NEW YORK
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HEALTH

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Commissioner

Sue Kelly
Executive Deputy Commissioner

To: Laboratory Directors and Laboratory Staff

From: Robert Rej, Ph.D.

Date: June 28, 2013

Subject: Results of the June 3, 2013 Hematology Proficiency Test

Enclosed are results from the hematology proficiency testing survey shipped June 3, 2013. Five samples were distributed for each test category:

Routine Blood Counts   (B76, B77, B78, B79, B80)

Routine Coagulation   (C76, C77, C78, C79, C80 - APTT, PT/INR and Fibrinogen assays)

Cell Identification   (376, 377, 378, 379, 380)

Evaluation of Proficiency Test Results:

Outlined below is a description of the process used to evaluate your laboratory's proficiency test results. A summary of your laboratory's performance for the three most recent surveys is also included with this report.

Target Value: When possible, targets utilized are derived from all-participant mean values calculated by a robust statistical technique. In some cases, however, it is recognized that reagent, and/or instrument specific targets may be required and "peer group" specific targets are used where appropriate. An asterisk placed adjacent to the manufacturer name or instrument name indicates that a peer group was used in establishing targets and acceptable ranges.

Not Gradable: Results for graded analytes for a few laboratories using unique instrument, reagent, or instrument/reagent combinations were considered "not gradable". For these laboratories pass credit (100%) has been issued. Since the laboratory is unable to participate in the NYS hematology proficiency test event as a graded participant, it is the responsibility of the laboratory to establish alternate means to verify the accuracy and precision of the test system for any ungraded analyte(s).

Acceptable Range: Represents limits established using criteria specified by CLIA '88 regulations, allowing for rounding to appropriate significant digits. Results falling within this range are scored as 100%. Any result exceeding these limits is considered unsatisfactory and receives a score of 0%.

Range Plots: The range plots graphically represent the relative distance of all results reported by your laboratory from the target value. Any result exceeding the high or low limit by >20% of the acceptable range is indicated by an asterisk (*).

Analyte Score: Scores for both individual samples and overall analyte performance are provided. Laboratories must achieve an overall analyte score >80% in order to meet performance criteria for that analyte.

Statistical Summary: Also enclosed is a statistical summary of participant data for the survey specimens. Mean and standard deviation (1 SD) values shown on the attached sheets are calculated by a robust statistical technique that does not assume a Gaussian distribution. Please note that standard deviation values are not used to determine acceptable ranges; CLIA '88 regulations established percentage limits for cellular and coagulation analytes.

Cellular Hematology (CBC): Results for individual instruments, where the number of laboratories using those systems is three or greater, are provided.

Coagulation: Results for individual instrument and reagent systems as well as instrument/reagent combinations, where the number of laboratories using those systems is three or greater, are provided.

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.

So that this analysis can be as complete as possible, please review all future testings carefully and properly identify reagent and instrument systems used.

If you have any questions regarding these reports or wish to obtain an additional copy, please contact the Hematology Laboratory at (518) 474-9878. You may also contact us by
E-mail: heme@wadsworth.org

World Wide Web: Results from this proficiency test event and selected previous proficiency test events are available on the Hematology and Clinical Chemistry web page at:
http://www.wadsworth.org/chemheme

Summary of Participant Responses
Mean ± One Standard Deviation

White Cell Count   (x10^9/L)

