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Commissioner



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Statistical Report: Quantitative Urine Clinical Chemistry

Mail out date: October 28, 2013

This report summarizes data from the educational quantitative urine clinical chemistry proficiency test of October 28, 2013. 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 - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Albumin

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

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
2760.7 ± 233.89	981.3 ± 68.87	1087.0 ± 83.26	388.0 ± 34.99	3.3 ± 2.58	n = 181	All Methods & Instruments
2711.2 ± 237.93	966.7 ± 70.30	1069.4 ± 80.93	381.3 ± 36.83	3.1 ± 2.79	n = 84	<u>Method Principles</u>
2798.3 ± 211.50	993.6 ± 66.69	1101.3 ± 84.05	393.8 ± 32.05	3.5 ± 2.59	n = 79	Reporting in mg/dL
2815.0 ± 251.45	990.5 ± 53.49	1099.8 ± 68.04	390.9 ± 34.90	3.4 ± 1.86	n = 18	Reporting in mg/L
						<u>Instruments</u>
2600.1 ± 442.24	984.9 ± 30.84	1099.6 ± 21.57	410.9 ± 9.66	<5	n = 8	Abbott Architect c System
2664.2 ± 161.26	959.3 ± 54.28	1057.7 ± 49.65	379.7 ± 34.57	2.9 ± 2.45	n = 35	Beckman Coulter AU Chemistry System
2668.5 ± 317.47	1059.6 ± 154.56	1224.8 ± 218.00	390.5 ± 43.53	<2	n = 3	Beckman Coulter Immage
2777.3 ± 155.52	996.6 ± 40.73	1085.0 ± 43.61	390.4 ± 14.20	2.2 ± 0.86	n = 8	Beckman Coulter UniCel DxC 600
2910.9 ± 206.08	996.5 ± 51.90	1105.6 ± 66.50	399.7 ± 19.36	<2	n = 5	Beckman Coulter UniCel DxC 800
1844.2 ± 589.51	982.9 ± 73.82	1084.5 ± 70.65	394.5 ± 45.27	6.8 ± 2.36	n = 3	Ortho Vitros 5,1FS
2282.1 ± 475.43	896.6 ± 65.05	983.9 ± 66.09	304.3 ± 17.96	5.0 ± 0.04	n = 10	Ortho Vitros 5600
2868.5 ± 102.78	992.4 ± 64.56	1092.6 ± 59.79	400.3 ± 15.31	6.0 ± 6.29	n = 9	Roche cobas c501
3304.9 ± 1022.43	995.4 ± 21.79	1103.6 ± 20.79	395.1 ± 15.86	6.3 ± 6.47	n = 4	Roche Cobas INTEGRA
2708.1 ± 118.81	961.8 ± 34.92	1062.9 ± 59.09	394.1 ± 18.15	1.7 ± 1.69	n = 21	Roche MODULAR D/P
2622.5 ± 63.13	941.4 ± 17.15	1045.7 ± 19.20	353.1 ± 11.73	3.8 ± 3.29	n = 14	Siemens ADVIA 1800
2675.9 ± 82.12	958.7 ± 30.62	1062.9 ± 31.91	361.2 ± 3.54	1.3 ± 1.37	n = 3	Siemens ADVIA 2400
2692.7 ± 855.67	917.6 ± 93.41	1025.4 ± 88.85	398.6 ± 16.20	1.5 ± 0.44	n = 5	Siemens Dimension EXL
2953.1 ± 81.77	1048.7 ± 66.15	1189.3 ± 76.20	406.9 ± 11.47	1.6 ± 0.33	n = 8	Siemens Dimension RxL
2893.9 ± 180.32	1033.3 ± 60.34	1161.5 ± 61.23	395.3 ± 34.55	<5	n = 26	Siemens Dimension Vista
2994.8 ± 110.33	1095.3 ± 113.79	1245.1 ± 146.26	418.0 ± 11.35	2.8 ± 1.84	n = 6	Other
						<u>Reagents</u>
2619.5 ± 481.42	992.5 ± 19.59	1099.8 ± 21.48	410.7 ± 9.15	<5	n = 7	Abbott
2802.3 ± 260.45	998.2 ± 86.23	1094.2 ± 103.93	391.9 ± 24.44	<2	n = 16	Beckman Coulter
2647.8 ± 161.98	964.8 ± 51.37	1062.6 ± 48.15	381.6 ± 32.78	3.8 ± 2.75	n = 26	Beckman Coulter AU Series
2768.6 ± 148.20	972.0 ± 53.70	1064.1 ± 49.08	390.9 ± 36.92	<2	n = 7	Kamiya
1924.8 ± 727.76	1019.1 ± 14.65	1120.8 ± 8.73	414.9 ± 7.98	7.1 ± 2.05	n = 3	Ortho Clinical Diagnostics
2256.5 ± 423.10	884.1 ± 50.28	973.0 ± 47.14	307.4 ± 18.98	5.0 ± 0.01	n = 10	Randox
2860.6 ± 133.23	996.5 ± 52.68	1092.0 ± 54.73	402.6 ± 16.43	6.2 ± 6.23	n = 13	Roche cobas c501/c311/c502/c701
2708.1 ± 118.81	961.8 ± 34.92	1062.9 ± 59.09	394.1 ± 18.15	1.7 ± 1.69	n = 21	Roche Hitachi and Modular D/P
2907.9 ± 57.43	1001.3 ± 24.01	1111.9 ± 20.57	393.5 ± 12.56	5.0 ± 5.40	n = 6	Roche Integra and MIRA S
2639.9 ± 73.63	945.5 ± 21.16	1050.3 ± 23.32	356.2 ± 11.31	3.0 ± 2.98	n = 18	Siemens ADVIA/ADVIS Centaur
2892.4 ± 168.34	1022.2 ± 69.48	1153.4 ± 75.89	398.0 ± 27.87	4.0 ± 1.83	n = 38	Siemens Dimension
2990.7 ± 110.16	1138.7 ± 93.93	1301.0 ± 91.76	417.6 ± 4.60	3.6 ± 1.26	n = 5	Other

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Summary of Participant Performance (Mean and Standard Deviation)

