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Statistical Report: Quantitative Urine Clinical Chemistry
Mail out date: October 26, 2015

This report summarizes data from the educational quantitative urine clinical chemistry proficiency test of October 26, 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.

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Albumin

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

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
2072.2 ± 183.45	347.3 ± 26.85	2584.7 ± 239.15	742.9 ± 57.18	997.5 ± 80.02	n = 176	All Methods & Instruments
						<Method Principles>
2049.6 ± 184.44	344.8 ± 28.82	2580.9 ± 233.77	731.3 ± 56.93	982.2 ± 84.10	n = 82	Reporting in mg/dL
2092.7 ± 173.33	350.3 ± 24.81	2595.1 ± 233.11	752.2 ± 55.15	1007.7 ± 73.24	n = 76	Reporting in mg/L
2023.4 ± 318.00	343.4 ± 25.79	2459.8 ± 485.53	756.3 ± 55.35	1018.1 ± 83.36	n = 18	Reporting in ug/mL
						<Instruments>
2020.9 ± 168.93	358.7 ± 21.85	2363.9 ± 500.96	727.8 ± 18.43	998.3 ± 36.27	n = 9	Abbott Architect c System
2072.9 ± 143.23	339.2 ± 25.31	2578.8 ± 186.43	715.1 ± 40.56	969.1 ± 67.70	n = 37	Beckman Coulter AU Chemistry System
1920.9 ± 83.14	345.1 ± 12.03	2378.7 ± 173.40	746.6 ± 18.18	1023.6 ± 29.90	n = 3	Beckman Coulter Immage
2113.3 ± 270.06	358.0 ± 4.90	2650.5 ± 222.61	785.2 ± 8.40	1032.9 ± 50.26	n = 5	Beckman Coulter UniCel DxC 600
1945.8 ± 458.39	342.8 ± 2.11	2325.1 ± 559.72	756.7 ± 29.40	979.1 ± 85.03	n = 5	Beckman Coulter UniCel DxC 800
2355.0 ± 129.06	374.6 ± 14.33	2903.0 ± 150.47	849.4 ± 59.42	1202.9 ± 50.11	n = 4	Nephelometer
1726.7 ± 424.06	338.0 ± 38.58	1879.7 ± 650.60	741.9 ± 39.19	1029.5 ± 44.47	n = 3	Ortho Vitros 5,1FS
1474.9 ± 555.93	372.3 ± 12.39	1610.0 ± 797.90	765.3 ± 64.15	1072.3 ± 44.62	n = 13	Ortho Vitros 5600
2092.0 ± 137.09	347.6 ± 10.48	2663.5 ± 165.31	731.1 ± 43.01	980.2 ± 69.66	n = 18	Roche cobas c501
1928.0 ± 39.12	329.1 ± 15.16	2392.8 ± 90.83	716.8 ± 22.71	945.2 ± 21.50	n = 5	Roche cobas c701
2006.4 ± 65.76	347.6 ± 10.56	2526.3 ± 66.29	757.7 ± 25.76	991.1 ± 45.08	n = 12	Roche MODULAR D/P
1914.6 ± 80.95	306.4 ± 22.36	2383.9 ± 65.06	661.0 ± 22.32	919.5 ± 37.90	n = 12	Siemens ADVIA 1800
1927.6 ± 62.03	325.7 ± 8.42	2424.6 ± 50.31	684.6 ± 27.53	940.9 ± 40.49	n = 3	Siemens ADVIA 2400
2160.5 ± 152.30	360.2 ± 13.64	2707.7 ± 210.18	774.9 ± 23.43	992.2 ± 127.35	n = 6	Siemens Dimension EXL
1834.2 ± 247.77	363.1 ± 25.29	2342.8 ± 670.81	781.6 ± 23.72	1001.7 ± 63.82	n = 3	Siemens Dimension RxL
2209.9 ± 111.70	359.8 ± 31.60	2719.3 ± 150.30	795.8 ± 46.04	1054.0 ± 59.39	n = 27	Siemens Dimension Vista
						<Reagents>
2057.4 ± 134.75	361.5 ± 16.76	2354.8 ± 544.31	724.2 ± 17.04	1003.6 ± 27.47	n = 8	Abbott
2042.1 ± 242.42	345.5 ± 15.80	2523.1 ± 236.79	760.5 ± 31.07	1020.4 ± 49.75	n = 13	Beckman Coulter
2108.0 ± 121.45	344.3 ± 23.06	2623.4 ± 168.88	725.7 ± 36.18	985.5 ± 57.79	n = 30	Beckman Coulter AU Series
1922.3 ± 86.03	313.6 ± 9.16	2408.7 ± 107.63	674.2 ± 12.90	927.3 ± 21.38	n = 5	Kamiya
1524.1 ± 554.33	369.4 ± 12.60	1669.9 ± 804.52	764.9 ± 18.36	1063.7 ± 30.55	n = 12	Ortho Clinical Diagnostics
1523.9 ± 524.11	298.2 ± 52.66	1653.5 ± 721.28	682.1 ± 99.15	943.3 ± 120.02	n = 4	Randox
2043.1 ± 137.45	345.3 ± 12.56	2602.7 ± 188.62	726.0 ± 36.85	969.7 ± 57.67	n = 25	Roche cobas c501/c311/c502/c701
2006.4 ± 65.76	347.6 ± 10.56	2526.3 ± 66.29	757.7 ± 25.76	991.1 ± 45.08	n = 12	Roche Hitachi and Modular D/P
2165.1 ± 189.08	359.6 ± 6.37	2436.3 ± 111.58	774.3 ± 5.61	1033.6 ± 14.44	n = 3	Roche Integra and MIRA S
1925.4 ± 77.75	313.0 ± 19.91	2401.5 ± 71.55	667.8 ± 27.36	927.1 ± 41.08	n = 16	Siemens ADVIA/ADVIA Centaur
2191.3 ± 131.68	361.9 ± 28.05	2726.0 ± 170.36	792.6 ± 39.95	1048.8 ± 72.30	n = 36	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: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
140.9 ± 9.46	71.0 ± 5.26	88.3 ± 6.58	46.4 ± 3.82	94.9 ± 5.40	n = 256	All Methods & Instruments
						<Method Principles>
141.0 ± 9.51	71.0 ± 5.29	88.3 ± 6.59	46.4 ± 3.85	94.9 ± 5.43	n = 252	Reporting in mg/dL
						<Instruments>
134.7 ± 2.93	67.8 ± 1.90	83.7 ± 1.97	44.3 ± 1.20	91.2 ± 2.48	n = 17	Abbott Architect c System
154.3 ± 4.52	80.1 ± 2.29	99.0 ± 3.41	53.0 ± 1.78	102.4 ± 3.34	n = 52	Beckman Coulter AU Chemistry System
148.6 ± 3.71	74.5 ± 3.39	92.9 ± 1.74	50.2 ± 0.84	101.3 ± 2.66	n = 9	Beckman Coulter UniCel DxC 600
143.4 ± 5.48	73.1 ± 1.47	90.8 ± 2.40	47.9 ± 0.76	96.8 ± 1.82	n = 9	Beckman Coulter UniCel DxC 800
134.4 ± 3.72	67.5 ± 2.05	84.4 ± 3.22	44.1 ± 1.36	94.0 ± 2.84	n = 7	Ortho Vitros 5,1FS
131.5 ± 2.96	66.2 ± 1.84	81.1 ± 1.71	42.7 ± 0.75	92.7 ± 2.45	n = 18	Ortho Vitros 5600
140.7 ± 4.76	72.0 ± 2.05	88.6 ± 2.66	47.0 ± 1.65	96.2 ± 3.01	n = 29	Roche cobas c501
131.8 ± 8.94	66.5 ± 4.18	82.3 ± 5.28	43.7 ± 2.40	88.9 ± 6.72	n = 7	Roche cobas c701
137.9 ± 4.15	69.4 ± 2.39	84.9 ± 3.36	44.8 ± 1.39	92.5 ± 1.46	n = 5	Roche Cobas INTEGRA
135.3 ± 4.37	69.1 ± 2.36	85.4 ± 2.53	45.0 ± 1.56	92.6 ± 2.78	n = 18	Roche MODULAR D/P
133.4 ± 4.18	67.7 ± 2.50	83.9 ± 2.86	44.4 ± 1.48	90.4 ± 3.37	n = 16	Siemens ADVIA 1800
128.8 ± 3.06	66.5 ± 1.78	81.2 ± 4.62	42.7 ± 1.81	90.6 ± 3.02	n = 3	Siemens ADVIA 2400
141.5 ± 3.27	69.6 ± 2.41	87.8 ± 2.76	45.9 ± 2.78	95.1 ± 4.51	n = 10	Siemens Dimension EXL
142.2 ± 3.91	71.5 ± 2.12	88.3 ± 2.97	46.2 ± 1.18	96.3 ± 3.02	n = 3	Siemens Dimension RxL
144.4 ± 3.84	70.8 ± 2.25	89.3 ± 2.49	45.4 ± 1.78	93.5 ± 3.10	n = 43	Siemens Dimension Vista
						<Reagents>
134.7 ± 2.93	67.8 ± 1.90	83.7 ± 1.97	44.3 ± 1.20	91.2 ± 2.48	n = 17	Abbott
146.3 ± 5.30	73.9 ± 2.87	92.1 ± 2.38	48.9 ± 1.85	99.1 ± 3.40	n = 18	Beckman Coulter
154.7 ± 4.06	80.3 ± 1.98	99.4 ± 2.95	53.2 ± 1.57	102.7 ± 2.90	n = 47	Beckman Coulter AU Series
131.9 ± 3.50	66.4 ± 1.98	81.6 ± 2.50	42.9 ± 1.15	92.9 ± 2.49	n = 26	Ortho Clinical Diagnostics
139.4 ± 6.26	71.3 ± 2.93	87.9 ± 3.67	46.5 ± 2.19	95.4 ± 4.06	n = 36	Roche cobas c501/c311/c502/c701
135.3 ± 4.37	69.1 ± 2.36	85.4 ± 2.53	45.0 ± 1.56	92.6 ± 2.78	n = 18	Roche Hitachi and Modular D/P
136.8 ± 4.38	69.1 ± 2.20	84.6 ± 3.03	44.7 ± 1.24	92.1 ± 1.68	n = 6	Roche Integra and MIRA S
132.8 ± 4.20	67.5 ± 2.30	83.9 ± 3.23	44.3 ± 1.55	90.6 ± 3.24	n = 21	Siemens ADVIA/ADVIA Centaur
143.7 ± 4.15	70.6 ± 2.38	88.9 ± 2.63	45.5 ± 1.90	93.7 ± 3.37	n = 58	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: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
1467.3 ± 146.49	481.1 ± 55.31	2886.1 ± 331.10	1594.6 ± 183.78	1048.6 ± 102.63	n = 152	All Methods & Instruments
						<Method Principles>
1479.5 ± 143.33	484.6 ± 51.19	2889.4 ± 302.63	1597.6 ± 168.94	1051.5 ± 103.68	n = 99	Reporting in mg/g
1442.9 ± 153.93	472.5 ± 61.78	2845.9 ± 443.41	1583.6 ± 208.43	1041.0 ± 100.57	n = 50	Reporting in ug/mg
						<Instruments>
1435.0 ± 131.90	442.9 ± 54.47	2847.2 ± 312.91	1473.2 ± 154.90	1016.0 ± 80.95	n = 12	Clinical Analyzer calculation
1541.5 ± 121.76	470.7 ± 32.61	2972.5 ± 237.00	1515.0 ± 149.68	1013.3 ± 76.03	n = 4	Manual Calculation
						<Reagents>
1469.6 ± 146.25	485.6 ± 54.74	2890.5 ± 333.97	1609.7 ± 179.87	1054.1 ± 103.88	n = 135	Lab Information System
1435.0 ± 131.90	442.9 ± 54.47	2847.2 ± 312.91	1473.2 ± 154.90	1016.0 ± 80.95	n = 12	Clinical Analyzer calculation
1541.5 ± 121.76	470.7 ± 32.61	2972.5 ± 237.00	1515.0 ± 149.68	1013.3 ± 76.03	n = 4	Manual Calculation

