.24	n = 10	Ortho Clinical Diagnostics
15.22 ± 0.44	10.97 ± 0.35	7.01 ± 0.21	10.11 ± 0.31	2.78 ± 0.25	n = 14	Roche cobas c501/c311/c502/c701
14.14 ± 0.31	10.07 ± 0.24	6.64 ± 0.42	9.34 ± 0.29	2.79 ± 0.58	n = 11	Roche Hitachi and Modular D/P
15.21 ± 0.45	10.89 ± 0.29	7.02 ± 0.23	10.07 ± 0.16	2.76 ± 0.29	n = 15	Siemens ADVIA/ADVIA Centaur
14.57 ± 0.29	10.68 ± 0.23	6.78 ± 0.17	9.75 ± 0.16	2.61 ± 0.21	n = 31	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L):

Specimen: U26 -----	Specimen: U27 -----	Specimen: U28 -----	Specimen: U29 -----	Specimen: U30 -----	Number -----	Instrument or Reagent System -----
216.2 ± 11.03	38.6 ± 1.84	143.9 ± 5.38	114.9 ± 4.41	119.8 ± 3.15	n = 214	All Methods & Instruments
214.7 ± 9.99	38.5 ± 1.64	143.4 ± 4.73	114.5 ± 3.95	119.6 ± 2.90	n = 183	<Method Principles> Ion selective electrode (diluted)
229.4 ± 12.53	39.9 ± 2.75	151.9 ± 8.43	121.3 ± 7.66	125.4 ± 7.50	n = 30	Ion selective electrode (undiluted)
						<Instruments>
214.5 ± 3.87	38.1 ± 0.59	142.6 ± 1.68	114.5 ± 1.14	118.5 ± 1.70	n = 14	Abbott Architect c System
221.6 ± 3.33	39.2 ± 0.99	146.1 ± 1.84	115.6 ± 1.12	120.9 ± 1.38	n = 36	Beckman Coulter AU Chemistry System
213.5 ± 4.20	39.6 ± 2.50	144.6 ± 2.17	116.5 ± 1.09	120.6 ± 2.03	n = 10	Beckman Coulter UniCel DxC 600
213.0 ± 3.01	41.6 ± 1.63	144.0 ± 1.90	116.8 ± 1.41	120.8 ± 1.41	n = 6	Beckman Coulter UniCel DxC 800
236.3 ± 13.62	40.4 ± 5.82	156.2 ± 9.42	125.8 ± 8.21	129.6 ± 8.90	n = 9	Ortho Vitros 5,1FS
236.6 ± 7.54	39.4 ± 3.75	157.0 ± 6.10	126.2 ± 5.69	128.5 ± 6.71	n = 14	Ortho Vitros 5600
218.5 ± 2.12	38.2 ± 1.46	145.2 ± 1.22	116.2 ± 1.21	120.7 ± 1.14	n = 22	Roche cobas c501
220.0 ± 2.41	39.5 ± 1.81	146.4 ± 1.99	116.9 ± 1.74	121.6 ± 1.91	n = 18	Roche MODULAR D/P
221.0 ± 1.88	38.5 ± 0.64	146.0 ± 1.05	116.6 ± 0.69	120.8 ± 0.82	n = 16	Siemens ADVIA 1800
219.5 ± 1.86	38.3 ± 0.51	146.3 ± 0.51	116.3 ± 0.51	121.3 ± 0.51	n = 3	Siemens ADVIA 2400
208.9 ± 4.00	37.3 ± 0.69	142.1 ± 1.45	112.6 ± 1.13	119.6 ± 0.68	n = 8	Siemens Dimension EXL
202.5 ± 1.80	39.4 ± 0.55	137.8 ± 0.41	111.8 ± 0.80	118.2 ± 0.80	n = 5	Siemens Dimension RXL
199.9 ± 2.71	37.4 ± 1.32	135.8 ± 1.53	107.7 ± 1.58	115.1 ± 1.19	n = 39	Siemens Dimension Vista
						<Reagents>
214.5 ± 3.87	38.1 ± 0.59	142.6 ± 1.68	114.5 ± 1.14	118.5 ± 1.70	n = 14	Abbott
213.5 ± 4.11	40.4 ± 2.14	144.6 ± 2.24	116.5 ± 1.37	120.8 ± 1.84	n = 19	Beckman Coulter
221.5 ± 3.45	39.1 ± 1.01	146.0 ± 1.88	115.6 ± 1.09	120.9 ± 1.35	n = 34	Beckman Coulter AU Series