Creatinine

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

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
137.0 ± 9.79	75.6 ± 5.24	86.0 ± 5.88	45.7 ± 3.88	108.0 ± 7.47	n = 266	All Methods & Instruments
136.8 ± 9.61	75.5 ± 5.13	85.9 ± 5.75	45.6 ± 3.80	107.8 ± 7.32	n = 258	<u>Method Principles</u>
1123.5 ± 691.67	631.7 ± 387.74	729.8 ± 448.30	381.6 ± 232.78	906.0 ± 556.00	n = 3	Reporting in mg/dL
99.5 ± 76.85	54.4 ± 42.01	63.4 ± 48.78	33.7 ± 25.66	77.1 ± 58.22	n = 5	Reporting in mmol/L
						Reporting in mg/L
						<u>Instruments</u>
131.0 ± 2.52	72.4 ± 1.77	82.6 ± 1.48	43.1 ± 0.96	103.4 ± 1.95	n = 14	Abbott Architect c System
151.8 ± 5.20	83.4 ± 1.77	95.4 ± 3.15	52.1 ± 1.46	120.0 ± 3.90	n = 50	Beckman Coulter AU Chemistry System
146.0 ± 4.35	81.4 ± 2.25	91.2 ± 3.19	49.1 ± 1.07	115.2 ± 2.31	n = 13	Beckman Coulter UniCel DxC 600
139.3 ± 1.74	78.0 ± 1.49	87.3 ± 2.19	46.7 ± 0.86	109.1 ± 2.06	n = 8	Beckman Coulter UniCel DxC 800
132.4 ± 1.69	72.5 ± 1.13	84.6 ± 1.29	43.1 ± 1.05	106.1 ± 1.95	n = 10	Ortho Vitros 5,1FS
128.5 ± 3.42	70.0 ± 1.73	82.4 ± 2.18	42.0 ± 1.11	103.5 ± 1.86	n = 17	Ortho Vitros 5600
136.5 ± 6.91	75.7 ± 3.32	87.1 ± 4.08	45.5 ± 2.39	107.2 ± 4.99	n = 20	Roche cobas c501
129.8 ± 2.72	72.0 ± 2.23	81.9 ± 2.29	43.1 ± 1.45	101.6 ± 2.56	n = 7	Roche Cobas INTEGRA
130.9 ± 3.94	72.6 ± 1.87	83.6 ± 2.41	43.6 ± 1.28	104.0 ± 3.27	n = 28	Roche MODULAR D/P
129.2 ± 5.22	72.6 ± 2.64	83.3 ± 3.23	43.7 ± 1.69	102.3 ± 3.72	n = 18	Siemens ADVIA 1800
125.4 ± 3.96	67.8 ± 1.63	78.8 ± 1.95	42.6 ± 0.68	99.9 ± 2.29	n = 3	Siemens ADVIA 2400
138.6 ± 3.12	75.5 ± 2.97	87.7 ± 2.64	45.1 ± 1.44	105.5 ± 3.29	n = 7	Siemens Dimension EXL
141.8 ± 4.98	76.8 ± 1.94	87.1 ± 2.43	47.2 ± 2.08	110.6 ± 2.76	n = 10	Siemens Dimension RxL
138.0 ± 3.81	75.5 ± 1.88	83.1 ± 2.43	45.1 ± 1.66	106.9 ± 3.16	n = 39	Siemens Dimension Vista
132.1 ± 0.77	70.9 ± 0.91	80.8 ± 0.59	42.6 ± 0.46	101.9 ± 1.35	n = 3	Siemens Dimension Xpand
						<u>Reagents</u>
131.0 ± 2.52	72.4 ± 1.77	82.6 ± 1.48	43.1 ± 0.96	103.4 ± 1.95	n = 14	Abbott
143.2 ± 5.61	79.9 ± 2.65	89.8 ± 3.60	48.2 ± 1.70	113.2 ± 3.97	n = 22	Beckman Coulter
152.4 ± 4.42	83.6 ± 1.48	95.7 ± 2.64	52.2 ± 1.23	120.5 ± 3.24	n = 46	Beckman Coulter AU Series
129.8 ± 3.59	70.9 ± 2.18	83.2 ± 2.19	42.4 ± 1.20	104.5 ± 2.33	n = 28	Ortho Clinical Diagnostics
135.0 ± 7.64	74.9 ± 3.50	86.0 ± 4.67	45.0 ± 2.37	106.3 ± 5.31	n = 24	Roche cobas c501/c311/c502/c701
130.9 ± 3.94	72.6 ± 1.87	83.6 ± 2.41	43.6 ± 1.28	104.0 ± 3.27	n = 28	Roche Hitachi and Modular D/P
129.5 ± 3.26	71.7 ± 1.82	82.0 ± 2.07	43.2 ± 1.17	101.6 ± 2.37	n = 10	Roche Integra and MIRA S
128.4 ± 5.11	72.0 ± 2.95	82.5 ± 3.38	43.4 ± 1.58	101.7 ± 3.59	n = 22	Siemens ADVIA/ADVIS Centaur
138.3 ± 4.45	75.6 ± 2.36	84.2 ± 3.28	45.2 ± 1.91	107.1 ± 3.72	n = 57	Siemens Dimension
138.1 ± 1.94	76.4 ± 2.57	84.1 ± 2.12	46.7 ± 1.63	109.2 ± 1.26	n = 6	Other

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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: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
2016.3 ± 218.22	1304.8 ± 123.63	1261.8 ± 143.86	841.0 ± 103.05	4.1 ± 4.02	n = 160	All Methods & Instruments
2058.7 ± 201.43	1321.8 ± 110.77	1288.0 ± 131.80	862.9 ± 99.05	4.3 ± 3.97	n = 98	<u>Method Principles</u>
1949.5 ± 219.26	1276.9 ± 133.26	1218.1 ± 139.08	806.9 ± 89.72	4.1 ± 4.00	n = 55	Reporting in mg/g
2012.5 ± 193.46	1267.3 ± 145.93	1243.1 ± 204.18	808.5 ± 113.10	3.5 ± 4.79	n = 5	Reporting in ug/mg
						Other
<u>Instruments</u>						
1664.8 ± 893.81	1252.6 ± 99.37	1222.7 ± 92.63	777.6 ± 118.73	1.7 ± 2.07	n = 18	Clinical Analyzer calculation
1797.8 ± 225.16	1232.5 ± 138.04	1193.5 ± 133.21	804.2 ± 54.72	2.2 ± 1.29	n = 4	Manual Calculation
<u>Reagents</u>						
2022.4 ± 210.46	1314.4 ± 121.62	1270.4 ± 146.61	849.3 ± 101.76	4.5 ± 4.15	n = 137	Lab Information System
1664.8 ± 893.81	1252.6 ± 99.37	1222.7 ± 92.63	777.6 ± 118.73	1.7 ± 2.07	n = 18	Clinical Analyzer calculation
1797.8 ± 225.16	1232.5 ± 138.04	1193.5 ± 133.21	804.2 ± 54.72	2.2 ± 1.29	n = 4	Manual Calculation

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Summary of Participant Performance (Mean and Standard Deviation)

Calcium (mg/dL) :

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
3.41 ± 0.98	9.77 ± 0.49	3.23 ± 1.01	6.10 ± 1.25	7.88 ± 0.37	n = 170	All Methods & Instruments
4.02 ± 1.22	9.81 ± 0.34	4.13 ± 1.08	5.90 ± 1.20	7.99 ± 0.34	n = 74	<u>Method Principles</u>
3.13 ± 0.46	9.92 ± 0.61	2.93 ± 0.22	6.41 ± 1.26	7.93 ± 0.28	n = 67	o-Cresolphthalein
2.83 ± 0.38	9.30 ± 0.27	1.96 ± 0.17	5.90 ± 1.10	7.36 ± 0.21	n = 16	Arsenazo dye
2.94 ± 0.38	9.73 ± 0.24	2.60 ± 0.00	6.20 ± 1.51	7.69 ± 0.30	n = 7	Ion selective electrode
3.87 ± 1.24	9.29 ± 0.74	2.64 ± 0.41	5.28 ± 0.84	7.84 ± 0.47	n = 4	5-nitro-5-methyl-BAPTA
						Other
3.10 ± 0.23	9.49 ± 0.43	2.92 ± 0.06	6.42 ± 1.13	7.73 ± 0.38	n = 11	<u>Instruments</u>
3.00 ± 0.51	9.73 ± 0.32	3.12 ± 0.14	6.19 ± 1.26	7.81 ± 0.29	n = 24	Abbott Architect c System
2.76 ± 0.20	9.33 ± 0.28	2.18 ± 0.67	5.86 ± 0.83	7.42 ± 0.13	n = 8	Beckman Coulter AU Chemistry System
2.83 ± 0.47	9.34 ± 0.30	1.93 ± 0.27	5.95 ± 0.89	7.27 ± 0.24	n = 6	Beckman Coulter UniCel DxC 600
3.55 ± 0.34	10.70 ± 0.24	2.76 ± 0.09	5.91 ± 1.30	8.13 ± 0.14	n = 6	Beckman Coulter UniCel DxC 800
3.20 ± 0.39	10.58 ± 0.31	2.80 ± 0.13	6.81 ± 1.29	8.06 ± 0.27	n = 13	Ortho Vitros 5,1FS
3.01 ± 0.36	9.86 ± 0.29	2.68 ± 0.19	6.52 ± 1.34	7.78 ± 0.31	n = 10	Ortho Vitros 5600
2.55 ± 0.27	10.38 ± 0.41	3.31 ± 0.52	5.70 ± 0.27	8.13 ± 0.32	n = 3	Roche cobas c501
2.89 ± 0.48	9.82 ± 0.40	3.14 ± 0.18	5.40 ± 1.07	8.00 ± 0.34	n = 19	Roche Cobas INTEGRA
3.07 ± 0.35	9.70 ± 0.29	2.97 ± 0.23	6.26 ± 1.28	7.91 ± 0.21	n = 15	Roche MODULAR D/P
3.19 ± 0.44	9.78 ± 0.15	2.68 ± 0.24	5.71 ± 1.22	8.02 ± 0.12	n = 3	Siemens ADVIA 1800
4.80 ± 0.53	9.99 ± 0.34	<5	6.28 ± 1.33	8.27 ± 0.15	n = 4	Siemens ADVIA 2400
4.83 ± 0.45	9.88 ± 0.21	4.83 ± 0.45	5.96 ± 0.91	7.97 ± 0.09	n = 4	Siemens Dimension EXL
<5	9.77 ± 0.27	<5	5.98 ± 1.13	8.00 ± 0.35	n = 33	Siemens Dimension RxL
						Siemens Dimension Vista
3.10 ± 0.23	9.49 ± 0.43	2.92 ± 0.06	6.42 ± 1.13	7.73 ± 0.38	n = 11	<u>Reagents</u>
2.83 ± 0.38	9.30 ± 0.27	1.96 ± 0.17	5.90 ± 1.10	7.36 ± 0.21	n = 16	Abbott
2.95 ± 0.48	9.73 ± 0.32	3.14 ± 0.13	6.10 ± 1.24	7.81 ± 0.31	n = 24	Beckman Coulter
3.28 ± 0.49	9.57 ± 0.41	2.64 ± 0.10	7.20 ± 0.18	7.80 ± 0.27	n = 3	Beckman Coulter AU Series
3.30 ± 0.42	10.62 ± 0.29	2.79 ± 0.12	6.55 ± 1.37	8.09 ± 0.23	n = 19	Genzyme
2.99 ± 0.34	9.86 ± 0.25	2.68 ± 0.19	6.58 ± 1.40	7.76 ± 0.31	n = 10	Ortho Clinical Diagnostics
2.89 ± 0.48	9.82 ± 0.40	3.14 ± 0.18	5.40 ± 1.07	8.00 ± 0.34	n = 19	Roche Hitachi and Modular D/P
2.50 ± 0.23	10.06 ± 0.70	3.09 ± 0.58	6.02 ± 0.82	7.90 ± 0.57	n = 4	Roche Integra and MIRA S
3.13 ± 0.42	9.73 ± 0.28	2.93 ± 0.25	6.28 ± 1.36	7.94 ± 0.19	n = 19	Siemens ADVIA/ADVIS Centaur
<5	9.80 ± 0.28	<5	6.01 ± 1.12	8.04 ± 0.30	n = 41	Siemens Dimension