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Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
4.91 ± 0.50	9.49 ± 0.42	3.23 ± 0.89	7.66 ± 0.36	10.31 ± 0.41	n = 160	All Methods & Instruments
						<Method Principles>
5.01 ± 0.32	9.59 ± 0.38	4.12 ± 1.23	7.72 ± 0.32	10.38 ± 0.33	n = 62	o-Cresolphthalein
4.89 ± 0.58	9.49 ± 0.42	3.06 ± 0.22	7.63 ± 0.41	10.39 ± 0.49	n = 67	Arsenazo dye
4.48 ± 0.51	8.96 ± 0.27	2.46 ± 0.45	7.44 ± 0.23	9.88 ± 0.15	n = 12	Ion selective electrode
4.81 ± 0.62	9.48 ± 0.28	2.81 ± 0.10	7.71 ± 0.26	10.18 ± 0.17	n = 15	5-nitro-5-methyl-BAPTA
						<Instruments>
4.80 ± 0.40	9.07 ± 0.16	2.90 ± 0.10	7.35 ± 0.29	9.73 ± 0.31	n = 10	Abbott Architect c System
4.89 ± 0.61	9.58 ± 0.41	3.14 ± 0.15	7.67 ± 0.38	10.42 ± 0.32	n = 26	Beckman Coulter AU Chemistry System
4.02 ± 0.51	8.81 ± 0.11	2.28 ± 0.13	7.27 ± 0.16	9.77 ± 0.16	n = 5	Beckman Coulter UniCel DxC 600
4.77 ± 0.21	8.95 ± 0.50	2.53 ± 0.52	7.58 ± 0.22	9.90 ± 0.00	n = 6	Beckman Coulter UniCel DxC 800
5.25 ± 0.48	9.83 ± 0.34	3.11 ± 0.28	8.00 ± 0.13	10.86 ± 0.26	n = 6	Ortho Vitros 5,1FS
4.75 ± 0.75	9.49 ± 0.42	3.14 ± 0.28	7.48 ± 0.44	10.72 ± 0.28	n = 14	Ortho Vitros 5600
4.72 ± 0.57	9.64 ± 0.33	2.82 ± 0.10	7.82 ± 0.26	10.29 ± 0.15	n = 14	Roche cobas c501
4.74 ± 0.45	9.38 ± 0.21	2.80 ± 0.15	7.67 ± 0.20	10.08 ± 0.08	n = 5	Roche cobas c701
4.72 ± 0.38	9.68 ± 0.29	3.03 ± 0.19	7.74 ± 0.27	10.61 ± 0.32	n = 11	Roche MODULAR D/P
4.87 ± 0.36	9.58 ± 0.31	2.97 ± 0.17	7.74 ± 0.35	10.26 ± 0.40	n = 13	Siemens ADVIA 1800
4.83 ± 0.68	9.48 ± 0.30	2.94 ± 0.05	7.80 ± 0.15	10.06 ± 0.26	n = 3	Siemens ADVIA 2400
5.16 ± 0.15	9.87 ± 0.18	<5	7.97 ± 0.14	10.76 ± 0.20	n = 5	Siemens Dimension EXL
5.12 ± 0.18	9.47 ± 0.39	<5	7.65 ± 0.34	10.26 ± 0.29	n = 34	Siemens Dimension Vista
						<Reagents>
4.80 ± 0.40	9.07 ± 0.16	2.90 ± 0.10	7.35 ± 0.29	9.73 ± 0.31	n = 10	Abbott
4.48 ± 0.51	8.96 ± 0.27	2.46 ± 0.45	7.44 ± 0.23	9.88 ± 0.15	n = 12	Beckman Coulter
4.87 ± 0.62	9.55 ± 0.38	3.14 ± 0.16	7.65 ± 0.35	10.39 ± 0.28	n = 25	Beckman Coulter AU Series
4.92 ± 0.73	9.58 ± 0.44	3.13 ± 0.28	7.61 ± 0.46	10.76 ± 0.29	n = 20	Ortho Clinical Diagnostics
4.74 ± 0.52	9.55 ± 0.32	2.81 ± 0.13	7.77 ± 0.25	10.22 ± 0.18	n = 20	Roche cobas c501/c311/c502/c701
4.70 ± 0.40	9.71 ± 0.28	3.06 ± 0.17	7.78 ± 0.24	10.66 ± 0.27	n = 10	Roche Hitachi and Modular D/P
4.84 ± 0.51	9.57 ± 0.34	2.97 ± 0.16	7.76 ± 0.38	10.25 ± 0.38	n = 18	Siemens ADVIA/ADVIA Centaur
5.13 ± 0.18	9.52 ± 0.40	<5	7.71 ± 0.34	10.33 ± 0.34	n = 39	Siemens Dimension