Specimen: B76	Specimen: B77	Specimen: B78	Specimen: B79	Specimen: B80	Number	[Code] Instrument
20.63 ± 1.03	2.57 ± 0.17	9.54 ± 0.39	14.78 ± 0.59	3.26 ± 0.14	n = 410	[---] All Methods & Instruments
						<Instruments>
21.12 ± 0.31	2.62 ± 0.04	9.59 ± 0.19	15.00 ± 0.24	3.33 ± 0.16	n = 4	[ABJ] Abbott Cell Dyn 1800
20.98 ± 0.24	2.50 ± 0.09	9.66 ± 0.26	14.70 ± 0.09	3.27 ± 0.05	n = 3	[ABK] Abbott Cell Dyn 3200
20.91 ± 0.72	2.63 ± 0.18	9.50 ± 0.33	15.02 ± 0.20	3.37 ± 0.10	n = 10	[ABM] Abbott Cell Dyn 3700
21.20 ± 0.27	2.64 ± 0.12	9.61 ± 0.26	15.16 ± 0.46	3.25 ± 0.12	n = 11	[ABS] Abbott Cell Dyn Sapphire
21.02 ± 0.50	2.61 ± 0.14	9.62 ± 0.24	15.07 ± 0.44	3.37 ± 0.10	n = 20	[ABT] Abbott Cell Dyn Ruby
19.99 ± 0.52	2.60 ± 0.00	9.00 ± 0.09	13.84 ± 0.26	3.20 ± 0.09	n = 3	[ABU] Abbott Cell Dyn Emerald
20.33 ± 1.01	2.49 ± 0.08	9.13 ± 0.41	14.87 ± 0.61	3.01 ± 0.10	n = 17	[BTD] Siemens Advia 120
20.01 ± 0.81	2.46 ± 0.11	9.05 ± 0.30	14.69 ± 0.45	3.07 ± 0.13	n = 31	[BTE] Siemens Advia 2120
21.07 ± 0.30	2.53 ± 0.06	9.66 ± 0.19	14.84 ± 0.26	3.26 ± 0.08	n = 34	[CUL] Coulter UniCel DxH 800
21.26 ± 1.02	2.49 ± 0.13	9.47 ± 0.27	15.07 ± 0.53	3.09 ± 0.13	n = 5	[CUS] Coulter ACT 5 diff
21.24 ± 0.42	2.77 ± 0.11	9.75 ± 0.15	15.11 ± 0.21	3.44 ± 0.09	n = 16	[CUT] Coulter ACT series,not ACT5 diff
22.03 ± 0.49	2.82 ± 0.10	9.86 ± 0.32	15.11 ± 0.31	3.42 ± 0.06	n = 11	[CUW] Coulter HMX
20.12 ± 0.68	2.65 ± 0.11	9.69 ± 0.15	14.64 ± 0.26	3.29 ± 0.09	n = 52	[CUX] Coulter LH750,755
19.79 ± 0.68	2.66 ± 0.12	9.66 ± 0.19	14.51 ± 0.28	3.33 ± 0.09	n = 21	[CUY] Coulter LH 780
21.96 ± 0.68	2.79 ± 0.13	9.77 ± 0.26	15.12 ± 0.44	3.39 ± 0.12	n = 19	[CUZ] Coulter LH500
21.30 ± 0.32	2.51 ± 0.11	9.46 ± 0.15	14.97 ± 0.38	3.21 ± 0.14	n = 6	[ROB] ABX Pentra series
20.88 ± 0.34	2.55 ± 0.06	9.40 ± 0.11	14.72 ± 0.15	3.17 ± 0.09	n = 4	[ROC] ABX Micro
20.10 ± 0.27	2.53 ± 0.05	9.23 ± 0.14	14.67 ± 0.34	3.13 ± 0.14	n = 3	[SYB] Sysmex KX-21N
19.57 ± 1.01	2.39 ± 0.17	9.10 ± 0.39	14.09 ± 0.75	3.19 ± 0.12	n = 23	[SYO] Sysmex XE2100
19.75 ± 0.67	2.44 ± 0.11	9.20 ± 0.49	14.04 ± 0.66	3.30 ± 0.00	n = 5	[SYL] Sysmex XE 2100C
19.81 ± 0.74	2.36 ± 0.12	9.03 ± 0.12	13.87 ± 0.26	3.23 ± 0.11	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
19.04 ± 0.62	2.37 ± 0.05	8.95 ± 0.27	13.77 ± 0.23	3.13 ± 0.05	n = 3	[SYN] Sysmex XE 2100DC
19.64 ± 0.84	2.38 ± 0.11	9.15 ± 0.34	14.24 ± 0.54	3.22 ± 0.10	n = 29	[SYA] Sysmex XE 5000
20.62 ± 0.78	2.49 ± 0.09	9.58 ± 0.24	14.64 ± 0.54	3.19 ± 0.12	n = 21	[SYI] Sysmex XT-1800i,XT-2000i
20.56 ± 1.01	2.48 ± 0.11	9.57 ± 0.25	14.76 ± 0.54	3.22 ± 0.09	n = 16	[SYV] Sysmex XT 4000i
21.63 ± 0.49	2.66 ± 0.07	9.90 ± 0.22	15.64 ± 0.36	3.32 ± 0.09	n = 26	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Red Cell Count $(x10^{12}/L)$