236.9 ± 10.00	39.7 ± 4.43	157.0 ± 7.09	126.3 ± 6.45	129.2 ± 7.36	n = 25	Ortho Clinical Diagnostics
218.9 ± 2.85	38.5 ± 1.71	145.3 ± 1.28	116.4 ± 1.45	120.8 ± 1.36	n = 26	Roche cobas c501/c311/c502/c701
220.0 ± 2.41	39.5 ± 1.81	146.4 ± 1.99	116.9 ± 1.74	121.6 ± 1.91	n = 18	Roche Hitachi and Modular D/P
220.6 ± 2.15	38.5 ± 0.68	146.1 ± 0.92	116.6 ± 0.66	120.9 ± 0.69	n = 20	Siemens ADVIA/ADVIA Centaur
201.2 ± 4.12	37.5 ± 1.33	136.9 ± 2.72	108.9 ± 2.71	116.1 ± 2.25	n = 54	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL):

Specimen: U26 -----		Specimen: U27 -----		Specimen: U28 -----		Specimen: U29 -----		Specimen: U30 -----		Number	Instrument or Reagent System -----
138.51 ±	4.92	93.37 ±	3.40	81.18 ±	2.62	86.30 ±	2.93	51.60 ±	1.94	n = 145	All Methods & Instruments
138.16 ±	4.13	93.16 ±	2.55	80.78 ±	2.31	85.79 ±	2.41	51.35 ±	1.46	n = 79	<Method Principles>
135.91 ±	5.16	93.43 ±	2.65	81.56 ±	3.41	86.45 ±	2.93	52.64 ±	3.10	n = 5	Phosphomolybdate - no reduction
139.99 ±	6.97	93.95 ±	4.91	81.94 ±	3.25	87.51 ±	3.98	52.28 ±	2.72	n = 43	Phosphomolybdate reduction (ANS)
132.38 ±	22.69	93.71 ±	3.46	83.52 ±	3.16	87.95 ±	3.66	51.15 ±	1.53	n = 4	Phosphomolybdate reduction (PMA phe
132.01 ±	13.66	90.38 ±	3.82	80.70 ±	1.28	86.36 ±	2.10	51.83 ±	1.39	n = 3	Phosphomolybdate reduction - ascorbic/malon
139.26 ±	6.10	94.21 ±	2.66	81.81 ±	0.59	86.83 ±	1.84	51.65 ±	1.86	n = 9	Phosphomolybdate reduction - other
											Other
											<Instruments>
135.97 ±	0.82	91.39 ±	0.75	79.26 ±	1.12	83.74 ±	1.29	50.76 ±	0.79	n = 7	Abbott Architect c System
138.28 ±	2.25	92.98 ±	2.00	80.68 ±	1.34	85.72 ±	1.25	50.94 ±	1.00	n = 26	Beckman Coulter AU Chemistry System
144.46 ±	5.88	95.02 ±	1.50	82.96 ±	1.18	88.06 ±	1.68	52.05 ±	0.69	n = 5	Beckman Coulter UniCel DxC 600
134.70 ±	5.33	92.61 ±	2.80	80.30 ±	2.49	86.31 ±	3.02	52.29 ±	3.18	n = 6	Beckman Coulter UniCel DxC 800
145.82 ±	4.93	97.77 ±	1.86	86.21 ±	2.37	91.57 ±	1.41	55.37 ±	1.44	n = 4	Ortho Vitros 5,1FS
146.09 ±	6.29	97.42 ±	1.94	85.17 ±	2.29	91.32 ±	2.69	55.06 ±	1.82	n = 12	Ortho Vitros 5600
139.67 ±	3.77	94.32 ±	2.14	80.92 ±	1.41	86.63 ±	1.49	51.87 ±	0.88	n = 13	Roche cobas c501
137.66 ±	4.94	92.43 ±	2.56	80.15 ±	2.71	84.76 ±	2.86	51.14 ±	1.42	n = 14	Roche MODULAR D/P
140.63 ±	4.42	93.95 ±	3.74	82.02 ±	2.68	87.44 ±	3.10	52.21 ±	2.03	n = 12	Siemens ADVIA 1800
134.94 ±	1.15	92.04 ±	3.03	81.15 ±	2.10	87.80 ±	2.27	52.39 ±	2.99	n = 3	Siemens ADVIA 2400