New York State Department of Health – Wadsworth Center

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Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
45.18 ± 3.55	141.14 ± 5.25	223.55 ± 4.81	107.89 ± 5.86	165.44 ± 5.26	n = 182	All Methods & Instruments
						<Method Principles>
45.07 ± 3.56	141.35 ± 5.36	223.59 ± 4.78	108.03 ± 6.01	165.56 ± 5.35	n = 166	Ion selective electrode (diluted)
46.78 ± 2.59	139.47 ± 2.72	223.64 ± 5.19	107.28 ± 3.25	164.80 ± 3.63	n = 14	Ion selective electrode (undiluted)
						<Instruments>
46.06 ± 0.55	139.42 ± 1.83	222.93 ± 2.54	107.08 ± 1.99	163.96 ± 1.98	n = 15	Abbott Architect c System
46.55 ± 0.87	141.68 ± 2.09	225.53 ± 3.88	108.22 ± 1.35	165.72 ± 2.24	n = 31	Beckman Coulter AU Chemistry System
44.48 ± 1.86	140.77 ± 0.79	218.49 ± 3.71	108.88 ± 0.71	163.12 ± 2.17	n = 8	Beckman Coulter UniCel DxC 600
45.54 ± 1.37	140.68 ± 1.22	217.76 ± 3.67	108.85 ± 0.85	164.18 ± 1.89	n = 8	Beckman Coulter UniCel DxC 800
50.00 ± 0.00	137.44 ± 1.02	179.92 ± 38.54	106.44 ± 1.02	153.78 ± 8.59	n = 3	Ortho Vitros 5600
38.30 ± 1.52	134.08 ± 1.89	226.84 ± 2.89	98.31 ± 1.60	160.69 ± 1.99	n = 20	Roche cobas c501
39.18 ± 0.91	128.24 ± 1.93	214.23 ± 2.31	94.26 ± 1.83	152.19 ± 0.73	n = 6	Roche cobas c701
39.80 ± 1.70	135.12 ± 1.58	227.36 ± 5.32	99.40 ± 1.24	161.10 ± 1.32	n = 14	Roche MODULAR D/P
45.67 ± 0.74	141.18 ± 0.98	218.74 ± 1.92	107.90 ± 1.22	164.07 ± 1.38	n = 14	Siemens ADVIA 1800
46.00 ± 0.90	142.74 ± 1.37	221.00 ± 3.61	109.00 ± 1.80	165.00 ± 1.80	n = 3	Siemens ADVIA 2400
55.00 ± 3.92	147.33 ± 2.23	224.17 ± 1.72	116.08 ± 2.80	170.93 ± 1.65	n = 9	Siemens Dimension EXL
45.95 ± 1.20	146.85 ± 1.97	224.78 ± 2.76	113.04 ± 1.79	171.83 ± 2.13	n = 41	Siemens Dimension Vista
						<Reagents>
46.06 ± 0.55	139.42 ± 1.83	222.93 ± 2.54	107.08 ± 1.99	163.96 ± 1.98	n = 15	Abbott
45.15 ± 1.73	140.89 ± 1.02	218.71 ± 3.94	108.73 ± 0.83	163.98 ± 1.92	n = 18	Beckman Coulter
46.53 ± 0.92	141.72 ± 2.16	225.53 ± 4.11	108.22 ± 1.43	165.75 ± 2.36	n = 29	Beckman Coulter AU Series
49.39 ± 1.64	137.87 ± 1.13	191.16 ± 37.12	106.70 ± 0.82	156.43 ± 7.54	n = 4	Ortho Clinical Diagnostics
38.50 ± 1.44	132.95 ± 3.13	224.31 ± 6.03	97.74 ± 2.56	159.06 ± 4.20	n = 26	Roche cobas c501/c311/c502/c701
39.80 ± 1.70	135.12 ± 1.58	227.36 ± 5.32	99.40 ± 1.24	161.10 ± 1.32	n = 14	Roche Hitachi and Modular D/P
45.70 ± 0.76	141.14 ± 1.52	218.70 ± 2.55	107.87 ± 1.40	163.97 ± 1.72	n = 19	Siemens ADVIA/ADVIA Centaur
46.46 ± 2.20	146.88 ± 2.01	224.56 ± 2.68	113.49 ± 2.12	171.60 ± 2.01	n = 54	Siemens Dimension