Specimen: B76	Specimen: B77	Specimen: B78	Specimen: B79	Specimen: B80	Number	[Code] Instrument
6.497 ± 0.133	5.185 ± 0.089	4.505 ± 0.081	6.257 ± 0.126	2.079 ± 0.054	n = 410	[---] All Methods & Instruments
						<Instruments>
6.309 ± 0.153	5.108 ± 0.165	4.436 ± 0.153	6.058 ± 0.137	2.158 ± 0.049	n = 4	[ABJ] Abbott Cell Dyn 1800
6.829 ± 0.133	5.356 ± 0.010	4.612 ± 0.086	6.506 ± 0.169	2.157 ± 0.014	n = 3	[ABK] Abbott Cell Dyn 3200
6.666 ± 0.183	5.298 ± 0.116	4.609 ± 0.099	6.444 ± 0.095	2.133 ± 0.046	n = 9	[ABM] Abbott Cell Dyn 3700
6.806 ± 0.086	5.363 ± 0.079	4.623 ± 0.049	6.592 ± 0.126	2.129 ± 0.034	n = 11	[ABS] Abbott Cell Dyn Sapphire
6.803 ± 0.101	5.385 ± 0.107	4.581 ± 0.092	6.597 ± 0.123	2.104 ± 0.046	n = 20	[ABT] Abbott Cell Dyn Ruby
6.381 ± 0.098	5.020 ± 0.091	4.269 ± 0.029	5.970 ± 0.173	1.980 ± 0.009	n = 3	[ABU] Abbott Cell Dyn Emerald
6.507 ± 0.106	5.174 ± 0.078	4.521 ± 0.075	6.282 ± 0.100	2.142 ± 0.042	n = 17	[BTD] Siemens Advia 120
6.513 ± 0.144	5.186 ± 0.091	4.510 ± 0.103	6.297 ± 0.128	2.129 ± 0.045	n = 32	[BTE] Siemens Advia 2120
6.504 ± 0.085	5.120 ± 0.049	4.425 ± 0.050	6.245 ± 0.061	2.033 ± 0.021	n = 34	[CUL] Coulter UniCel DxH 800
6.459 ± 0.082	5.210 ± 0.024	4.513 ± 0.035	6.243 ± 0.088	2.078 ± 0.041	n = 5	[CUS] Coulter ACT 5 diff
6.467 ± 0.091	5.150 ± 0.077	4.417 ± 0.060	6.227 ± 0.063	2.032 ± 0.036	n = 16	[CUT] Coulter ACT series,not ACT5 diff
6.467 ± 0.080	5.225 ± 0.042	4.504 ± 0.061	6.237 ± 0.093	2.077 ± 0.043	n = 11	[CUW] Coulter HMX
6.414 ± 0.062	5.148 ± 0.057	4.472 ± 0.038	6.171 ± 0.056	2.045 ± 0.018	n = 52	[CUX] Coulter LH750,755
6.400 ± 0.059	5.134 ± 0.054	4.469 ± 0.038	6.159 ± 0.045	2.040 ± 0.017	n = 21	[CUY] Coulter LH 780
6.442 ± 0.101	5.184 ± 0.097	4.474 ± 0.066	6.206 ± 0.106	2.086 ± 0.032	n = 19	[CUZ] Coulter LH500
6.493 ± 0.120	5.150 ± 0.100	4.460 ± 0.047	6.211 ± 0.127	1.992 ± 0.069	n = 6	[ROB] ABX Pentra series
6.672 ± 0.044	5.180 ± 0.053	4.517 ± 0.075	6.363 ± 0.071	2.023 ± 0.025	n = 4	[ROC] ABX Micro
6.490 ± 0.046	5.137 ± 0.014	4.446 ± 0.010	6.220 ± 0.045	2.054 ± 0.010	n = 3	[SYB] Sysmex KX-21N
6.479 ± 0.081	5.196 ± 0.054	4.553 ± 0.049	6.235 ± 0.074	2.110 ± 0.020	n = 23	[SYO] Sysmex XE2100
6.486 ± 0.045	5.224 ± 0.023	4.583 ± 0.043	6.235 ± 0.053	2.125 ± 0.008	n = 5	[SYL] Sysmex XE 2100C
6.458 ± 0.097	5.180 ± 0.063	4.567 ± 0.031	6.199 ± 0.033	2.132 ± 0.023	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
6.415 ± 0.063	5.140 ± 0.009	4.546 ± 0.010	6.139 ± 0.037	2.110 ± 0.009	n = 3	[SYN] Sysmex XE 2100DC
6.444 ± 0.085	5.170 ± 0.046	4.554 ± 0.051	6.219 ± 0.069	2.110 ± 0.025	n = 29	[SYA] Sysmex XE 5000
6.559 ± 0.101	5.195 ± 0.059	4.530 ± 0.039	6.315 ± 0.093	2.084 ± 0.039	n = 21	[SYI] Sysmex XT-1800i,XT-2000i
6.588 ± 0.071	5.230 ± 0.072	4.556 ± 0.054	6.360 ± 0.060	2.100 ± 0.027	n = 16	[SYV] Sysmex XT 4000i
6.548 ± 0.051	5.206 ± 0.037	4.479 ± 0.037	6.319 ± 0.056	2.025 ± 0.026	n = 26	[SYP] Sysmex XS-1000i,XS-1000iAL

Hemoglobin   (g/dL)