136.62 ±	3.25	91.12 ±	4.30	80.50 ±	1.96	85.21 ±	1.83	50.80 ±	1.46	n = 30	Siemens Dimension Vista
											<Reagents>
135.97 ±	0.82	91.39 ±	0.75	79.26 ±	1.12	83.74 ±	1.29	50.76 ±	0.79	n = 7	Abbott
138.23 ±	7.79	94.00 ±	2.32	81.73 ±	2.22	87.47 ±	2.05	52.16 ±	2.16	n = 11	Beckman Coulter
138.42 ±	2.14	93.12 ±	1.88	80.76 ±	1.29	85.80 ±	1.13	50.99 ±	0.98	n = 25	Beckman Coulter AU Series
146.00 ±	5.93	97.51 ±	1.91	85.42 ±	2.34	91.43 ±	2.40	55.14 ±	1.73	n = 16	Ortho Clinical Diagnostics
139.28 ±	3.83	93.98 ±	2.03	81.20 ±	1.98	86.55 ±	1.80	51.81 ±	1.03	n = 18	Roche cobas c501/c311/c502/c701
137.66 ±	4.94	92.43 ±	2.56	80.15 ±	2.71	84.76 ±	2.86	51.14 ±	1.42	n = 14	Roche Hitachi and Modular D/P
139.91 ±	5.23	93.88 ±	3.78	82.08 ±	2.74	87.81 ±	3.06	52.23 ±	2.14	n = 16	Siemens ADVIA/ADVIA Centaur
136.99 ±	3.66	91.67 ±	4.59	80.48 ±	2.18	85.30 ±	1.95	50.92 ±	1.64	n = 34	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L):

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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68.59 ± 3.58	45.35 ± 2.78	35.49 ± 1.80	40.42 ± 2.27	18.91 ± 0.87	n = 213	All Methods & Instruments
						<Method Principles>
68.52 ± 3.71	44.98 ± 2.68	35.23 ± 1.72	40.12 ± 2.06	18.78 ± 0.91	n = 182	Ion selective electrode (diluted)
68.94 ± 2.86	47.78 ± 2.03	37.10 ± 1.41	42.84 ± 2.27	19.42 ± 0.35	n = 30	Ion selective electrode (undiluted)
						<Instruments>
68.74 ± 0.79	45.08 ± 0.79	35.27 ± 0.48	40.35 ± 0.55	18.81 ± 0.21	n = 14	Abbott Architect c System
71.71 ± 1.92	46.94 ± 1.12	36.63 ± 0.98	41.56 ± 1.00	19.46 ± 0.50	n = 35	Beckman Coulter AU Chemistry System
69.71 ± 0.57	44.88 ± 0.49	35.31 ± 0.36	40.10 ± 0.29	18.95 ± 0.16	n = 10	Beckman Coulter UniCel DxC 600
69.95 ± 0.79	44.82 ± 0.23	35.37 ± 0.21	40.09 ± 0.26	19.06 ± 0.13	n = 7	Beckman Coulter UniCel DxC 800
66.50 ± 1.05	47.87 ± 0.96	37.07 ± 0.62	43.19 ± 0.83	19.16 ± 0.40	n = 9	Ortho Vitros 5,1FS
68.05 ± 1.93	49.10 ± 1.50	37.93 ± 1.10	44.42 ± 1.20	19.65 ± 0.47	n = 14	Ortho Vitros 5600
69.92 ± 2.29	45.82 ± 1.11	35.69 ± 0.85	40.90 ± 0.96	19.08 ± 0.23	n = 22	Roche cobas c501
68.98 ± 3.36	45.36 ± 1.42	35.59 ± 1.17	40.44 ± 1.11	19.09 ± 0.28	n = 17	Roche MODULAR D/P
71.82 ± 1.29	46.01 ± 0.16	36.02 ± 0.24	40.98 ± 0.06	19.07 ± 0.13	n = 17	Siemens ADVIA 1800
71.22 ± 0.77	45.89 ± 0.20	35.97 ± 0.14	40.92 ± 0.24	19.06 ± 0.10	n = 3	Siemens ADVIA 2400
66.28 ± 0.63	45.39 ± 0.52	35.12 ± 0.43	39.87 ± 0.51	18.88 ± 0.18	n = 8	Siemens Dimension EXL