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Summary of Participant Performance (Mean and Standard Deviation)

Chloride (mmol/L):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
31.03 ± 2.44	168.59 ± 3.68	256.22 ± 7.91	115.59 ± 3.89	182.87 ± 4.26	n = 184	All Methods & Instruments
31.07 ± 2.38	168.70 ± 3.62	256.28 ± 7.74	115.63 ± 4.01	183.01 ± 4.32	n = 169	<u>Method Principles</u>
30.53 ± 3.29	167.11 ± 3.75	254.01 ± 13.37	115.76 ± 2.22	181.36 ± 3.44	n = 13	Ion selective electrode (diluted) Ion selective electrode (undiluted)
31.70 ± 1.00	167.19 ± 1.83	256.39 ± 4.26	114.24 ± 0.64	180.76 ± 1.57	n = 14	<u>Instruments</u>
32.98 ± 1.24	171.56 ± 1.12	261.59 ± 3.63	117.66 ± 1.02	184.49 ± 1.92	n = 31	Abbott Architect c System
31.87 ± 1.31	165.40 ± 2.20	249.92 ± 5.58	116.11 ± 1.53	181.23 ± 2.35	n = 12	Beckman Coulter AU Chemistry System
31.16 ± 1.54	165.82 ± 2.77	250.61 ± 8.43	116.92 ± 1.79	182.19 ± 3.36	n = 6	Beckman Coulter UniCel DxC 600
26.39 ± 2.04	164.17 ± 1.99	249.92 ± 19.59	107.60 ± 1.54	179.33 ± 2.12	n = 16	Beckman Coulter UniCel DxC 800
30.11 ± 0.20	166.13 ± 1.59	247.66 ± 12.64	111.66 ± 0.61	177.85 ± 2.08	n = 3	Roche cobas c501
27.86 ± 0.90	167.38 ± 2.72	255.49 ± 13.94	111.45 ± 1.39	181.67 ± 2.01	n = 20	Roche Cobas INTEGRA
31.00 ± 0.00	167.13 ± 1.48	251.50 ± 2.61	115.92 ± 0.73	180.74 ± 1.65	n = 16	Roche MODULAR D/P
30.72 ± 0.51	166.88 ± 2.05	249.53 ± 1.86	114.00 ± 2.70	178.26 ± 1.37	n = 3	Siemens ADVIA 1800
45.03 ± 2.78	172.32 ± 1.49	257.30 ± 4.52	124.13 ± 1.60	188.83 ± 3.31	n = 7	Siemens ADVIA 2400
37.71 ± 4.00	170.33 ± 2.31	256.04 ± 3.87	120.13 ± 2.17	186.41 ± 2.99	n = 6	Siemens Dimension EXL
30.86 ± 1.48	171.06 ± 2.24	258.74 ± 3.89	116.33 ± 2.03	187.36 ± 3.32	n = 37	Siemens Dimension RxL
48.22 ± 4.11	171.93 ± 2.86	258.40 ± 4.72	123.74 ± 1.37	189.09 ± 4.38	n = 3	Siemens Dimension Vista
31.70 ± 1.00	167.19 ± 1.83	256.39 ± 4.26	114.24 ± 0.64	180.76 ± 1.57	n = 14	Siemens Dimension Xpand
31.62 ± 1.35	165.66 ± 2.48	250.47 ± 5.94	116.23 ± 1.59	181.24 ± 2.53	n = 20	<u>Reagents</u>
33.01 ± 1.20	171.65 ± 1.14	261.81 ± 3.37	117.72 ± 0.96	184.62 ± 1.75	n = 30	Abbott
46.97 ± 8.18	165.89 ± 5.61	210.75 ± 40.76	118.34 ± 5.08	177.22 ± 3.07	n = 4	Beckman Coulter AU Series
26.39 ± 2.05	163.82 ± 2.43	249.22 ± 18.43	107.59 ± 1.92	178.86 ± 2.79	n = 18	Ortho Clinical Diagnostics
27.86 ± 0.90	167.38 ± 2.72	255.49 ± 13.94	111.45 ± 1.39	181.67 ± 2.01	n = 18	Roche cobas c501/c311/c502/c701
30.11 ± 0.20	166.13 ± 1.59	247.66 ± 12.64	111.66 ± 0.61	177.85 ± 2.08	n = 3	Roche Hitachi and Modular D/P
31.00 ± 0.00	167.06 ± 1.55	250.96 ± 2.71	115.93 ± 0.86	180.29 ± 1.81	n = 20	Roche Integra and MIRA S
33.32 ± 5.61	171.16 ± 2.28	258.23 ± 4.18	117.94 ± 3.71	187.49 ± 3.46	n = 51	Siemens ADVIA/ADVIS Centaur
32.05 ± 3.72	171.04 ± 3.58	240.55 ± 32.72	114.35 ± 3.37	185.52 ± 4.53	n = 3	Siemens Dimension
						Other

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Summary of Participant Performance (Mean and Standard Deviation)