Specimen: B76	Specimen: B77	Specimen: B78	Specimen: B79	Specimen: B80	Number	[Code] Instrument
19.50 ± 0.45	15.51 ± 0.26	13.52 ± 0.22	18.67 ± 0.40	6.20 ± 0.16	n = 420	[---] All Methods & Instruments
						\<Instruments\>
>19.00	18.92 ± 0.15	15.65 ± 0.19	>19.00	<10.50	n = 3	[HQB] HemoCue Donor Hb Checker
19.36 ± 0.49	15.66 ± 0.30	13.62 ± 0.38	18.61 ± 0.43	6.21 ± 0.13	n = 5	[HQC] HemoCue Hb201+/B-Hb
19.88 ± 0.37	15.65 ± 0.30	13.67 ± 0.24	19.08 ± 0.31	6.28 ± 0.13	n = 4	[ABJ] Abbott Cell Dyn 1800
20.60 ± 0.55	15.87 ± 0.41	14.05 ± 0.27	19.29 ± 0.20	6.43 ± 0.05	n = 3	[ABK] Abbott Cell Dyn 3200
20.01 ± 0.43	15.78 ± 0.14	13.71 ± 0.29	19.13 ± 0.31	6.49 ± 0.19	n = 10	[ABM] Abbott Cell Dyn 3700
19.87 ± 0.22	16.02 ± 0.17	13.98 ± 0.14	19.05 ± 0.27	6.51 ± 0.07	n = 11	[ABS] Abbott Cell Dyn Sapphire
20.40 ± 0.41	15.77 ± 0.23	13.78 ± 0.21	19.27 ± 0.23	6.29 ± 0.14	n = 20	[ABT] Abbott Cell Dyn Ruby
19.51 ± 0.29	15.48 ± 0.32	13.37 ± 0.14	18.72 ± 0.15	6.03 ± 0.05	n = 3	[ABU] Abbott Cell Dyn Emerald
19.84 ± 0.34	15.76 ± 0.35	13.73 ± 0.29	19.06 ± 0.39	6.46 ± 0.16	n = 17	[BTD] Siemens Advia 120
19.85 ± 0.39	15.57 ± 0.24	13.70 ± 0.26	18.94 ± 0.29	6.45 ± 0.13	n = 32	[BTE] Siemens Advia 2120
19.23 ± 0.26	15.30 ± 0.19	13.46 ± 0.19	18.50 ± 0.21	6.17 ± 0.10	n = 34	[CUL] Coulter UniCel DxH 800
19.19 ± 0.21	15.28 ± 0.08	13.25 ± 0.08	18.37 ± 0.20	6.06 ± 0.06	n = 5	[CUS] Coulter ACT 5 diff
19.50 ± 0.28	15.50 ± 0.22	13.42 ± 0.20	18.72 ± 0.25	6.16 ± 0.12	n = 16	[CUT] Coulter ACT series,not ACT5 diff
19.55 ± 0.27	15.57 ± 0.16	13.56 ± 0.19	18.63 ± 0.22	6.19 ± 0.12	n = 11	[CUW] Coulter HMX
18.95 ± 0.17	15.44 ± 0.12	13.42 ± 0.11	18.21 ± 0.13	6.19 ± 0.05	n = 52	[CUX] Coulter LH750,755
18.95 ± 0.18	15.47 ± 0.17	13.41 ± 0.10	18.25 ± 0.19	6.22 ± 0.08	n = 21	[CUY] Coulter LH 780
19.53 ± 0.19	15.47 ± 0.21	13.50 ± 0.21	18.64 ± 0.19	6.26 ± 0.09	n = 19	[CUZ] Coulter LH500
19.68 ± 0.32	15.56 ± 0.28	13.35 ± 0.34	18.77 ± 0.28	6.00 ± 0.19	n = 6	[ROB] ABX Pentra series
19.44 ± 0.19	15.41 ± 0.26	13.45 ± 0.22	18.50 ± 0.40	6.20 ± 0.08	n = 4	[ROC] ABX Micro
20.00 ± 0.09	15.63 ± 0.05	13.70 ± 0.09	19.16 ± 0.10	6.26 ± 0.10	n = 3	[SYB] Sysmex KX-21N
19.58 ± 0.24	15.42 ± 0.18	13.40 ± 0.13	18.60 ± 0.23	6.13 ± 0.07	n = 23	[SYO] Sysmex XE2100
19.61 ± 0.30	15.53 ± 0.11	13.59 ± 0.11	18.80 ± 0.28	6.20 ± 0.00	n = 6	[SYL] Sysmex XE 2100C
19.54 ± 0.18	15.50 ± 0.16	13.50 ± 0.19	18.69 ± 0.17	6.12 ± 0.07	n = 6	[SYQ] Sysmex XE 2100D(Blood Center Only)
19.40 ± 0.09	15.35 ± 0.19	13.37 ± 0.14	18.53 ± 0.14	6.10 ± 0.09	n = 3	[SYN] Sysmex XE 2100DC
19.44 ± 0.20	15.40 ± 0.21	13.45 ± 0.17	18.59 ± 0.22	6.11 ± 0.08	n = 29	[SYA] Sysmex XE 5000
19.44 ± 0.23	15.41 ± 0.20	13.52 ± 0.14	18.46 ± 0.23	6.08 ± 0.10	n = 21	[SYI] Sysmex XT-1800i,XT-2000i
19.37 ± 0.22	15.42 ± 0.21	13.50 ± 0.16	18.51 ± 0.24	6.09 ± 0.10	n = 16	[SYV] Sysmex XT 4000i
19.82 ± 0.18	15.74 ± 0.16	13.57 ± 0.13	19.02 ± 0.18	6.10 ± 0.09	n = 26	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Hematocrit   (%)