New York State Department of Health – Wadsworth Center

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Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
461.6 ± 15.80	3.8 ± 6.05	295.5 ± 8.19	3.8 ± 6.04	206.5 ± 5.55	n = 117	All Methods & Instruments
						<Method Principles>
459.8 ± 14.99	1.3 ± 0.96	295.1 ± 8.10	1.3 ± 0.95	206.1 ± 5.04	n = 69	Hexokinase, UV
456.2 ± 15.44	1.0 ± 0.50	291.9 ± 8.82	1.0 ± 0.62	204.1 ± 8.30	n = 24	Hexokinase, colorimetric
478.9 ± 8.68	<20	300.7 ± 4.72	<20	209.8 ± 3.04	n = 16	Glucose oxidase, colorimetric
456.4 ± 6.55	7.8 ± 3.90	295.0 ± 6.86	7.5 ± 4.33	206.4 ± 3.26	n = 8	Glucose oxidase, O2 electrode
						<Instruments>
478.3 ± 9.94	<1	301.2 ± 4.78	<1	208.6 ± 4.51	n = 6	Abbott Architect c System
452.8 ± 9.20	6.8 ± 5.20	289.5 ± 5.22	6.8 ± 5.17	202.4 ± 3.66	n = 16	Beckman Coulter AU Chemistry System
453.9 ± 5.18	5.0 ± 3.76	289.4 ± 6.41	5.0 ± 3.76	207.1 ± 1.28	n = 4	Beckman Coulter UniCel DxC 600
458.3 ± 6.01	8.9 ± 2.86	297.6 ± 8.34	8.6 ± 3.68	205.7 ± 4.89	n = 4	Beckman Coulter UniCel DxC 800
475.7 ± 9.31	<20	299.9 ± 2.16	<20	208.3 ± 1.99	n = 5	Ortho Vitros 5,1FS
478.6 ± 7.67	<20	300.4 ± 4.77	<20	210.2 ± 3.77	n = 11	Ortho Vitros 5600
466.3 ± 11.88	<2	299.4 ± 6.64	<2	209.6 ± 4.24	n = 11	Roche cobas c501
462.7 ± 4.41	<2	298.2 ± 1.27	<2	206.7 ± 0.90	n = 4	Roche cobas c701
471.8 ± 6.97	1.6 ± 0.64	301.6 ± 4.37	1.8 ± 0.43	210.7 ± 4.09	n = 11	Roche MODULAR D/P
460.1 ± 7.83	2.2 ± 1.72	294.9 ± 4.35	2.2 ± 1.72	206.5 ± 2.66	n = 10	Siemens ADVIA 1800
460.0 ± 6.42	1.5 ± 1.86	294.6 ± 4.72	1.5 ± 1.86	206.1 ± 3.72	n = 3	Siemens ADVIA 2400
465.4 ± 7.25	0.2 ± 0.41	298.3 ± 4.29	0.2 ± 0.41	207.2 ± 3.73	n = 4	Siemens Dimension EXL
444.0 ± 9.40	<1	287.3 ± 6.48	<1	200.1 ± 5.68	n = 24	Siemens Dimension Vista
						<Reagents>
478.3 ± 9.94	<1	301.2 ± 4.78	<1	208.6 ± 4.51	n = 6	Abbott
457.2 ± 6.51	7.4 ± 3.83	293.7 ± 7.72	7.2 ± 4.18	206.8 ± 3.16	n = 9	Beckman Coulter
452.8 ± 9.14	7.3 ± 4.91	289.5 ± 5.09	7.3 ± 4.89	202.4 ± 3.64	n = 15	Beckman Coulter AU Series
478.4 ± 8.39	<20	300.7 ± 4.52	<20	209.6 ± 3.22	n = 17	Ortho Clinical Diagnostics
465.7 ± 9.61	<2	299.2 ± 5.04	<2	208.6 ± 3.67	n = 15	Roche cobas c501/c311/c502/c701
471.8 ± 6.97	1.6 ± 0.64	301.6 ± 4.37	1.8 ± 0.43	210.7 ± 4.09	n = 11	Roche Hitachi and Modular D/P
460.3 ± 7.19	2.2 ± 1.81	294.8 ± 4.18	2.2 ± 1.81	206.4 ± 2.80	n = 14	Siemens ADVIA/ADVIA Centaur
446.5 ± 11.73	<1	288.7 ± 7.33	<1	201.3 ± 6.17	n = 28	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
2.29 ± 0.27	7.32 ± 0.44	10.17 ± 0.52	4.89 ± 0.28	13.09 ± 0.62	n = 110	All Methods & Instruments
						<Method Principles>
2.25 ± 0.38	7.03 ± 0.40	9.86 ± 0.71	4.65 ± 0.31	12.74 ± 0.61	n = 12	Calmagite
2.34 ± 0.09	7.43 ± 0.20	10.30 ± 0.28	4.94 ± 0.12	13.22 ± 0.30	n = 29	Methylthymol blue
2.32 ± 0.19	7.44 ± 0.36	10.13 ± 0.42	4.94 ± 0.28	13.25 ± 0.54	n = 45	Xylidyl blue (Magon)
1.20 ± 0.00	6.54 ± 0.16	10.46 ± 0.72	3.14 ± 0.89	13.02 ± 0.17	n = 9	Formazon dye
2.35 ± 0.33	7.44 ± 0.44	10.05 ± 0.81	4.83 ± 0.60	13.07 ± 1.12	n = 5	Chlorophosphonazo III
1.89 ± 0.20	5.88 ± 0.80	8.39 ± 0.73	3.53 ± 0.52	11.61 ± 0.63	n = 6	Arsenazo dye
2.23 ± 0.16	7.03 ± 0.58	10.00 ± 0.43	4.61 ± 0.27	12.31 ± 0.92	n = 4	Other
						<Instruments>
1.84 ± 0.11	5.68 ± 0.58	8.19 ± 0.52	3.44 ± 0.30	11.47 ± 0.62	n = 5	Abbott Architect c System
2.28 ± 0.10	7.24 ± 0.11	9.88 ± 0.26	4.80 ± 0.15	13.24 ± 0.50	n = 14	Beckman Coulter AU Chemistry System
2.43 ± 0.20	7.25 ± 0.24	9.95 ± 0.63	4.65 ± 0.19	13.10 ± 0.46	n = 4	Beckman Coulter UniCel DxC 600
2.29 ± 0.39	6.95 ± 0.39	9.70 ± 0.42	4.73 ± 0.27	12.50 ± 0.45	n = 5	Beckman Coulter UniCel DxC 800
1.28 ± 0.15	5.87 ± 1.34	10.07 ± 0.97	2.89 ± 1.20	12.40 ± 0.92	n = 3	Ortho Vitros 5,1FS
1.29 ± 0.17	6.55 ± 0.18	10.72 ± 0.26	3.40 ± 0.33	13.05 ± 0.18	n = 7	Ortho Vitros 5600
2.45 ± 0.22	7.89 ± 0.10	10.46 ± 0.30	5.19 ± 0.13	13.91 ± 0.30	n = 9	Roche cobas c501
2.76 ± 0.29	7.41 ± 0.23	10.18 ± 0.20	5.08 ± 0.21	13.01 ± 0.11	n = 4	Roche cobas c701
2.43 ± 0.48	7.42 ± 0.18	10.01 ± 0.38	4.80 ± 0.15	12.66 ± 0.25	n = 9	Roche MODULAR D/P
2.34 ± 0.15	7.39 ± 0.49	10.42 ± 1.10	4.96 ± 0.33	13.16 ± 0.37	n = 9	Siemens ADVIA 1800
2.62 ± 0.32	7.56 ± 0.29	10.24 ± 0.24	5.12 ± 0.30	13.28 ± 0.43	n = 3	Siemens ADVIA 2400
2.34 ± 0.09	7.42 ± 0.20	10.30 ± 0.31	4.94 ± 0.13	13.22 ± 0.30	n = 28	Siemens Dimension Vista
						<Reagents>
1.84 ± 0.11	5.68 ± 0.58	8.19 ± 0.52	3.44 ± 0.30	11.47 ± 0.62	n = 5	Abbott
2.31 ± 0.35	7.03 ± 0.40	9.68 ± 0.62	4.65 ± 0.27	12.64 ± 0.64	n = 10	Beckman Coulter
2.27 ± 0.09	7.24 ± 0.12	9.91 ± 0.23	4.79 ± 0.14	13.31 ± 0.43	n = 13	Beckman Coulter AU Series
2.17 ± 0.14	6.78 ± 0.32	9.83 ± 0.14	4.50 ± 0.09	11.97 ± 0.05	n = 3	In-House
1.29 ± 0.16	6.57 ± 0.16	10.68 ± 0.22	3.45 ± 0.28	13.00 ± 0.17	n = 10	Ortho Clinical Diagnostics
2.52 ± 0.27	7.82 ± 0.22	10.41 ± 0.30	5.18 ± 0.16	13.66 ± 0.47	n = 15	Roche cobas c501/c311/c502/c701
2.43 ± 0.48	7.42 ± 0.18	10.01 ± 0.38	4.80 ± 0.15	12.66 ± 0.25	n = 9	Roche Hitachi and Modular D/P
2.35 ± 0.15	7.42 ± 0.42	10.30 ± 0.58	4.98 ± 0.32	13.16 ± 0.39	n = 13	Siemens ADVIA/ADVIA Centaur
2.33 ± 0.08	7.43 ± 0.20	10.31 ± 0.30	4.93 ± 0.12	13.21 ± 0.29	n = 29	Siemens Dimension