Glucose (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
29.9 ± 1.53	1.2 ± 0.91	256.0 ± 9.18	586.1 ± 25.38	1.2 ± 0.80	n = 125	All Methods & Instruments
30.1 ± 1.21	1.1 ± 0.84	255.1 ± 7.36	586.0 ± 25.28	1.2 ± 0.73	n = 70	<u>Method Principles</u>
29.6 ± 1.89	1.0 ± 0.52	254.2 ± 8.99	577.6 ± 25.43	<1	n = 30	Hexokinase, UV
30.1 ± 1.26	<20	269.6 ± 6.26	610.2 ± 14.64	<20	n = 14	Hexokinase, colorimetric
28.6 ± 1.95	5.6 ± 4.46	255.5 ± 8.45	580.5 ± 9.66	5.7 ± 4.35	n = 9	Glucose oxidase, colorimetric
						Glucose oxidase, O ₂ electrode
30.0 ± 0.00	<1	260.0 ± 1.34	632.2 ± 3.85	<1	n = 7	<u>Instruments</u>
30.0 ± 0.00	6.5 ± 6.15	248.1 ± 4.11	566.8 ± 8.60	6.7 ± 5.56	n = 15	Abbott Architect c System
28.6 ± 1.61	4.5 ± 3.57	257.4 ± 6.18	576.4 ± 10.32	4.7 ± 3.40	n = 6	Beckman Coulter AU Chemistry System
28.8 ± 1.27	6.5 ± 3.99	257.3 ± 5.08	586.7 ± 6.77	6.5 ± 3.99	n = 4	Beckman Coulter UniCel DxC 600
30.7 ± 0.90	<20	269.5 ± 1.94	614.0 ± 13.37	<20	n = 4	Beckman Coulter UniCel DxC 800
30.2 ± 1.46	<20	270.2 ± 6.20	612.0 ± 11.91	<20	n = 10	Ortho Vitros 5,1FS
30.7 ± 0.80	<2	257.5 ± 6.93	594.4 ± 12.69	<2	n = 9	Ortho Vitros 5600
31.4 ± 0.61	1.7 ± 0.65	261.5 ± 4.91	597.9 ± 9.26	1.8 ± 0.45	n = 16	Roche cobas c501
30.4 ± 0.76	1.3 ± 1.61	255.1 ± 4.75	586.0 ± 9.53	1.4 ± 1.53	n = 12	Roche MODULAR D/P
31.7 ± 3.07	7.5 ± 9.09	255.0 ± 6.31	589.6 ± 15.49	7.9 ± 8.93	n = 3	Siemens ADVIA 1800
29.6 ± 1.02	0.0 ± 0.00	256.1 ± 7.44	603.0 ± 9.92	0.0 ± 0.00	n = 3	Siemens ADVIA 2400
28.2 ± 1.00	<1	251.0 ± 6.55	561.3 ± 22.14	<1	n = 26	Siemens Dimension EXL
						Siemens Dimension Vista
30.0 ± 0.00	<1	260.0 ± 1.34	632.2 ± 3.85	<1	n = 7	<u>Reagents</u>
28.7 ± 1.85	5.4 ± 3.99	256.5 ± 6.73	579.1 ± 9.96	5.6 ± 3.81	n = 12	Abbott
30.0 ± 0.00	7.1 ± 6.00	248.1 ± 4.06	566.8 ± 8.57	7.2 ± 5.44	n = 14	Beckman Coulter
30.2 ± 1.41	<20	269.5 ± 5.78	611.5 ± 14.86	<20	n = 15	Beckman Coulter AU Series
30.5 ± 0.84	1.7 ± 0.80	255.3 ± 7.55	589.3 ± 17.64	<2	n = 12	Ortho Clinical Diagnostics
31.4 ± 0.61	1.7 ± 0.65	261.5 ± 4.91	597.9 ± 9.26	1.8 ± 0.45	n = 16	Roche cobas c501/c311/c502/c701
30.4 ± 0.82	1.4 ± 1.62	255.6 ± 5.40	587.3 ± 11.82	1.5 ± 1.66	n = 16	Roche Hitachi and Modular D/P
28.4 ± 1.14	<1	251.1 ± 6.07	564.4 ± 23.83	<1	n = 29	Siemens ADVIA Centaur
						Siemens Dimension

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Magnesium (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
1.99 ± 0.26	7.66 ± 0.38	13.74 ± 0.60	3.25 ± 0.38	8.14 ± 0.43	n = 119	All Methods & Instruments
1.90 ± 0.27	7.47 ± 0.29	13.62 ± 0.46	3.09 ± 0.31	8.06 ± 0.28	n = 13	<u>Method Principles</u>
2.11 ± 0.19	7.86 ± 0.25	13.99 ± 0.31	3.47 ± 0.17	8.38 ± 0.21	n = 31	Calmagite
2.00 ± 0.16	7.66 ± 0.39	13.79 ± 0.66	3.24 ± 0.23	8.15 ± 0.37	n = 49	Methylthymol blue
1.20 ± 0.00	7.64 ± 0.40	13.62 ± 0.26	1.90 ± 0.40	7.37 ± 0.31	n = 10	Xyliidyl blue (Magon)
1.97 ± 0.14	7.65 ± 0.08	13.65 ± 0.23	3.30 ± 0.23	8.07 ± 0.23	n = 5	Formazon dye
1.88 ± 0.19	6.26 ± 0.84	12.38 ± 1.25	2.63 ± 0.40	6.76 ± 0.73	n = 7	Chlorophosphonazo III
1.96 ± 0.14	7.20 ± 0.38	13.00 ± 0.55	2.99 ± 0.09	7.90 ± 0.47	n = 4	Arsenazo dye
						Other
1.85 ± 0.20	6.06 ± 0.75	12.24 ± 0.89	2.54 ± 0.36	6.59 ± 0.63	n = 6	<u>Instruments</u>
2.00 ± 0.00	7.54 ± 0.17	13.71 ± 0.67	3.16 ± 0.11	8.02 ± 0.15	n = 12	Abbott Architect c System
2.04 ± 0.17	7.53 ± 0.09	13.91 ± 0.43	3.05 ± 0.22	8.08 ± 0.20	n = 4	Beckman Coulter AU Chemistry System
1.74 ± 0.14	7.28 ± 0.32	13.31 ± 0.41	2.96 ± 0.17	7.92 ± 0.16	n = 5	Beckman Coulter UniCel DxC 600
1.90 ± 0.09	7.06 ± 0.26	12.78 ± 0.32	2.95 ± 0.05	7.69 ± 0.25	n = 3	Beckman Coulter UniCel DxC 800
1.20 ± 0.00	7.45 ± 0.19	13.45 ± 0.19	1.85 ± 0.27	7.42 ± 0.24	n = 3	ICP/MS
1.20 ± 0.00	7.67 ± 0.46	13.66 ± 0.25	1.90 ± 0.41	7.38 ± 0.32	n = 8	Ortho Vitros 5,1FS
2.16 ± 0.11	8.02 ± 0.17	14.29 ± 0.36	3.50 ± 0.24	8.71 ± 0.18	n = 5	Ortho Vitros 5600
1.94 ± 0.10	7.60 ± 0.09	13.67 ± 0.05	3.33 ± 0.31	8.03 ± 0.14	n = 3	Roche cobas c501
1.99 ± 0.22	7.50 ± 0.39	13.33 ± 0.59	3.17 ± 0.15	7.98 ± 0.19	n = 18	Roche Cobas INTEGRA
2.01 ± 0.24	7.74 ± 0.39	14.03 ± 0.41	3.29 ± 0.41	8.30 ± 0.39	n = 11	Roche MODULAR D/P
2.44 ± 0.77	8.25 ± 0.62	14.37 ± 0.25	3.74 ± 0.67	8.93 ± 0.45	n = 4	Siemens ADVIA 1800
2.13 ± 0.16	7.86 ± 0.22	13.98 ± 0.33	3.49 ± 0.13	8.39 ± 0.16	n = 28	Siemens ADVIA 2400
						Siemens Dimension Vista
1.85 ± 0.20	6.06 ± 0.75	12.24 ± 0.89	2.54 ± 0.36	6.59 ± 0.63	n = 6	<u>Reagents</u>
1.91 ± 0.22	7.46 ± 0.29	13.67 ± 0.51	3.05 ± 0.25	8.06 ± 0.24	n = 11	Abbott
2.00 ± 0.00	7.58 ± 0.13	13.68 ± 0.61	3.17 ± 0.12	8.05 ± 0.09	n = 11	Beckman Coulter
1.98 ± 0.15	7.20 ± 0.45	12.95 ± 0.64	3.01 ± 0.10	7.85 ± 0.55	n = 3	Beckman Coulter AU Series
1.20 ± 0.00	7.59 ± 0.39	13.59 ± 0.26	1.89 ± 0.37	7.39 ± 0.29	n = 11	In-House
2.10 ± 0.14	8.00 ± 0.21	14.20 ± 0.48	3.39 ± 0.23	8.58 ± 0.33	n = 7	Ortho Clinical Diagnostics
1.99 ± 0.22	7.50 ± 0.39	13.33 ± 0.59	3.17 ± 0.15	7.98 ± 0.19	n = 18	Roche cobas c501/c311/c502/c701
1.94 ± 0.10	7.60 ± 0.09	13.67 ± 0.05	3.33 ± 0.31	8.03 ± 0.14	n = 3	Roche Hitachi and Modular D/P
2.10 ± 0.50	7.81 ± 0.41	14.12 ± 0.38	3.34 ± 0.43	8.44 ± 0.48	n = 16	Roche Integra and MIRA S
2.11 ± 0.16	7.84 ± 0.24	13.94 ± 0.32	3.47 ± 0.15	8.36 ± 0.19	n = 16	Siemens ADVIA/ADVISIA Centaur
						Siemens Dimension