Specimen: B76	Specimen: B77	Specimen: B78	Specimen: B79	Specimen: B80	Number	[Code] Instrument
54.81 ± 2.62	44.04 ± 2.09	38.79 ± 1.75	52.52 ± 2.46	17.76 ± 0.87	n = 415	[---] All Methods & Instruments
						<Instruments>
51.28 ± 1.61	40.76 ± 0.80	35.76 ± 0.80	49.14 ± 1.27	16.00 ± 0.64	n = 5	[MHC] Microhematocrit
56.61 ± 1.24	45.55 ± 1.31	39.41 ± 1.18	53.79 ± 1.29	18.95 ± 0.63	n = 4	[ABJ] Abbott Cell Dyn 1800
51.51 ± 0.66	40.11 ± 0.20	35.08 ± 0.59	48.97 ± 1.13	16.13 ± 0.05	n = 3	[ABK] Abbott Cell Dyn 3200
59.92 ± 1.89	47.99 ± 1.18	41.93 ± 1.28	57.77 ± 1.14	19.29 ± 0.56	n = 10	[ABM] Abbott Cell Dyn 3700
54.13 ± 0.55	42.67 ± 0.54	37.15 ± 0.35	52.15 ± 0.97	16.84 ± 0.21	n = 11	[ABS] Abbott Cell Dyn Sapphire
51.19 ± 1.01	40.41 ± 0.87	34.87 ± 0.74	49.32 ± 1.08	15.69 ± 0.41	n = 20	[ABT] Abbott Cell Dyn Ruby
57.97 ± 1.60	45.25 ± 0.19	39.07 ± 0.69	53.86 ± 2.28	18.07 ± 0.14	n = 3	[ABU] Abbott Cell Dyn Emerald
51.26 ± 0.98	40.29 ± 0.87	35.58 ± 0.81	49.03 ± 0.92	16.34 ± 0.33	n = 17	[BTD] Siemens Advia 120
51.28 ± 1.36	40.40 ± 1.01	35.44 ± 0.94	49.08 ± 1.27	16.27 ± 0.41	n = 32	[BTE] Siemens Advia 2120
58.01 ± 0.58	45.78 ± 0.42	39.94 ± 0.48	55.34 ± 0.61	18.40 ± 0.25	n = 34	[CUL] Coulter UniCel DxH 800
53.34 ± 1.74	42.14 ± 1.14	36.27 ± 1.12	50.69 ± 1.61	16.61 ± 0.63	n = 5	[CUS] Coulter ACT 5 diff
56.40 ± 1.16	44.93 ± 0.90	38.80 ± 0.70	53.98 ± 0.57	17.77 ± 0.34	n = 16	[CUT] Coulter ACT series,not ACT5 diff
56.61 ± 0.64	45.66 ± 0.23	39.59 ± 0.56	54.13 ± 0.97	18.11 ± 0.41	n = 11	[CUW] Coulter HMX
56.79 ± 0.77	45.46 ± 0.63	39.78 ± 0.40	54.33 ± 0.74	17.98 ± 0.19	n = 51	[CUX] Coulter LH750,755
56.51 ± 0.71	45.19 ± 0.56	39.54 ± 0.42	53.99 ± 0.59	17.84 ± 0.24	n = 22	[CUY] Coulter LH 780
56.40 ± 0.97	45.34 ± 0.86	39.39 ± 0.56	54.06 ± 0.87	18.17 ± 0.36	n = 19	[CUZ] Coulter LH500
54.21 ± 0.97	42.67 ± 0.98	36.94 ± 0.93	51.15 ± 1.17	16.81 ± 0.24	n = 6	[ROB] ABX Pentra series
57.93 ± 0.25	44.84 ± 0.52	39.37 ± 0.70	54.94 ± 0.68	17.34 ± 0.29	n = 4	[ROC] ABX Micro
52.06 ± 0.39	41.43 ± 0.59	36.38 ± 0.24	49.45 ± 0.19	16.67 ± 0.23	n = 3	[SYB] Sysmex KX-21N
54.36 ± 0.79	44.09 ± 0.55	39.39 ± 0.45	52.09 ± 0.70	18.07 ± 0.25	n = 23	[SYO] Sysmex XE2100
51.88 ± 1.12	42.66 ± 1.05	37.54 ± 0.67	49.38 ± 1.00	17.23 ± 0.08	n = 5	[SYL] Sysmex XE 2100C
54.37 ± 0.56	44.17 ± 0.56	39.60 ± 0.34	52.10 ± 0.66	18.26 ± 0.17	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
51.28 ± 1.49	41.78 ± 1.13	37.10 ± 1.26	48.70 ± 1.44	17.28 ± 0.59	n = 3	[SYN] Sysmex XE 2100DC
54.07 ± 0.80	43.83 ± 0.64	39.34 ± 0.53	51.90 ± 0.73	18.00 ± 0.32	n = 29	[SYA] Sysmex XE 5000
53.33 ± 0.80	43.45 ± 0.56	39.02 ± 0.50	51.32 ± 0.82	18.21 ± 0.36	n = 21	[SYI] Sysmex XT-1800i,XT-2000i
53.73 ± 0.55	43.75 ± 0.51	39.09 ± 0.54	51.75 ± 0.55	18.31 ± 0.23	n = 16	[SYV] Sysmex XT 4000i
53.55 ± 0.67	43.60 ± 0.39	38.61 ± 0.62	51.72 ± 0.84	17.72 ± 0.33	n = 26	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Platelet Count   (x10^9/L)