62.84 ± 1.37	42.34 ± 0.67	33.27 ± 0.73	38.03 ± 0.72	18.06 ± 0.06	n = 5	Siemens Dimension Rxl
64.07 ± 2.15	40.29 ± 1.23	32.50 ± 0.83	36.88 ± 0.92	17.00 ± 0.30	n = 39	Siemens Dimension Vista
						<Reagents>
68.74 ± 0.79	45.08 ± 0.79	35.27 ± 0.48	40.35 ± 0.55	18.81 ± 0.21	n = 14	Abbott
69.83 ± 0.66	44.86 ± 0.36	35.33 ± 0.29	40.10 ± 0.27	19.01 ± 0.15	n = 19	Beckman Coulter
71.49 ± 1.72	46.82 ± 0.94	36.51 ± 0.82	41.44 ± 0.84	19.41 ± 0.46	n = 33	Beckman Coulter AU Series
67.20 ± 1.83	48.53 ± 1.36	37.54 ± 1.03	43.83 ± 1.23	19.44 ± 0.49	n = 25	Ortho Clinical Diagnostics
69.98 ± 2.47	45.70 ± 1.20	35.61 ± 0.87	40.83 ± 1.04	19.08 ± 0.26	n = 26	Roche cobas c501/c311/c502/c701
68.98 ± 3.36	45.36 ± 1.42	35.59 ± 1.17	40.44 ± 1.11	19.09 ± 0.28	n = 17	Roche Hitachi and Modular D/P
71.61 ± 1.27	45.98 ± 0.19	36.03 ± 0.28	40.98 ± 0.15	19.08 ± 0.13	n = 21	Siemens ADVIA/ADVIA Centaur
64.45 ± 2.19	41.13 ± 2.27	32.96 ± 1.27	37.36 ± 1.46	17.35 ± 0.81	n = 54	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (mg/dL):

Specimen: U26		Specimen: U27		Specimen: U28		Specimen: U29		Specimen: U30		Number	Instrument or Reagent System
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39.15 ±	5.90	107.37 ±	5.06	395.89 ±	29.42	46.58 ±	3.31	277.99 ±	24.71	n = 219	All Methods & Instruments
											<Method Principles>
39.13 ±	5.67	107.46 ±	5.03	387.01 ±	32.35	46.46 ±	3.52	271.49 ±	25.29	n = 64	Biuret (alkaline cupric sulfate)
33.89 ±	1.18	104.09 ±	4.16	406.80 ±	10.47	45.35 ±	1.60	290.92 ±	9.45	n = 42	Turbidimetric/Benzethonium Chloride
40.79 ±	4.94	109.09 ±	4.73	393.02 ±	35.51	47.56 ±	3.33	274.71 ±	27.97	n = 93	Pyrogallol red
47.41 ±	2.64	176.20 ±	12.13	636.03 ±	53.65	66.63 ±	3.30	472.99 ±	52.33	n = 15	Pyrocatechol Violet
33.49 ±	0.83	103.53 ±	2.50	379.41 ±	35.39	42.24 ±	1.43	266.33 ±	13.73	n = 4	Other
											<Instruments>
34.95 ±	0.86	109.13 ±	1.12	411.97 ±	5.81	46.29 ±	0.62	302.12 ±	6.21	n = 13	Abbott Architect c System
38.32 ±	1.28	110.42 ±	3.31	416.37 ±	18.33	45.49 ±	1.93	295.51 ±	15.45	n = 42	Beckman Coulter AU Chemistry System
41.15 ±	1.66	116.34 ±	2.99	397.98 ±	48.31	47.87 ±	0.88	266.79 ±	26.21	n = 9	Beckman Coulter UniCel DxC 600
41.54 ±	1.24	118.14 ±	3.70	390.86 ±	35.92	49.81 ±	0.73	263.21 ±	33.40	n = 6	Beckman Coulter UniCel DxC 800
46.91 ±	1.57	177.61 ±	10.51	631.28 ±	38.75	64.65 ±	1.21	455.46 ±	24.78	n = 8	Ortho Vitros 5,1FS
48.40 ±	3.31	176.90 ±	27.99	634.93 ±	81.22	68.35 ±	3.01	463.08 ±	73.45	n = 14	Ortho Vitros 5600