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Sodium (mmol/L):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
40.1 ± 1.73	166.7 ± 4.33	265.1 ± 12.15	115.2 ± 3.54	177.6 ± 6.89	n = 214	All Methods & Instruments
40.1 ± 1.63	166.3 ± 3.69	264.9 ± 10.63	114.9 ± 3.08	176.9 ± 6.53	n = 185	<u>Method Principles</u>
40.3 ± 2.44	175.5 ± 8.23	275.7 ± 26.02	119.5 ± 5.40	183.6 ± 5.36	n = 27	Ion selective electrode (diluted) Ion selective electrode (undiluted)
39.8 ± 0.44	163.6 ± 1.33	266.3 ± 5.11	114.2 ± 1.03	177.8 ± 1.36	n = 14	<u>Instruments</u>
42.1 ± 0.83	169.0 ± 1.89	274.6 ± 4.12	116.2 ± 1.23	181.7 ± 1.94	n = 33	Abbott Architect c System
40.2 ± 1.22	165.3 ± 1.85	262.3 ± 2.71	116.5 ± 1.13	176.4 ± 2.01	n = 13	Beckman Coulter AU Chemistry System
40.9 ± 1.09	165.9 ± 1.71	263.0 ± 3.42	117.1 ± 1.02	177.0 ± 2.42	n = 7	Beckman Coulter UniCel DxC 600
39.6 ± 1.32	177.3 ± 3.39	292.7 ± 23.34	121.5 ± 2.71	184.8 ± 3.18	n = 10	Beckman Coulter UniCel DxC 800
40.4 ± 2.79	179.4 ± 6.23	276.9 ± 32.96	123.6 ± 6.38	186.7 ± 6.86	n = 14	Ortho Vitros 5,1FS
39.7 ± 1.46	167.6 ± 1.06	267.1 ± 8.46	115.0 ± 1.41	178.7 ± 1.39	n = 17	Ortho Vitros 5600
39.8 ± 3.17	168.6 ± 0.46	255.3 ± 24.29	121.3 ± 3.16	179.3 ± 1.94	n = 3	Roche cobas c501
39.5 ± 1.41	168.4 ± 1.92	265.7 ± 12.85	115.6 ± 1.47	179.9 ± 1.56	n = 22	Roche Cobas INTEGRA
40.4 ± 0.56	169.1 ± 1.61	273.2 ± 2.20	116.3 ± 0.94	180.9 ± 1.07	n = 16	Roche MODULAR D/P
40.0 ± 0.00	168.3 ± 1.37	271.8 ± 2.36	115.7 ± 0.51	180.1 ± 2.05	n = 3	Siemens ADVIA 1800
39.0 ± 0.47	163.7 ± 0.51	258.2 ± 0.83	114.0 ± 0.47	170.7 ± 0.74	n = 7	Siemens ADVIA 2400
39.7 ± 0.72	160.7 ± 1.91	250.8 ± 2.90	112.7 ± 1.26	168.2 ± 1.59	n = 6	Siemens Dimension EXL
38.9 ± 1.54	162.6 ± 1.99	256.0 ± 3.70	109.5 ± 2.11	165.5 ± 3.61	n = 38	Siemens Dimension RxL
39.0 ± 0.90	163.4 ± 1.02	257.0 ± 3.58	113.7 ± 0.51	170.0 ± 0.90	n = 3	Siemens Dimension Vista
39.8 ± 0.44	163.6 ± 1.33	266.3 ± 5.11	114.2 ± 1.03	177.8 ± 1.36	n = 14	Siemens Dimension Xpand
40.5 ± 1.35	165.4 ± 1.62	262.6 ± 3.12	116.6 ± 1.15	176.4 ± 1.90	n = 23	<u>Reagents</u>
42.0 ± 0.93	169.2 ± 1.76	275.0 ± 3.91	116.3 ± 1.18	181.9 ± 1.76	n = 32	Abbott
40.0 ± 2.22	178.2 ± 5.02	283.8 ± 29.95	122.2 ± 4.75	185.5 ± 4.87	n = 25	Beckman Coulter AU Series
39.8 ± 1.56	167.6 ± 1.08	267.4 ± 8.21	115.2 ± 1.54	178.7 ± 1.71	n = 19	Ortho Clinical Diagnostics
39.5 ± 1.41	168.4 ± 1.92	265.7 ± 12.85	115.6 ± 1.47	179.9 ± 1.56	n = 22	Roche cobas c501/c311/c502/c701
39.8 ± 3.17	168.6 ± 0.46	255.3 ± 24.29	121.3 ± 3.16	179.3 ± 1.94	n = 3	Roche Hitachi and Modular D/P
40.4 ± 0.55	168.8 ± 1.64	272.7 ± 2.52	116.2 ± 0.87	180.7 ± 1.28	n = 20	Roche Integra and MIRA S
39.0 ± 1.18	162.6 ± 2.02	255.7 ± 4.01	111.0 ± 2.83	167.1 ± 3.80	n = 52	Siemens ADVIA/ADVIS Centaur
39.3 ± 3.16	164.9 ± 4.38	245.9 ± 19.27	112.5 ± 8.26	168.5 ± 8.19	n = 3	Siemens Dimension
						Other