Specimen: B76	Specimen: B77	Specimen: B78	Specimen: B79	Specimen: B80	Number	[Code] Instrument
391.7 ± 36.09	86.6 ± 9.35	221.1 ± 16.69	130.6 ± 13.28	50.8 ± 4.77	n = 411	[---] All Methods & Instruments
						<Instruments>
469.3 ± 19.25	96.2 ± 3.72	239.7 ± 5.65	157.0 ± 3.36	51.5 ± 1.22	n = 4	[ABJ] Abbott Cell Dyn 1800
456.9 ± 18.79	115.0 ± 12.80	246.2 ± 13.99	165.9 ± 17.22	59.5 ± 5.40	n = 3	[ABK] Abbott Cell Dyn 3200
441.7 ± 17.83	100.0 ± 5.51	255.5 ± 7.43	151.0 ± 8.97	59.2 ± 1.99	n = 10	[ABM] Abbott Cell Dyn 3700
402.8 ± 20.32	99.7 ± 6.05	225.2 ± 9.43	141.7 ± 8.76	55.6 ± 2.58	n = 11	[ABS] Abbott Cell Dyn Sapphire
464.8 ± 23.06	116.9 ± 9.19	246.0 ± 15.68	164.0 ± 11.27	59.7 ± 4.39	n = 20	[ABT] Abbott Cell Dyn Ruby
402.5 ± 16.33	91.1 ± 6.08	226.9 ± 8.46	139.0 ± 9.06	45.0 ± 7.27	n = 3	[ABU] Abbott Cell Dyn Emerald
426.0 ± 13.87	94.3 ± 5.72	237.5 ± 9.38	142.7 ± 7.59	55.0 ± 3.54	n = 17	[BTD] Siemens Advia 120
423.1 ± 24.99	92.2 ± 8.17	231.2 ± 17.16	139.2 ± 9.61	54.6 ± 3.11	n = 31	[BTE] Siemens Advia 2120
374.3 ± 9.96	83.2 ± 3.59	213.1 ± 6.73	125.5 ± 4.10	48.9 ± 2.01	n = 34	[CUL] Coulter UniCel DxH 800
406.6 ± 15.95	96.5 ± 4.92	242.6 ± 10.01	139.1 ± 5.92	56.1 ± 4.62	n = 5	[CUS] Coulter ACT 5 diff
385.8 ± 14.51	84.1 ± 5.68	214.9 ± 12.03	126.3 ± 7.39	48.1 ± 3.28	n = 17	[CUT] Coulter ACT series,not ACT5 diff
355.7 ± 12.12	81.5 ± 3.71	202.0 ± 8.89	124.0 ± 5.12	46.9 ± 1.32	n = 11	[CUW] Coulter HMX
376.8 ± 11.08	86.1 ± 2.86	214.4 ± 5.59	128.9 ± 4.34	49.9 ± 1.51	n = 52	[CUX] Coulter LH750,755
379.1 ± 10.86	87.0 ± 2.88	215.4 ± 5.62	129.8 ± 3.71	51.1 ± 1.47	n = 21	[CUY] Coulter LH 780
368.5 ± 25.56	82.1 ± 5.75	208.6 ± 12.68	124.0 ± 8.13	48.1 ± 3.54	n = 19	[CUZ] Coulter LH500
398.3 ± 9.51	94.9 ± 4.26	231.2 ± 3.51	136.3 ± 3.12	52.7 ± 5.43	n = 6	[ROB] ABX Pentra series
394.5 ± 25.30	92.7 ± 11.29	235.6 ± 8.29	134.5 ± 6.16	57.8 ± 5.70	n = 5	[ROC] ABX Micro
443.5 ± 17.44	86.3 ± 2.26	233.8 ± 10.29	136.7 ± 4.22	44.9 ± 2.86	n = 3	[SYB] Sysmex KX-21N
351.0 ± 19.68	74.4 ± 4.46	206.6 ± 8.96	112.6 ± 5.50	46.3 ± 2.07	n = 22	[SYO] Sysmex XE2100
366.0 ± 17.11	79.3 ± 6.79	211.1 ± 9.10	112.6 ± 6.85	47.8 ± 1.45	n = 6	[SYL] Sysmex XE 2100C
406.3 ± 8.03	90.6 ± 4.47	243.7 ± 4.29	136.8 ± 5.27	54.8 ± 1.80	n = 7	[SYQ] Sysmex XE 2100D(Blood Center Only)
359.5 ± 13.65	77.0 ± 2.70	215.5 ± 7.22	116.0 ± 1.80	48.7 ± 0.51	n = 3	[SYN] Sysmex XE 2100DC
344.1 ± 17.82	73.5 ± 3.90	203.6 ± 5.89	110.2 ± 5.86	45.4 ± 2.09	n = 29	[SYA] Sysmex XE 5000
415.8 ± 10.10	89.2 ± 3.15	232.4 ± 5.27	135.5 ± 4.23	52.4 ± 2.04	n = 21	[SYI] Sysmex XT-1800i,XT-2000i
418.0 ± 11.54	89.6 ± 6.12	230.0 ± 7.76	137.5 ± 4.55	53.2 ± 2.26	n = 16	[SYV] Sysmex XT 4000i
391.8 ± 12.07	82.8 ± 3.34	221.7 ± 5.85	125.1 ± 6.02	48.3 ± 2.03	n = 26	[SYP] Sysmex XS-1000i,XS-1000iAL