33.43 ±	0.87	104.77 ±	2.98	412.44 ±	10.81	45.67 ±	1.65	294.21 ±	8.98	n = 23	Roche cobas c501
33.23 ±	2.06	102.37 ±	3.93	398.91 ±	11.07	44.55 ±	2.08	287.10 ±	9.27	n = 3	Roche cobas c502
33.17 ±	0.31	101.69 ±	0.56	410.02 ±	9.51	45.92 ±	0.15	290.49 ±	6.05	n = 3	Roche Cobas INTEGRA
33.71 ±	1.23	101.07 ±	1.94	401.25 ±	7.35	44.16 ±	1.22	283.64 ±	5.52	n = 19	Roche MODULAR D/P
34.18 ±	1.94	104.18 ±	1.51	361.07 ±	42.47	41.69 ±	2.03	262.63 ±	12.62	n = 17	Siemens ADVIA 1800
33.97 ±	0.77	104.34 ±	2.59	371.96 ±	38.72	41.95 ±	0.90	263.97 ±	14.44	n = 3	Siemens ADVIA 2400
45.02 ±	0.80	106.28 ±	1.68	397.23 ±	12.89	50.09 ±	0.45	278.72 ±	3.26	n = 6	Siemens Dimension EXL
46.54 ±	0.60	106.57 ±	1.58	400.45 ±	5.41	50.41 ±	0.87	276.59 ±	10.04	n = 5	Siemens Dimension RXL
45.04 ±	1.80	109.03 ±	3.16	367.43 ±	11.81	49.89 ±	1.74	252.62 ±	12.55	n = 39	Siemens Dimension Vista
											<Reagents>
35.07 ±	1.00	109.25 ±	1.31	413.38 ±	7.49	46.36 ±	0.67	302.60 ±	7.15	n = 14	Abbott
41.03 ±	1.69	116.35 ±	3.59	399.38 ±	40.99	48.66 ±	1.44	269.35 ±	28.98	n = 17	Beckman Coulter
38.32 ±	1.32	110.57 ±	3.17	414.72 ±	18.28	45.42 ±	1.97	294.41 ±	14.33	n = 39	Beckman Coulter AU Series
47.89 ±	2.49	180.33 ±	11.19	639.63 ±	54.67	66.76 ±	3.35	462.28 ±	49.48	n = 22	Ortho Clinical Diagnostics
33.50 ±	1.05	104.21 ±	3.48	408.40 ±	13.28	45.49 ±	1.63	291.85 ±	9.92	n = 28	Roche cobas c501/c311/c502/c701
33.71 ±	1.23	101.07 ±	1.94	401.25 ±	7.35	44.16 ±	1.22	283.64 ±	5.52	n = 19	Roche Hitachi and Modular D/P
33.13 ±	0.24	101.43 ±	0.66	404.94 ±	11.94	46.01 ±	0.26	287.24 ±	7.57	n = 4	Roche Integra and MIRA S
34.11 ±	1.75	104.16 ±	1.68	362.75 ±	42.03	41.70 ±	1.83	262.77 ±	12.93	n = 20	Siemens ADVIA/ADVIA Centaur
45.16 ±	1.65	108.14 ±	3.18	374.26 ±	17.95	49.97 ±	1.48	258.64 ±	16.63	n = 52	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL):

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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25.40 ± 1.68	17.11 ± 1.04	34.29 ± 2.01	10.61 ± 0.88	13.30 ± 0.91	n = 150	All Methods & Instruments
25.38 ± 1.62	16.72 ± 1.32	33.83 ± 2.89	10.53 ± 0.89	13.14 ± 1.04	n = 8	<Method Principles>
24.66 ± 1.78	16.94 ± 1.15	33.27 ± 2.07	10.61 ± 0.91	13.31 ± 0.87	n = 51	Uricase (NAD-NADH reaction)
25.84 ± 1.44	17.25 ± 0.96	34.87 ± 1.58	10.64 ± 0.87	13.33 ± 0.92	n = 86	Uricase/allantoin (differential abs
24.65 ± 1.17	16.63 ± 0.82	33.94 ± 2.03	10.39 ± 0.75	12.91 ± 0.68	n = 5	Uricase/oxidase (colorimetric)