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Phosphorus (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
76.17 ± 3.62	68.11 ± 3.40	106.45 ± 6.25	117.94 ± 6.30	136.02 ± 6.49	n = 149	All Methods & Instruments
75.87 ± 2.29	67.79 ± 2.20	106.71 ± 2.89	117.93 ± 3.95	136.00 ± 3.94	n = 76	<u>Method Principles</u>
78.66 ± 5.10	70.54 ± 5.07	108.55 ± 8.13	119.47 ± 7.75	139.39 ± 7.79	n = 6	Phosphomolybdate - no reduction
76.71 ± 5.44	68.96 ± 5.28	106.12 ± 11.40	115.77 ± 14.38	135.69 ± 15.84	n = 47	Phosphomolybdate reduction (ANS)
74.67 ± 4.24	67.42 ± 2.19	103.36 ± 8.43	114.21 ± 10.04	130.33 ± 16.92	n = 8	Phosphomolybdate reduction (PMA phe)
77.18 ± 3.88	68.89 ± 3.62	106.57 ± 7.19	120.24 ± 7.26	136.13 ± 6.78	n = 9	Phosphomolybdate reduction-other
						Other
76.65 ± 1.51	68.27 ± 1.23	107.66 ± 0.45	118.23 ± 2.43	136.07 ± 0.25	n = 8	<u>Instruments</u>
75.51 ± 2.01	67.14 ± 1.66	105.73 ± 3.35	116.85 ± 4.99	135.11 ± 3.44	n = 21	Abbott Architect c System
79.22 ± 1.81	71.09 ± 2.05	111.16 ± 2.23	122.23 ± 2.89	143.64 ± 4.02	n = 7	Beckman Coulter AU Chemistry System
77.43 ± 2.44	69.05 ± 2.41	106.07 ± 4.40	117.98 ± 4.62	136.27 ± 4.63	n = 5	Beckman Coulter UniCel DxC 600
69.12 ± 29.34	72.55 ± 1.40	113.73 ± 1.87	123.50 ± 0.49	148.93 ± 4.48	n = 4	Beckman Coulter UniCel DxC 800
82.25 ± 2.48	74.71 ± 2.61	115.70 ± 4.41	127.36 ± 6.16	150.23 ± 10.27	n = 13	Ortho Vitros 5,1FS
75.59 ± 2.66	67.51 ± 1.96	106.66 ± 2.65	117.33 ± 2.86	135.79 ± 4.46	n = 9	Ortho Vitros 5600
76.96 ± 1.35	67.78 ± 0.94	106.57 ± 1.32	117.96 ± 1.49	136.28 ± 1.84	n = 3	Roche cobas c501
74.78 ± 1.98	67.02 ± 1.94	106.17 ± 2.56	116.95 ± 3.00	135.33 ± 3.64	n = 19	Roche Cobas INTEGRA
76.76 ± 3.68	69.11 ± 3.04	109.51 ± 4.62	121.01 ± 5.48	138.06 ± 5.04	n = 14	Roche MODULAR D/P
77.37 ± 1.70	66.05 ± 1.44	107.13 ± 1.94	119.21 ± 3.00	134.52 ± 3.19	n = 3	Siemens ADVIA 1800
83.39 ± 2.22	74.57 ± 2.52	116.83 ± 7.59	141.72 ± 22.62	144.43 ± 9.73	n = 4	Siemens ADVIA 2400
73.61 ± 1.85	65.56 ± 1.86	98.15 ± 5.98	108.30 ± 9.67	129.67 ± 5.82	n = 31	Siemens Dimension RxL
						Siemens Dimension Vista
76.65 ± 1.51	68.27 ± 1.23	107.66 ± 0.45	118.23 ± 2.43	136.07 ± 0.25	n = 8	<u>Reagents</u>
78.58 ± 1.96	70.31 ± 2.72	109.03 ± 4.14	120.59 ± 4.02	140.19 ± 5.46	n = 13	Abbott
75.54 ± 1.78	67.33 ± 1.72	105.72 ± 3.12	116.78 ± 4.83	135.19 ± 3.60	n = 21	Beckman Coulter
81.69 ± 2.40	74.00 ± 2.39	114.83 ± 3.46	125.70 ± 4.84	149.92 ± 8.57	n = 17	Beckman Coulter AU Series
76.09 ± 2.88	67.96 ± 1.96	106.94 ± 2.06	117.93 ± 2.83	136.53 ± 3.59	n = 11	Ortho Clinical Diagnostics
74.78 ± 1.98	67.02 ± 1.94	106.17 ± 2.56	116.95 ± 3.00	135.33 ± 3.64	n = 19	Roche cobas c501/c311/c502/c701
76.96 ± 1.35	67.78 ± 0.94	106.57 ± 1.32	117.96 ± 1.49	136.28 ± 1.84	n = 3	Roche Hitachi and Modular D/P
76.54 ± 3.33	68.24 ± 3.11	108.57 ± 4.58	120.20 ± 5.22	136.88 ± 5.23	n = 18	Roche Integra and MIRA S
74.33 ± 3.64	66.06 ± 2.93	99.20 ± 7.87	110.01 ± 11.70	128.53 ± 14.32	n = 36	Siemens ADVIA/ADVIS Centaur
						Siemens Dimension

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Potassium (mmol/L):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
37.12 ± 2.92	32.73 ± 1.80	51.41 ± 3.23	39.43 ± 2.51	73.27 ± 5.22	n = 213	All Methods & Instruments
36.83 ± 2.92	32.80 ± 1.85	51.06 ± 2.90	39.25 ± 2.44	72.71 ± 4.78	n = 185	<u>Method Principles</u>
39.14 ± 1.77	32.31 ± 1.16	54.87 ± 3.55	41.05 ± 1.95	78.61 ± 4.41	n = 27	Ion selective electrode (diluted) Ion selective electrode (undiluted)
36.88 ± 0.31	32.56 ± 0.46	50.96 ± 0.33	39.02 ± 0.22	72.93 ± 0.38	n = 14	<u>Instruments</u>
38.72 ± 0.98	34.01 ± 0.62	52.71 ± 1.35	40.37 ± 0.67	75.55 ± 1.52	n = 32	Abbott Architect c System
36.07 ± 0.32	32.88 ± 0.20	51.10 ± 0.33	38.63 ± 0.33	71.82 ± 0.68	n = 13	Beckman Coulter AU Chemistry System
36.39 ± 0.60	33.03 ± 0.37	51.51 ± 0.62	38.88 ± 0.39	72.59 ± 0.82	n = 7	Beckman Coulter UniCel DxC 600
38.98 ± 0.76	31.60 ± 0.57	54.94 ± 0.59	41.37 ± 1.05	80.28 ± 1.55	n = 10	Beckman Coulter UniCel DxC 800
39.87 ± 0.75	32.12 ± 0.46	57.15 ± 1.56	42.45 ± 1.13	81.33 ± 1.64	n = 14	Ortho Vitros 5,1FS
37.11 ± 0.77	33.27 ± 0.62	51.33 ± 1.25	39.52 ± 1.14	73.52 ± 1.70	n = 17	Ortho Vitros 5600
38.58 ± 0.64	33.68 ± 0.73	51.53 ± 1.20	40.60 ± 0.93	75.08 ± 1.76	n = 3	Roche cobas c501
39.01 ± 1.24	34.71 ± 0.85	52.95 ± 2.27	41.19 ± 1.21	75.26 ± 3.74	n = 21	Roche Cobas INTEGRA
37.88 ± 0.38	33.93 ± 0.48	52.66 ± 0.71	40.08 ± 0.43	74.96 ± 0.77	n = 17	Roche MODULAR D/P
37.94 ± 0.10	34.00 ± 0.90	52.11 ± 0.20	40.21 ± 0.57	74.53 ± 0.97	n = 3	Siemens ADVIA 1800
36.39 ± 0.46	32.04 ± 0.37	49.60 ± 0.78	39.28 ± 0.62	71.14 ± 1.48	n = 7	Siemens ADVIA 2400
33.87 ± 0.65	31.16 ± 0.42	47.81 ± 0.60	37.31 ± 0.51	68.74 ± 0.91	n = 6	Siemens Dimension EXL
31.19 ± 1.07	29.88 ± 0.80	46.92 ± 1.27	34.76 ± 1.07	64.98 ± 2.52	n = 38	Siemens Dimension RxL
36.18 ± 0.68	32.16 ± 0.65	49.22 ± 0.77	38.69 ± 0.37	70.70 ± 1.26	n = 3	Siemens Dimension Vista
36.88 ± 0.31	32.56 ± 0.46	50.96 ± 0.33	39.02 ± 0.22	72.93 ± 0.38	n = 14	Siemens Dimension Xpand
36.14 ± 0.45	32.95 ± 0.34	51.26 ± 0.54	38.77 ± 0.47	72.21 ± 0.96	n = 23	<u>Reagents</u>
38.74 ± 0.98	34.04 ± 0.59	52.74 ± 1.38	40.44 ± 0.78	75.66 ± 1.55	n = 31	Abbott
39.52 ± 0.86	31.94 ± 0.56	56.65 ± 1.98	42.03 ± 1.19	80.99 ± 1.74	n = 25	Beckman Coulter AU Series
37.09 ± 0.92	33.29 ± 0.73	51.28 ± 1.42	39.46 ± 1.15	73.47 ± 2.17	n = 19	Ortho Clinical Diagnostics
39.01 ± 1.24	34.71 ± 0.85	52.95 ± 2.27	41.19 ± 1.21	75.26 ± 3.74	n = 21	Roche cobas c501/c311/c502/c701
38.58 ± 0.64	33.68 ± 0.73	51.53 ± 1.20	40.60 ± 0.93	75.08 ± 1.76	n = 3	Roche Hitachi and Modular D/P
37.86 ± 0.39	33.91 ± 0.58	52.50 ± 0.71	40.07 ± 0.50	74.83 ± 0.91	n = 21	Siemens Integra and MIRA S
32.24 ± 2.33	30.39 ± 1.24	47.45 ± 1.66	35.73 ± 2.21	66.44 ± 3.60	n = 52	Siemens ADVIA/ADVISIA Centaur
32.43 ± 2.80	30.48 ± 0.88	47.53 ± 0.14	35.50 ± 1.73	66.14 ± 1.08	n = 3	Siemens Dimension
						Other