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
52.8 ± 2.18	138.6 ± 6.83	232.2 ± 5.81	106.5 ± 5.09	172.3 ± 6.79	n = 211	All Methods & Instruments
						<Method Principles>
52.7 ± 2.09	137.8 ± 6.34	231.8 ± 5.06	106.0 ± 5.26	171.5 ± 5.79	n = 183	Ion selective electrode (diluted)
54.4 ± 2.84	145.6 ± 6.85	242.8 ± 15.65	109.2 ± 3.34	182.6 ± 10.33	n = 27	Ion selective electrode (undiluted)
						<Instruments>
52.0 ± 0.91	136.4 ± 1.71	227.4 ± 3.02	106.4 ± 0.98	170.8 ± 2.02	n = 16	Abbott Architect c System
53.4 ± 0.84	140.1 ± 1.49	234.8 ± 3.66	107.8 ± 1.07	173.9 ± 2.40	n = 33	Beckman Coulter AU Chemistry System
53.9 ± 1.88	139.1 ± 2.05	227.3 ± 3.90	108.1 ± 2.33	171.0 ± 2.48	n = 9	Beckman Coulter UniCel DxC 600
55.6 ± 1.13	139.6 ± 1.13	223.7 ± 4.34	109.2 ± 0.76	170.6 ± 0.79	n = 7	Beckman Coulter UniCel DxC 800
56.7 ± 2.14	151.4 ± 3.19	261.7 ± 8.68	112.3 ± 1.99	190.1 ± 4.16	n = 7	Ortho Vitros 5,1FS
54.6 ± 2.62	150.1 ± 3.47	248.2 ± 4.30	111.0 ± 4.13	189.9 ± 4.61	n = 15	Ortho Vitros 5600
53.1 ± 1.89	140.8 ± 1.77	233.8 ± 2.84	108.1 ± 1.34	175.2 ± 1.48	n = 22	Roche cobas c501
53.2 ± 1.72	143.2 ± 1.59	234.5 ± 1.02	109.5 ± 2.74	175.2 ± 2.53	n = 6	Roche cobas c701
54.1 ± 1.01	141.3 ± 1.31	234.4 ± 2.44	108.3 ± 1.43	175.1 ± 1.54	n = 16	Roche MODULAR D/P
52.8 ± 0.82	141.1 ± 1.14	235.4 ± 2.92	108.1 ± 1.18	175.3 ± 1.63	n = 14	Siemens ADVIA 1800
54.0 ± 0.90	141.6 ± 1.02	233.7 ± 6.76	110.2 ± 1.54	175.3 ± 2.26	n = 3	Siemens ADVIA 2400
51.9 ± 0.79	134.1 ± 1.22	228.3 ± 2.23	102.9 ± 0.92	168.1 ± 1.10	n = 9	Siemens Dimension EXL
50.2 ± 1.36	126.8 ± 2.54	229.6 ± 2.30	95.5 ± 2.21	163.1 ± 2.37	n = 42	Siemens Dimension Vista
						<Reagents>
52.0 ± 0.91	136.4 ± 1.71	227.4 ± 3.02	106.4 ± 0.98	170.8 ± 2.02	n = 16	Abbott
54.8 ± 1.70	139.4 ± 1.75	226.0 ± 4.80	108.5 ± 1.90	171.0 ± 2.18	n = 19	Beckman Coulter
53.4 ± 0.79	140.1 ± 1.55	234.8 ± 3.82	107.8 ± 1.06	173.9 ± 2.37	n = 31	Beckman Coulter AU Series
55.2 ± 2.91	150.5 ± 3.80	252.9 ± 10.19	111.3 ± 3.61	189.9 ± 4.80	n = 24	Ortho Clinical Diagnostics
53.1 ± 1.85	141.2 ± 1.96	234.0 ± 2.46	108.3 ± 1.71	175.1 ± 1.79	n = 28	Roche cobas c501/c311/c502/c701
54.1 ± 1.01	141.3 ± 1.31	234.4 ± 2.44	108.3 ± 1.43	175.1 ± 1.54	n = 16	Roche Hitachi and Modular D/P
52.9 ± 0.97	141.0 ± 1.48	235.3 ± 3.54	108.1 ± 1.63	175.3 ± 1.65	n = 19	Siemens ADVIA/ADVIA Centaur
50.7 ± 1.65	128.6 ± 4.25	229.2 ± 2.44	97.4 ± 4.18	164.3 ± 3.19	n = 55	Siemens Dimension