						Other
						<Instruments>
24.50 ± 0.41	16.47 ± 0.25	33.60 ± 0.55	10.30 ± 0.23	12.80 ± 0.13	n = 8	Abbott Architect c System
26.85 ± 0.83	17.60 ± 0.56	35.92 ± 1.27	10.96 ± 0.20	14.02 ± 0.44	n = 25	Beckman Coulter AU Chemistry System
26.93 ± 0.20	18.72 ± 0.04	35.83 ± 0.27	12.10 ± 0.09	14.67 ± 0.23	n = 5	Beckman Coulter UniCel DxC 600
27.02 ± 0.26	18.36 ± 0.35	36.00 ± 0.00	12.08 ± 0.17	14.65 ± 0.22	n = 6	Beckman Coulter UniCel DxC 800
25.10 ± 0.84	16.91 ± 0.84	34.08 ± 0.88	10.05 ± 0.40	12.74 ± 0.39	n = 5	Ortho Vitros 5,1FS
25.31 ± 0.44	17.01 ± 0.37	34.89 ± 0.67	10.13 ± 0.45	12.67 ± 0.44	n = 10	Ortho Vitros 5600
25.89 ± 1.35	17.07 ± 0.61	34.78 ± 1.31	10.20 ± 0.36	13.01 ± 0.55	n = 14	Roche cobas c501
23.56 ± 0.78	15.77 ± 0.41	32.53 ± 1.32	9.38 ± 0.38	12.04 ± 0.42	n = 14	Roche MODULAR D/P
26.06 ± 1.01	17.82 ± 0.90	35.73 ± 1.05	11.50 ± 0.64	13.77 ± 0.50	n = 14	Siemens ADVIA 1800
25.41 ± 1.07	17.38 ± 0.86	35.09 ± 2.01	11.13 ± 0.32	13.62 ± 0.32	n = 3	Siemens ADVIA 2400
27.59 ± 0.43	18.48 ± 0.67	35.40 ± 1.43	11.30 ± 0.93	14.04 ± 0.45	n = 4	Siemens Dimension EXL
23.62 ± 0.71	16.49 ± 0.53	31.85 ± 0.77	10.44 ± 0.52	13.12 ± 0.52	n = 31	Siemens Dimension Vista
						<Reagents>
24.50 ± 0.41	16.47 ± 0.25	33.60 ± 0.55	10.30 ± 0.23	12.80 ± 0.13	n = 8	Abbott
26.98 ± 0.23	18.54 ± 0.28	36.00 ± 0.05	12.09 ± 0.13	14.66 ± 0.23	n = 11	Beckman Coulter
26.85 ± 0.86	17.63 ± 0.54	35.94 ± 1.32	10.96 ± 0.19	14.04 ± 0.31	n = 24	Beckman Coulter AU Series
25.22 ± 0.59	16.96 ± 0.52	34.58 ± 0.80	10.10 ± 0.41	12.68 ± 0.40	n = 16	Ortho Clinical Diagnostics
25.91 ± 1.12	17.11 ± 0.65	34.88 ± 1.11	10.20 ± 0.31	13.00 ± 0.49	n = 19	Roche cobas c501/c311/c502/c701
23.56 ± 0.78	15.77 ± 0.41	32.53 ± 1.32	9.38 ± 0.38	12.04 ± 0.42	n = 14	Roche Hitachi and Modular D/P
26.07 ± 1.19	17.84 ± 1.01	35.79 ± 1.36	11.48 ± 0.68	13.78 ± 0.49	n = 18	Siemens ADVIA/ADVIA Centaur
23.88 ± 1.26	16.64 ± 0.84	32.12 ± 1.24	10.55 ± 0.67	13.26 ± 0.67	n = 37	Siemens Dimension

New York State Department of Health – Wadsworth Center
Quantitative Urine Chemistry – Educational Proficiency Testing – 27 October 2014

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL):

Specimen: U26	Specimen: U27	Specimen: U28	Specimen: U29	Specimen: U30	Number	Instrument or Reagent System
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815.7 ± 34.95	378.3 ± 16.51	654.3 ± 26.60	867.1 ± 36.62	497.3 ± 19.63	n = 158	All Methods & Instruments
						<Method Principles>