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Total Protein (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
301.02 ± 25.35	113.18 ± 4.54	128.76 ± 6.44	45.82 ± 2.89	5.67 ± 3.78	n = 217	All Methods & Instruments
293.96 ± 27.35	113.30 ± 4.60	128.89 ± 6.86	45.39 ± 2.42	6.35 ± 3.89	n = 68	<u>Method Principles</u>
317.68 ± 6.97	111.16 ± 3.28	125.25 ± 2.62	45.13 ± 0.91	3.75 ± 2.61	n = 34	Biuret (alkaline cupric sulfate)
297.41 ± 25.42	114.19 ± 4.47	130.68 ± 6.14	45.95 ± 2.65	6.46 ± 4.23	n = 96	Turbidimetric/Benzethonium Chloride
547.37 ± 32.04	174.72 ± 10.07	190.61 ± 9.39	54.27 ± 2.89	<5	n = 13	Pyrogallol red
295.70 ± 12.61	107.82 ± 2.79	124.19 ± 31.49	43.59 ± 4.34	2.80 ± 1.51	n = 5	Pyrocatechol Violet
						Other
317.47 ± 8.91	114.36 ± 1.66	126.86 ± 1.84	45.37 ± 0.78	6.91 ± 0.11	n = 12	<u>Instruments</u>
315.98 ± 19.50	116.15 ± 3.53	130.03 ± 4.55	46.04 ± 1.86	3.81 ± 0.56	n = 38	Abbott Architect c System
291.88 ± 25.24	119.13 ± 4.17	138.31 ± 6.45	44.38 ± 0.94	7.45 ± 1.02	n = 11	Beckman Coulter AU Chemistry System
312.42 ± 20.60	119.24 ± 2.43	141.61 ± 3.68	45.19 ± 0.73	7.80 ± 1.57	n = 6	Beckman Coulter UniCel DxC 600
551.56 ± 37.85	171.30 ± 15.40	192.94 ± 10.00	54.70 ± 3.38	<5	n = 6	Beckman Coulter UniCel DxC 800
549.25 ± 23.47	179.14 ± 4.30	193.87 ± 12.53	53.81 ± 2.51	<5	n = 9	Ortho Vitros 5,1FS
320.55 ± 8.01	110.86 ± 3.48	125.42 ± 3.93	45.11 ± 1.62	2.66 ± 1.64	n = 14	Ortho Vitros 5600
306.47 ± 7.87	106.60 ± 1.28	121.17 ± 0.79	44.91 ± 0.49	2.60 ± 1.60	n = 18	Roche cobas c501
316.11 ± 5.28	110.02 ± 1.66	124.30 ± 1.28	45.08 ± 1.38	3.24 ± 2.86	n = 4	Roche Cobas INTEGRA
288.45 ± 11.62	108.14 ± 2.57	117.57 ± 11.94	41.99 ± 1.67	2.43 ± 0.74	n = 23	Siemens MODULAR D/P
283.93 ± 13.37	109.75 ± 0.54	109.61 ± 11.93	41.56 ± 1.02	3.08 ± 0.69	n = 17	Siemens ADVIA 1800
299.46 ± 4.36	112.44 ± 1.24	129.31 ± 0.56	47.60 ± 0.81	10.34 ± 0.75	n = 3	Siemens ADVIA 2400
298.30 ± 6.59	113.45 ± 1.64	130.03 ± 0.61	48.33 ± 0.99	11.05 ± 1.11	n = 6	Siemens Dimension EXL
270.25 ± 12.89	114.33 ± 2.55	131.73 ± 3.42	46.48 ± 1.55	11.29 ± 0.85	n = 7	Siemens Dimension RxL
						Siemens Dimension Vista
316.32 ± 9.41	114.19 ± 1.69	126.68 ± 1.85	45.24 ± 0.91	6.90 ± 0.11	n = 38	<u>Reagents</u>
301.69 ± 23.39	118.68 ± 3.70	138.75 ± 5.81	44.55 ± 1.22	7.30 ± 1.37	n = 21	Abbott
315.95 ± 18.38	116.13 ± 3.49	129.83 ± 4.34	46.01 ± 1.63	<4	n = 35	Beckman Coulter
551.43 ± 29.14	176.18 ± 10.47	192.92 ± 10.52	54.41 ± 3.10	<5	n = 18	Beckman Coulter AU Series
319.24 ± 43.40	123.40 ± 16.01	140.41 ± 16.66	46.18 ± 6.11	1.80 ± 0.53	n = 23	Ortho Clinical Diagnostics
319.52 ± 9.84	110.75 ± 3.30	125.14 ± 3.99	45.12 ± 1.04	3.10 ± 1.47	n = 4	Pointe Scientific
316.12 ± 5.28	109.87 ± 1.44	124.29 ± 1.24	45.17 ± 1.15	3.33 ± 2.93	n = 18	Roche cobas c501/c311/c502/c701
309.86 ± 9.67	107.28 ± 2.17	121.64 ± 1.73	45.09 ± 0.66	2.97 ± 1.54	n = 22	Roche Hitachi and Modular D/P
287.64 ± 12.21	108.46 ± 2.46	116.37 ± 12.39	41.94 ± 1.59	2.56 ± 0.81	n = 5	Roche Integra and MIRA S
279.84 ± 18.88	113.85 ± 2.27	131.15 ± 2.64	47.02 ± 1.61	11.17 ± 0.96	n = 20	Siemens ADVIA/ADVISIA Centaur
						Siemens Dimension