Summary of Participant Responses
Mean ± One Standard Deviation

Prothrombin Time   (seconds)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent
10.70 ± 0.70	51.25 ± 8.30	11.10 ± 0.53	11.03 ± 0.47	29.43 ± 3.34	n = 316	[---] All Methods & Instruments
						<Instruments>
10.03 ± 0.18	46.24 ± 2.47	11.01 ± 0.22	10.98 ± 0.21	27.80 ± 1.04	n = 19	[BEB] Siemens BCS,BCSXP
12.51 ± 0.33	57.52 ± 3.10	12.78 ± 0.35	12.77 ± 0.36	31.48 ± 1.20	n = 29	[DGC] Diagnostica Stago STA Compact
12.79 ± 0.33	57.15 ± 2.32	12.97 ± 0.32	12.97 ± 0.32	31.46 ± 1.08	n = 16	[DGD] Diagnostica Stago STA-R, STA-R Ev
10.92 ± 0.50	30.93 ± 1.52	11.54 ± 0.39	11.47 ± 0.40	21.29 ± 0.70	n = 15	[ILA] IL ACL(All models except 810,ELIT
11.22 ± 0.44	55.34 ± 12.54	11.27 ± 0.43	11.19 ± 0.35	31.80 ± 5.75	n = 23	[ILC] IL ACL Futura/Advance
10.76 ± 0.29	50.47 ± 10.19	11.15 ± 0.47	11.14 ± 0.47	29.13 ± 4.28	n = 34	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
10.78 ± 0.28	57.01 ± 3.67	10.96 ± 0.32	10.89 ± 0.26	31.59 ± 1.71	n = 68	[ILE] IL ACL TOP Series(ACLTOP,ACLTOP C
10.14 ± 0.26	46.99 ± 2.67	10.78 ± 0.28	10.67 ± 0.28	27.78 ± 1.12	n = 36	[SYW] Sysmex CA500/CA600 series
10.33 ± 0.23	46.83 ± 2.25	10.94 ± 0.24	10.96 ± 0.24	27.90 ± 1.06	n = 53	[SYX] Sysmex CA 1500
10.54 ± 0.25	46.39 ± 1.54	11.11 ± 0.22	11.15 ± 0.23	27.67 ± 0.77	n = 17	[SYY] Sysmex CA 7000
						<Reagents>
12.61 ± 0.35	57.55 ± 2.68	12.83 ± 0.35	12.84 ± 0.34	31.53 ± 1.13	n = 44	[TA3] STA Neoplastine CL+
10.25 ± 0.29	46.76 ± 2.32	10.93 ± 0.27	10.91 ± 0.30	27.83 ± 1.05	n = 126	[TD2] Siemens Innovin
10.82 ± 0.33	31.85 ± 2.19	11.44 ± 0.44	11.46 ± 0.46	21.49 ± 0.84	n = 30	[TJ2] HemosIL PT-Fibrinogen
10.84 ± 0.36	56.91 ± 3.97	11.04 ± 0.38	10.96 ± 0.32	31.74 ± 1.87	n = 109	[TJ8] HemosIL RecombiPlasTin 2G
						<Reagent & Instrument>
12.51 ± 0.33	57.52 ± 3.10	12.78 ± 0.35	12.77 ± 0.36	31.48 ± 1.20	n = 29	[TA3]&[DGC] STA Neoplastin & Diagnostic
12.79 ± 0.33	57.56 ± 1.95	12.97 ± 0.31	12.97 ± 0.30	31.64 ± 1.02	n = 14	[TA3]&[DGD] STA Neoplastin & Diagnostic
10.03 ± 0.18	46.24 ± 2.47	11.01 ± 0.22	10.98 ± 0.21	27.80 ± 1.04	n = 19	[TD2]&[BEB] Siemens Innovi & Siemens BC
10.14 ± 0.26	46.99 ± 2.67	10.78 ± 0.28	10.67 ± 0.28	27.78 ± 1.12	n = 36	[TD2]&[SYW] Siemens Innovi & Sysmex CA5
10.33 ± 0.23	46.83 ± 2.25	10.94 ± 0.24	10.96 ± 0.24	27.90 ± 1.06	n = 53	[TD2]&[SYX] Siemens Innovi & Sysmex CA1
10.54 ± 0.25	46.39 ± 1.54	11.11 ± 0.22	11.15 ± 0.23	27.67 ± 0.77	n = 17	[TD2]&[SYY] Siemens Innovi & Sysmex CA7
10.92 ± 0.50	30.93 ± 1.52	11.54 ± 0.39	11.47 ± 0.40	21.29 ± 0.70	n = 15	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All
10.74 ± 0.30	33.39 ± 2.64	10.86 ± 0.33	10.85 ± 0.41	21.42 ± 1.02	n = 6	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Fut
10.83 ± 0.19	32.81 ± 2.00	11.61 ± 0.24	11.72 ± 0.25	21.90 ± 0.79	n = 9	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELI
11.36 ± 0.35	60.92 ± 3.02	11.44 ± 0.37	11.27 ± 0.29	33.92 ± 1.33	n = 16	[TJ8]&[ILC] HemosIL Recomb & IL ACL Fut
10.72 ± 0.33	54.50 ± 2.71	10.99 ± 0.40	10.95 ± 0.34	30.90 ± 1.40	n = 25	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELI
10.78 ± 0.28	57.03 ± 3.71	10.97 ± 0.32	10.89 ± 0.26	31.59 ± 1.73	n = 67	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP