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
71.52 ± 3.17	129.78 ± 6.56	43.18 ± 2.42	140.68 ± 7.34	101.99 ± 6.06	n = 138	All Methods & Instruments
						<Method Principles>
71.11 ± 2.31	129.71 ± 4.65	42.95 ± 1.64	140.51 ± 4.78	101.88 ± 3.96	n = 77	Phosphomolybdate - no reduction
74.77 ± 0.59	133.35 ± 3.15	45.81 ± 1.68	144.00 ± 2.41	106.01 ± 3.23	n = 4	Phosphomolybdate reduction (ANS)
72.50 ± 4.80	129.62 ± 9.71	43.97 ± 3.90	141.50 ± 12.15	102.29 ± 9.36	n = 42	Phosphomolybdate reduction (PMA phe
72.68 ± 2.76	125.59 ± 21.22	43.05 ± 2.20	133.54 ± 22.90	100.59 ± 8.35	n = 4	Phosphomolyb.reduct.-ascorbic/malon
71.84 ± 2.18	131.50 ± 7.27	44.20 ± 0.67	140.99 ± 7.92	103.64 ± 4.34	n = 8	Other
						<Instruments>
70.21 ± 1.44	125.57 ± 2.19	41.43 ± 0.64	136.16 ± 2.30	99.71 ± 1.56	n = 7	Abbott Architect c System
71.23 ± 2.03	130.07 ± 2.13	43.25 ± 1.35	141.20 ± 2.35	102.35 ± 1.01	n = 23	Beckman Coulter AU Chemistry System
74.41 ± 0.92	138.29 ± 4.39	44.65 ± 1.04	147.50 ± 5.01	107.44 ± 2.17	n = 5	Beckman Coulter UniCel DxC 600
71.13 ± 3.07	128.50 ± 7.12	42.91 ± 1.50	141.63 ± 5.57	101.89 ± 4.63	n = 6	Beckman Coulter UniCel DxC 800
76.75 ± 0.39	137.96 ± 4.46	48.34 ± 1.01	155.29 ± 4.62	110.88 ± 2.22	n = 4	Ortho Vitros 5,1FS
76.19 ± 2.41	137.43 ± 5.07	47.31 ± 1.36	148.70 ± 5.91	111.58 ± 3.56	n = 13	Ortho Vitros 5600
71.87 ± 0.75	130.47 ± 1.45	43.09 ± 1.05	140.23 ± 2.58	101.84 ± 2.96	n = 13	Roche cobas c501
70.96 ± 2.96	127.10 ± 7.86	42.24 ± 2.79	139.81 ± 8.63	102.25 ± 6.15	n = 4	Roche cobas c701
69.67 ± 1.99	128.21 ± 4.58	42.39 ± 1.04	139.07 ± 3.84	101.00 ± 2.83	n = 12	Roche MODULAR D/P
71.47 ± 2.70	133.41 ± 5.15	43.55 ± 0.75	143.16 ± 3.89	104.37 ± 4.37	n = 10	Siemens ADVIA 1800
70.36 ± 3.95	128.77 ± 3.91	43.56 ± 2.53	139.21 ± 3.72	104.69 ± 4.77	n = 3	Siemens ADVIA 2400
69.86 ± 2.40	123.68 ± 5.26	41.25 ± 1.22	133.18 ± 8.38	95.48 ± 4.70	n = 30	Siemens Dimension Vista
						<Reagents>
70.21 ± 1.44	125.57 ± 2.19	41.43 ± 0.64	136.16 ± 2.30	99.71 ± 1.56	n = 7	Abbott
73.05 ± 2.62	133.46 ± 7.75	43.77 ± 1.57	144.27 ± 5.96	104.81 ± 4.46	n = 11	Beckman Coulter
71.30 ± 2.09	130.26 ± 1.86	43.32 ± 1.34	141.47 ± 1.97	102.44 ± 0.93	n = 22	Beckman Coulter AU Series
76.31 ± 2.07	137.55 ± 4.92	47.58 ± 1.36	150.41 ± 6.36	111.32 ± 3.07	n = 17	Ortho Clinical Diagnostics
71.74 ± 1.86	130.96 ± 2.90	43.13 ± 1.58	140.56 ± 4.44	102.38 ± 3.87	n = 19	Roche cobas c501/c311/c502/c701
69.67 ± 1.99	128.21 ± 4.58	42.39 ± 1.04	139.07 ± 3.84	101.00 ± 2.83	n = 12	Roche Hitachi and Modular D/P
71.33 ± 2.97	131.71 ± 5.44	43.70 ± 1.54	141.82 ± 4.26	104.06 ± 4.50	n = 14	Siemens ADVIA/ADVIA Centaur
69.94 ± 2.60	123.74 ± 6.46	41.27 ± 1.29	133.96 ± 11.37	95.92 ± 5.34	n = 32	Siemens Dimension

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
30.53 ± 1.82	57.48 ± 3.69	16.34 ± 0.72	65.12 ± 4.28	44.40 ± 2.44	n = 210	All Methods & Instruments
						<Method Principles>
30.33 ± 1.88	57.63 ± 3.78	16.29 ± 0.75	64.61 ± 4.15	44.07 ± 2.25	n = 182	Ion selective electrode (diluted)
31.76 ± 0.71	56.48 ± 2.89	16.63 ± 0.42	68.95 ± 3.06	47.08 ± 2.02	n = 27	Ion selective electrode (undiluted)
						<Instruments>
30.65 ± 0.34	57.70 ± 1.13	16.25 ± 0.30	64.94 ± 0.82	44.21 ± 0.38	n = 16	Abbott Architect c System
31.70 ± 0.54	60.72 ± 1.43	16.85 ± 0.27	67.53 ± 1.39	45.47 ± 1.01	n = 32	Beckman Coulter AU Chemistry System
30.04 ± 0.20	58.13 ± 0.80	16.67 ± 0.09	63.99 ± 0.72	44.12 ± 0.36	n = 9	Beckman Coulter UniCel DxC 600
30.20 ± 0.14	58.72 ± 0.52	16.93 ± 0.14	64.31 ± 0.34	44.54 ± 0.31	n = 8	Beckman Coulter UniCel DxC 800
31.83 ± 0.58	54.66 ± 1.00	16.67 ± 0.34	70.43 ± 1.00	48.29 ± 0.37	n = 7	Ortho Vitros 5,1FS
32.14 ± 0.39	54.85 ± 0.71	16.61 ± 0.26	70.93 ± 0.94	48.47 ± 0.71	n = 15	Ortho Vitros 5600
30.59 ± 0.58	59.45 ± 1.43	16.32 ± 0.30	65.63 ± 1.65	44.64 ± 0.90	n = 22	Roche cobas c501
31.38 ± 0.67	60.78 ± 1.43	16.57 ± 0.39	66.14 ± 1.23	45.21 ± 1.09	n = 6	Roche cobas c701
30.69 ± 0.81	58.32 ± 1.42	16.36 ± 0.32	63.96 ± 2.08	44.02 ± 1.22	n = 15	Roche MODULAR D/P
31.41 ± 0.51	60.85 ± 1.01	16.95 ± 0.11	67.19 ± 1.24	45.42 ± 0.73	n = 15	Siemens ADVIA 1800
31.47 ± 0.67	61.82 ± 1.50	17.05 ± 0.36	67.90 ± 1.56	45.60 ± 1.00	n = 3	Siemens ADVIA 2400
30.33 ± 0.34	55.63 ± 1.32	15.99 ± 0.15	63.86 ± 0.54	43.26 ± 0.39	n = 9	Siemens Dimension EXL
26.85 ± 0.70	52.22 ± 1.39	15.08 ± 0.18	57.82 ± 1.65	40.66 ± 0.84	n = 42	Siemens Dimension Vista
						<Reagents>
30.65 ± 0.34	57.70 ± 1.13	16.25 ± 0.30	64.94 ± 0.82	44.21 ± 0.38	n = 16	Abbott
30.19 ± 0.33	58.59 ± 0.87	16.78 ± 0.19	64.25 ± 0.71	44.38 ± 0.45	n = 19	Beckman Coulter
31.69 ± 0.52	60.71 ± 1.44	16.85 ± 0.29	67.50 ± 1.41	45.45 ± 1.00	n = 30	Beckman Coulter AU Series
31.98 ± 0.54	54.83 ± 0.90	16.60 ± 0.28	70.76 ± 0.94	48.37 ± 0.78	n = 24	Ortho Clinical Diagnostics
30.74 ± 0.67	59.73 ± 1.52	16.37 ± 0.34	65.75 ± 1.58	44.75 ± 0.98	n = 28	Roche cobas c501/c311/c502/c701
30.69 ± 0.81	58.32 ± 1.42	16.36 ± 0.32	63.96 ± 2.08	44.02 ± 1.22	n = 15	Roche Hitachi and Modular D/P
31.33 ± 0.56	60.82 ± 1.24	16.92 ± 0.26	67.11 ± 1.33	45.36 ± 0.72	n = 20	Siemens ADVIA/ADVIA Centaur
27.36 ± 1.53	52.80 ± 1.88	15.23 ± 0.43	58.86 ± 3.08	41.13 ± 1.37	n = 55	Siemens Dimension