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Uric Acid (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
39.85 ± 2.26	11.77 ± 0.89	26.99 ± 1.60	10.83 ± 0.88	19.70 ± 1.26	n = 152	All Methods & Instruments
39.39 ± 2.36	11.34 ± 1.32	26.75 ± 1.71	10.64 ± 1.11	19.54 ± 1.58	n = 9	<u>Method Principles</u>
38.45 ± 2.48	11.70 ± 0.78	25.93 ± 1.60	10.94 ± 0.92	19.14 ± 1.31	n = 51	Uricase/allantoin (differential abs)
40.58 ± 1.72	11.84 ± 0.90	27.55 ± 1.24	10.79 ± 0.84	20.02 ± 1.10	n = 88	Uricase/peroxidase (colorimetric)
39.78 ± 1.81	11.65 ± 0.55	26.51 ± 1.48	10.90 ± 0.62	19.47 ± 0.91	n = 4	Other
<u>Instruments</u>						
40.12 ± 0.51	11.41 ± 0.46	26.65 ± 0.56	10.68 ± 0.46	19.30 ± 0.48	n = 9	Abbott Architect c System
41.72 ± 1.54	12.53 ± 0.54	28.61 ± 0.83	11.04 ± 0.14	20.57 ± 0.73	n = 21	Beckman Coulter AU Chemistry System
41.62 ± 0.74	13.01 ± 0.33	28.78 ± 0.33	12.17 ± 0.53	21.43 ± 0.28	n = 7	Beckman Coulter UniCel DxC 600
41.33 ± 1.14	13.09 ± 0.21	28.58 ± 0.49	12.38 ± 0.35	21.41 ± 0.63	n = 6	Beckman Coulter UniCel DxC 800
40.74 ± 0.89	11.49 ± 0.41	27.25 ± 0.80	10.50 ± 0.50	19.96 ± 0.51	n = 5	Ortho Vitros 5,1FS
41.02 ± 0.91	11.35 ± 0.41	27.65 ± 0.54	10.75 ± 0.28	20.26 ± 0.67	n = 11	Ortho Vitros 5600
40.12 ± 0.95	11.15 ± 0.18	27.23 ± 0.42	10.17 ± 0.27	19.31 ± 0.30	n = 9	Roche cobas c501
39.71 ± 1.48	11.32 ± 0.13	26.92 ± 0.12	9.94 ± 0.47	19.11 ± 0.36	n = 3	Roche Cobas INTEGRA
38.26 ± 1.45	10.65 ± 0.38	25.72 ± 0.66	9.65 ± 0.38	18.42 ± 0.69	n = 20	Roche MODULAR D/P
41.26 ± 1.06	12.09 ± 0.27	27.68 ± 0.60	11.30 ± 0.51	20.43 ± 0.49	n = 14	Siemens ADVIA 1800
40.62 ± 1.13	12.10 ± 0.09	28.11 ± 0.20	11.07 ± 0.05	20.92 ± 0.24	n = 3	Siemens ADVIA 2400
41.39 ± 0.40	13.37 ± 0.88	28.64 ± 0.79	12.10 ± 0.44	20.68 ± 0.28	n = 4	Siemens Dimension EXL
40.50 ± 1.44	12.30 ± 1.26	27.53 ± 1.05	11.53 ± 1.40	21.08 ± 0.86	n = 3	Siemens Dimension RxL
37.01 ± 1.08	11.72 ± 0.46	25.07 ± 0.72	11.00 ± 0.44	18.61 ± 0.59	n = 32	Siemens Dimension Vista
<u>Reagents</u>						
40.12 ± 0.51	11.41 ± 0.46	26.65 ± 0.56	10.68 ± 0.46	19.30 ± 0.48	n = 9	Abbott
41.54 ± 0.84	13.06 ± 0.29	28.61 ± 0.44	12.30 ± 0.38	21.44 ± 0.42	n = 13	Beckman Coulter
41.69 ± 1.39	12.51 ± 0.48	28.58 ± 0.75	11.05 ± 0.13	20.59 ± 0.62	n = 21	Beckman Coulter AU Series
40.88 ± 0.88	11.40 ± 0.39	27.51 ± 0.67	10.66 ± 0.40	20.18 ± 0.62	n = 17	Ortho Clinical Diagnostics
40.30 ± 0.88	11.16 ± 0.21	27.19 ± 0.36	10.20 ± 0.29	19.40 ± 0.39	n = 11	Roche cobas c501/c311/c502/c701
38.26 ± 1.45	10.65 ± 0.38	25.72 ± 0.66	9.65 ± 0.38	18.42 ± 0.69	n = 20	Roche Hitachi and Modular D/P
39.71 ± 1.48	11.32 ± 0.13	26.92 ± 0.12	9.94 ± 0.47	19.11 ± 0.36	n = 3	Roche Integra and MIRA S
41.06 ± 1.15	12.06 ± 0.21	27.78 ± 0.55	11.22 ± 0.39	20.52 ± 0.49	n = 18	Siemens ADVIA/ADVIS Centaur
37.45 ± 1.92	11.81 ± 0.60	25.34 ± 1.15	11.12 ± 0.63	18.88 ± 1.10	n = 38	Siemens Dimension

New York State Department of Health - Wadsworth Center
Quantitative Urine Chemistry - Educational Proficiency Testing - 28 October 2013

Summary of Participant Performance (Mean and Standard Deviation)

Urea Nitrogen (mg/dL):

Specimen: U16	Specimen: U17	Specimen: U18	Specimen: U19	Specimen: U20	Number	Instrument or Reagent System
355.0 ± 15.21	199.7 ± 8.41	436.6 ± 18.34	534.8 ± 21.37	1159.2 ± 46.66	n = 157	All Methods & Instruments
353.9 ± 15.42	199.8 ± 8.38	435.3 ± 18.32	535.3 ± 22.60	1152.0 ± 43.99	n = 132	<u>Method Principles</u>
358.0 ± 16.40	203.3 ± 8.24	433.3 ± 10.85	541.3 ± 22.86	1220.7 ± 73.00	n = 8	Urease w/glutamate dehydrogenase
362.3 ± 10.24	197.6 ± 8.04	449.5 ± 12.23	532.7 ± 9.49	1194.9 ± 23.44	n = 16	Urease, conductivity rate
						Urease with indicator dye
343.4 ± 9.87	195.3 ± 6.16	423.6 ± 10.57	522.4 ± 11.55	1162.1 ± 33.85	n = 9	<u>Instruments</u>
355.0 ± 8.89	200.1 ± 3.79	434.0 ± 13.40	531.2 ± 13.93	1131.7 ± 27.51	n = 23	Abbott Architect c System
354.8 ± 10.34	202.7 ± 3.39	437.5 ± 6.66	539.7 ± 6.82	1168.3 ± 20.02	n = 9	Beckman Coulter AU Chemistry System
355.9 ± 19.34	205.5 ± 4.66	440.5 ± 20.13	550.2 ± 24.74	1219.7 ± 75.02	n = 5	Beckman Coulter UniCel DxC 600
357.1 ± 6.66	194.9 ± 1.13	444.8 ± 13.55	529.8 ± 8.11	1183.5 ± 20.32	n = 5	Beckman Coulter UniCel DxC 800
365.7 ± 9.06	200.2 ± 7.84	453.4 ± 11.48	535.7 ± 11.98	1205.2 ± 30.29	n = 13	Ortho Vitros 5,1FS
338.9 ± 14.14	192.7 ± 9.02	421.0 ± 17.36	520.6 ± 22.36	1122.1 ± 42.71	n = 12	Ortho Vitros 5600
350.1 ± 15.36	200.1 ± 10.83	429.9 ± 16.71	529.5 ± 14.90	1134.9 ± 23.96	n = 19	Roche cobas c501
367.7 ± 13.85	208.2 ± 9.46	462.9 ± 13.96	566.3 ± 18.61	1206.4 ± 56.94	n = 13	Roche MODULAR D/P
367.7 ± 6.94	208.2 ± 8.05	445.8 ± 16.44	556.5 ± 12.53	1136.0 ± 29.06	n = 3	Siemens ADVIA 1800
382.3 ± 1.58	220.9 ± 15.29	469.2 ± 20.47	576.9 ± 15.76	1215.9 ± 26.73	n = 4	Siemens ADVIA 2400
367.9 ± 10.87	208.7 ± 9.74	452.1 ± 11.04	564.1 ± 17.78	1198.2 ± 59.38	n = 4	Siemens Dimension EXL
352.5 ± 9.57	197.4 ± 5.77	431.1 ± 12.50	525.8 ± 19.25	1147.9 ± 30.97	n = 30	Siemens Dimension RxL
						Siemens Dimension Vista
343.4 ± 9.87	195.3 ± 6.16	423.6 ± 10.57	522.4 ± 11.55	1162.1 ± 33.85	n = 9	<u>Reagents</u>
354.1 ± 12.28	203.5 ± 4.84	436.9 ± 6.49	542.2 ± 12.79	1177.1 ± 28.96	n = 15	Abbott
356.6 ± 9.11	200.9 ± 4.34	434.5 ± 11.22	531.8 ± 14.68	1135.1 ± 31.59	n = 24	Beckman Coulter
362.5 ± 11.04	198.5 ± 8.23	450.3 ± 14.28	533.6 ± 11.26	1196.7 ± 32.23	n = 19	Beckman Coulter AU Series
339.6 ± 13.70	192.7 ± 8.59	421.6 ± 16.58	522.2 ± 21.72	1116.1 ± 51.22	n = 13	Ortho Clinical Diagnostics
350.1 ± 15.36	200.1 ± 10.83	429.9 ± 16.71	529.5 ± 14.90	1134.9 ± 23.96	n = 19	Roche cobas c501/c311/c502/c701
367.3 ± 11.87	208.0 ± 9.38	458.0 ± 15.74	560.9 ± 18.91	1185.2 ± 56.80	n = 16	Roche Hitachi and Modular D/P
356.7 ± 13.69	198.8 ± 8.62	435.2 ± 16.86	534.8 ± 27.29	1157.6 ± 41.45	n = 37	Siemens ADVIA/ADVISIA Centaur
						Siemens Dimension