815.1 ± 37.18	378.7 ± 16.74	653.6 ± 27.69	863.7 ± 36.74	496.7 ± 19.72	n = 134	Urease w/glutamate dehydrogenase
808.1 ± 31.97	364.7 ± 14.48	641.8 ± 22.82	855.3 ± 27.53	485.2 ± 15.88	n = 7	Urease, conductivity rate
821.3 ± 18.95	378.5 ± 11.49	660.7 ± 16.01	892.8 ± 20.54	504.5 ± 15.02	n = 15	Urease with indicator dye
						<Instruments>
787.8 ± 17.30	360.0 ± 7.01	626.8 ± 10.24	841.0 ± 24.18	475.5 ± 6.21	n = 8	Abbott Architect c System
813.9 ± 24.07	379.3 ± 11.82	656.8 ± 22.78	858.3 ± 26.91	498.6 ± 15.26	n = 28	Beckman Coulter AU Chemistry System
812.9 ± 12.15	372.7 ± 7.45	639.5 ± 11.20	851.2 ± 10.58	493.3 ± 6.58	n = 6	Beckman Coulter UniCel DxC 600
811.4 ± 25.38	369.8 ± 10.96	650.5 ± 19.89	858.3 ± 28.33	485.8 ± 17.66	n = 5	Beckman Coulter UniCel DxC 800
836.6 ± 24.47	390.3 ± 10.07	675.9 ± 14.29	903.8 ± 19.76	516.5 ± 16.54	n = 5	Ortho Vitros 5,1FS
819.6 ± 12.92	377.2 ± 9.97	658.6 ± 13.04	893.3 ± 16.13	502.9 ± 13.01	n = 12	Ortho Vitros 5600
808.0 ± 36.75	375.4 ± 18.27	645.8 ± 30.43	852.9 ± 39.95	494.1 ± 14.27	n = 15	Roche cobas c501
809.9 ± 30.58	381.9 ± 15.25	651.8 ± 23.04	866.4 ± 34.51	496.7 ± 15.85	n = 15	Roche MODULAR D/P
874.9 ± 21.74	402.8 ± 12.40	695.2 ± 19.28	921.4 ± 16.43	525.7 ± 14.07	n = 13	Siemens ADVIA 1800
844.4 ± 21.03	389.3 ± 25.49	680.2 ± 15.81	889.3 ± 16.70	506.7 ± 21.34	n = 3	Siemens ADVIA 2400
908.8 ± 38.60	406.0 ± 17.15	711.5 ± 13.96	912.0 ± 27.43	531.3 ± 21.87	n = 4	Siemens Dimension EXL
801.4 ± 53.53	367.1 ± 20.01	642.1 ± 19.68	839.8 ± 43.53	478.3 ± 16.01	n = 3	Siemens Dimension RxL
801.9 ± 32.51	373.4 ± 15.11	645.2 ± 17.55	852.4 ± 30.56	488.8 ± 17.28	n = 30	Siemens Dimension Vista
						<Reagents>
787.8 ± 17.30	360.0 ± 7.01	626.8 ± 10.24	841.0 ± 24.18	475.5 ± 6.21	n = 8	Abbott
814.1 ± 19.92	372.9 ± 10.06	645.4 ± 17.24	856.7 ± 20.45	491.0 ± 13.00	n = 12	Beckman Coulter
814.4 ± 23.96	379.7 ± 11.85	656.4 ± 22.55	858.5 ± 26.78	498.6 ± 15.26	n = 28	Beckman Coulter AU Series
822.1 ± 18.38	380.1 ± 12.65	661.3 ± 16.33	894.9 ± 18.62	505.7 ± 14.84	n = 18	Ortho Clinical Diagnostics
810.4 ± 28.37	375.0 ± 14.93	648.4 ± 26.32	853.5 ± 32.31	494.3 ± 13.03	n = 21	Roche cobas c501/c311/c502/c701
809.9 ± 30.58	381.9 ± 15.25	651.8 ± 23.04	866.4 ± 34.51	496.7 ± 15.85	n = 15	Roche Hitachi and Modular D/P
868.7 ± 27.69	402.1 ± 16.25	692.9 ± 20.67	916.6 ± 21.02	523.3 ± 16.61	n = 16	Siemens ADVIA/ADVIA Centaur
808.7 ± 43.29	375.4 ± 17.92	648.2 ± 23.93	857.3 ± 37.09	490.7 ± 20.50	n = 37	Siemens Dimension