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
231.06 ± 13.33	43.42 ± 5.28	283.00 ± 26.44	86.90 ± 5.43	116.89 ± 5.25	n = 214	All Methods & Instruments
						<Method Principles>
229.77 ± 12.58	43.31 ± 4.99	278.93 ± 23.80	87.08 ± 5.05	117.02 ± 5.42	n = 60	Biuret (alkaline cupric sulfate)
236.10 ± 8.52	39.26 ± 1.58	293.07 ± 9.73	82.22 ± 2.42	114.28 ± 3.60	n = 42	Tubidimetric/Benzethonium Chloride
229.86 ± 14.85	44.67 ± 4.02	277.03 ± 22.37	88.78 ± 4.13	118.67 ± 5.85	n = 94	Pyrogallol red
370.52 ± 17.77	56.70 ± 2.32	367.52 ± 24.99	114.26 ± 5.98	189.16 ± 8.56	n = 14	Pyrocatechol Violet
215.48 ± 12.05	39.31 ± 2.16	255.42 ± 28.31	83.08 ± 1.42	113.12 ± 2.85	n = 3	Other
						<Instruments>
240.92 ± 8.38	41.46 ± 1.62	301.82 ± 9.97	84.47 ± 1.56	117.75 ± 1.95	n = 14	Abbott Architect c System
235.96 ± 12.63	42.80 ± 1.53	292.90 ± 16.45	87.70 ± 2.77	116.97 ± 4.95	n = 39	Beckman Coulter AU Chemistry System
214.82 ± 51.67	45.25 ± 1.55	265.68 ± 41.21	98.36 ± 2.65	135.49 ± 2.52	n = 8	Beckman Coulter UniCel DxC 600
224.79 ± 38.25	45.19 ± 1.49	273.36 ± 37.27	97.56 ± 4.51	133.65 ± 7.27	n = 7	Beckman Coulter UniCel DxC 800
366.00 ± 25.24	56.87 ± 1.87	364.26 ± 26.39	113.17 ± 5.20	187.35 ± 3.14	n = 6	Ortho Vitros 5,1FS
372.07 ± 20.82	56.38 ± 3.14	367.67 ± 38.47	113.79 ± 11.28	181.26 ± 21.83	n = 15	Ortho Vitros 5600
234.05 ± 9.92	38.96 ± 1.55	292.62 ± 8.51	82.61 ± 2.41	114.37 ± 3.33	n = 23	Roche cobas c501
231.82 ± 5.38	38.35 ± 1.42	289.35 ± 6.01	81.46 ± 2.07	112.40 ± 1.67	n = 4	Roche cobas c502
230.68 ± 11.09	38.54 ± 0.93	287.11 ± 7.90	78.56 ± 1.98	108.35 ± 1.63	n = 3	Roche cobas c701
236.01 ± 6.38	38.50 ± 0.45	285.33 ± 7.95	80.36 ± 1.36	111.67 ± 1.83	n = 3	Roche Cobas INTEGRA
232.00 ± 11.38	39.04 ± 0.35	290.26 ± 5.01	81.42 ± 1.48	112.54 ± 3.32	n = 16	Roche MODULAR D/P
208.48 ± 2.42	37.26 ± 1.45	261.85 ± 12.01	83.68 ± 1.43	113.84 ± 1.97	n = 15	Siemens ADVIA 1800
215.04 ± 1.47	38.80 ± 2.36	271.48 ± 1.87	85.44 ± 1.02	114.81 ± 1.81	n = 3	Siemens ADVIA 2400
231.47 ± 6.77	48.01 ± 1.23	280.28 ± 8.43	88.82 ± 1.61	118.29 ± 1.90	n = 8	Siemens Dimension EXL
230.66 ± 5.05	47.56 ± 1.21	265.00 ± 13.24	89.78 ± 1.89	120.04 ± 3.12	n = 42	Siemens Dimension Vista
						<Reagents>
239.87 ± 9.85	41.48 ± 1.55	300.10 ± 12.01	84.54 ± 1.51	117.91 ± 1.95	n = 15	Abbott
223.44 ± 40.62	44.87 ± 1.78	272.27 ± 36.89	97.15 ± 4.49	132.94 ± 7.29	n = 17	Beckman Coulter
235.36 ± 12.80	42.77 ± 1.57	292.90 ± 17.24	87.85 ± 2.82	117.02 ± 5.11	n = 36	Beckman Coulter AU Series
372.22 ± 19.05	56.31 ± 2.82	365.90 ± 32.03	114.75 ± 6.42	189.18 ± 6.28	n = 21	Ortho Clinical Diagnostics
233.76 ± 8.58	38.77 ± 1.36	291.46 ± 8.15	82.02 ± 2.42	113.68 ± 3.42	n = 29	Roche cobas c501/c311/c502/c701
232.00 ± 11.38	39.04 ± 0.35	290.26 ± 5.01	81.42 ± 1.48	112.54 ± 3.32	n = 16	Roche Hitachi and Modular D/P
231.17 ± 11.24	38.28 ± 0.54	281.87 ± 9.10	79.57 ± 1.97	110.64 ± 2.63	n = 4	Roche Integra and MIRA S
210.40 ± 5.55	37.39 ± 1.48	264.99 ± 10.81	84.04 ± 1.51	114.16 ± 2.01	n = 19	Siemens ADVIA/ADVIA Centaur
230.72 ± 5.50	47.65 ± 1.26	268.46 ± 13.97	89.71 ± 2.05	119.56 ± 3.10	n = 53	Siemens Dimension

New York State Department of Health – Wadsworth Center

Quantitative Urine Chemistry – Educational Proficiency Testing – 26 October 2015

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
39.15 ± 2.22	21.06 ± 1.26	33.95 ± 3.24	27.45 ± 1.61	17.19 ± 1.05	n = 142	All Methods & Instruments
						<Method Principles>
39.24 ± 2.36	20.44 ± 1.53	34.83 ± 2.01	26.89 ± 1.96	16.56 ± 1.45	n = 6	Uricase (NAD-NADH reaction)
37.73 ± 2.15	20.58 ± 1.16	33.50 ± 2.78	26.65 ± 1.42	16.83 ± 0.99	n = 48	Uricase/allantoin (differential abs
39.87 ± 1.71	21.37 ± 1.17	34.19 ± 3.51	27.90 ± 1.43	17.41 ± 0.95	n = 86	Uricase/peroxidase (colorimetric)
						<Instruments>
37.81 ± 0.65	20.73 ± 0.33	31.56 ± 3.33	26.52 ± 0.89	16.99 ± 0.29	n = 8	Abbott Architect c System
41.22 ± 1.36	22.69 ± 0.71	36.06 ± 3.51	29.19 ± 0.82	18.20 ± 0.61	n = 23	Beckman Coulter AU Chemistry System
40.69 ± 1.39	22.51 ± 0.58	37.07 ± 1.46	28.91 ± 0.83	18.78 ± 0.60	n = 5	Beckman Coulter UniCel DxC 600
40.85 ± 1.44	22.44 ± 0.83	36.35 ± 1.18	29.18 ± 0.73	18.63 ± 0.55	n = 6	Beckman Coulter UniCel DxC 800
40.27 ± 1.04	20.95 ± 0.55	35.25 ± 0.82	27.51 ± 0.62	17.19 ± 0.39	n = 5	Ortho Vitros 5,1FS
39.98 ± 0.87	20.71 ± 0.55	33.14 ± 5.93	27.35 ± 0.88	17.08 ± 0.69	n = 11	Ortho Vitros 5600
39.25 ± 1.15	20.95 ± 0.74	33.91 ± 1.77	27.05 ± 0.92	16.95 ± 0.18	n = 14	Roche cobas c501
38.91 ± 2.08	20.61 ± 0.87	32.81 ± 0.58	27.04 ± 1.71	16.61 ± 0.94	n = 4	Roche cobas c701
37.21 ± 1.32	19.73 ± 0.55	32.73 ± 1.52	25.76 ± 1.00	15.82 ± 0.32	n = 11	Roche MODULAR D/P
39.85 ± 0.74	21.59 ± 0.57	32.01 ± 5.40	28.42 ± 0.81	17.75 ± 0.69	n = 12	Siemens ADVIA 1800
41.00 ± 0.55	21.95 ± 0.19	35.93 ± 0.41	28.13 ± 0.69	18.22 ± 0.50	n = 3	Siemens ADVIA 2400
41.00 ± 2.09	22.48 ± 0.64	37.37 ± 0.94	28.95 ± 1.07	18.32 ± 0.78	n = 4	Siemens Dimension EXL
36.61 ± 0.92	20.03 ± 0.57	33.07 ± 0.95	26.04 ± 0.65	16.44 ± 0.55	n = 30	Siemens Dimension Vista
						<Reagents>
37.81 ± 0.65	20.73 ± 0.33	31.56 ± 3.33	26.52 ± 0.89	16.99 ± 0.29	n = 8	Abbott
40.77 ± 1.42	22.45 ± 0.73	36.69 ± 1.44	29.06 ± 0.79	18.71 ± 0.58	n = 11	Beckman Coulter
41.15 ± 1.36	22.66 ± 0.73	36.41 ± 2.75	29.14 ± 0.75	18.21 ± 0.63	n = 22	Beckman Coulter AU Series
40.09 ± 0.91	20.76 ± 0.54	34.25 ± 3.86	27.40 ± 0.79	17.10 ± 0.55	n = 17	Ortho Clinical Diagnostics
39.29 ± 1.44	20.96 ± 0.79	33.83 ± 1.76	27.12 ± 1.09	16.85 ± 0.55	n = 20	Roche cobas c501/c311/c502/c701
37.21 ± 1.32	19.73 ± 0.55	32.73 ± 1.52	25.76 ± 1.00	15.82 ± 0.32	n = 11	Roche Hitachi and Modular D/P
40.04 ± 0.97	21.62 ± 0.62	34.82 ± 1.46	28.28 ± 0.86	17.78 ± 0.72	n = 16	Siemens ADVIA/ADVIA Centaur
36.70 ± 1.03	20.12 ± 0.77	33.14 ± 2.62	26.11 ± 0.77	16.54 ± 0.68	n = 34	Siemens Dimension

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL):

Specimen: U36	Specimen: U37	Specimen: U38	Specimen: U39	Specimen: U40	Number	Instrument or Reagent System
736.1 ± 29.85	821.5 ± 32.75	698.9 ± 26.70	1128.3 ± 38.58	1206.8 ± 52.13	n = 154	All Methods & Instruments
						<Method Principles>
736.4 ± 31.65	821.8 ± 34.37	699.5 ± 27.21	1126.2 ± 40.09	1197.2 ± 47.54	n = 129	Urease w/glutamate dehydrogenase
736.7 ± 37.93	827.8 ± 37.26	701.0 ± 33.48	1149.3 ± 51.06	1239.7 ± 61.41	n = 7	Urease, conductivity rate
735.0 ± 12.05	815.3 ± 14.86	692.4 ± 13.83	1135.4 ± 17.52	1257.8 ± 18.77	n = 16	Urease with indicator dye
						<Instruments>
714.8 ± 6.92	790.6 ± 18.05	670.6 ± 9.46	1108.3 ± 17.07	1179.9 ± 18.86	n = 8	Abbott Architect c System
734.8 ± 22.44	818.2 ± 23.25	701.7 ± 16.54	1124.2 ± 26.96	1191.2 ± 33.58	n = 28	Beckman Coulter AU Chemistry System
742.5 ± 33.65	831.0 ± 21.69	705.6 ± 30.70	1152.7 ± 16.21	1223.7 ± 21.90	n = 6	Beckman Coulter UniCel DxC 600
724.5 ± 35.30	813.1 ± 41.87	694.7 ± 32.74	1133.5 ± 78.60	1229.8 ± 78.15	n = 5	Beckman Coulter UniCel DxC 800
736.6 ± 8.09	822.9 ± 12.35	703.2 ± 22.24	1136.8 ± 15.23	1262.4 ± 6.64	n = 5	Ortho Vitros 5,1FS
732.6 ± 18.81	815.3 ± 19.53	690.1 ± 13.33	1133.5 ± 20.90	1256.6 ± 27.01	n = 13	Ortho Vitros 5600
729.3 ± 27.76	818.5 ± 27.90	698.9 ± 21.13	1125.2 ± 31.98	1192.7 ± 40.34	n = 16	Roche cobas c501
711.7 ± 29.03	789.8 ± 43.98	682.6 ± 32.33	1097.3 ± 56.80	1151.7 ± 72.57	n = 6	Roche cobas c701
725.4 ± 14.44	813.3 ± 20.87	688.4 ± 13.02	1115.4 ± 27.77	1183.4 ± 21.25	n = 12	Roche MODULAR D/P
792.1 ± 11.36	885.2 ± 21.03	750.1 ± 17.84	1191.7 ± 62.26	1266.1 ± 60.71	n = 11	Siemens ADVIA 1800
794.4 ± 20.76	856.9 ± 44.28	728.9 ± 22.36	1120.5 ± 34.13	1225.3 ± 35.88	n = 3	Siemens ADVIA 2400
806.5 ± 4.60	877.2 ± 10.81	764.1 ± 9.54	1228.2 ± 31.53	1312.2 ± 24.91	n = 4	Siemens Dimension EXL
739.0 ± 19.85	819.0 ± 28.61	697.3 ± 20.44	1118.4 ± 35.79	1189.5 ± 45.72	n = 31	Siemens Dimension Vista
						<Reagents>
714.8 ± 6.92	790.6 ± 18.05	670.6 ± 9.46	1108.3 ± 17.07	1179.9 ± 18.86	n = 8	Abbott
737.2 ± 34.22	828.8 ± 26.47	702.4 ± 30.23	1144.7 ± 44.90	1223.7 ± 47.90	n = 12	Beckman Coulter
735.0 ± 23.02	817.8 ± 23.98	701.8 ± 17.15	1125.4 ± 26.77	1191.8 ± 34.31	n = 27	Beckman Coulter AU Series
734.1 ± 15.30	818.0 ± 17.15	692.6 ± 15.36	1135.2 ± 18.81	1257.4 ± 21.20	n = 19	Ortho Clinical Diagnostics
725.9 ± 29.24	815.2 ± 36.49	696.2 ± 20.52	1123.7 ± 42.96	1188.9 ± 53.86	n = 23	Roche cobas c501/c311/c502/c701
725.4 ± 14.44	813.3 ± 20.87	688.4 ± 13.02	1115.4 ± 27.77	1183.4 ± 21.25	n = 12	Roche Hitachi and Modular D/P
791.2 ± 19.80	877.3 ± 34.51	743.7 ± 25.06	1171.1 ± 64.84	1254.5 ± 54.91	n = 15	Siemens ADVIA/ADVIA Centaur
742.3 ± 27.00	825.0 ± 33.01	701.0 ± 26.40	1125.5 ± 45.35	1198.4 ± 56.93	n = 36	Siemens Dimension