Summary of Participant Responses
Mean ± One Standard Deviation

Act Partial Thromboplastin Time   (seconds)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent
29.48 ± 2.05	81.93 ± 10.29	28.65 ± 2.36	28.57 ± 2.34	57.07 ± 5.92	n = 311	[---] All Methods & Instruments
						<Instruments>
25.84 ± 0.39	73.12 ± 2.84	26.04 ± 0.42	26.01 ± 0.60	51.01 ± 1.86	n = 20	[BEB] Siemens BCS,BCSXP
32.25 ± 1.22	78.74 ± 2.43	29.80 ± 1.01	29.71 ± 1.30	56.11 ± 2.38	n = 27	[DGC] Diagnostica Stago STA Compact
31.18 ± 0.69	74.15 ± 1.76	28.92 ± 0.55	29.00 ± 0.58	53.04 ± 2.32	n = 15	[DGD] Diagnostica Stago STA-R, STA-R Ev
27.34 ± 1.41	75.42 ± 12.50	26.97 ± 1.52	26.87 ± 1.55	52.48 ± 7.58	n = 15	[ILA] IL ACL(All models except 810,ELIT
29.77 ± 0.55	97.35 ± 2.53	31.02 ± 0.87	30.47 ± 0.56	64.33 ± 1.13	n = 22	[ILC] IL ACL Futura/Advance
27.23 ± 1.13	88.96 ± 11.83	28.25 ± 1.43	28.38 ± 1.51	60.31 ± 6.82	n = 33	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
30.93 ± 0.95	91.74 ± 2.50	31.38 ± 0.88	31.29 ± 0.87	62.30 ± 1.44	n = 69	[ILE] IL ACL TOP Series(ACLTOP,ACLTOPC
28.25 ± 0.73	74.89 ± 2.37	26.39 ± 0.59	26.34 ± 0.49	52.01 ± 1.00	n = 35	[SYW] Sysmex CA500/CA600 series
29.19 ± 0.70	77.30 ± 2.55	27.42 ± 0.63	27.40 ± 0.61	54.85 ± 1.68	n = 54	[SYX] Sysmex CA 1500
29.76 ± 0.56	75.62 ± 2.00	27.57 ± 0.69	27.62 ± 0.70	53.58 ± 0.95	n = 15	[SYY] Sysmex CA 7000
						<Reagents>
31.90 ± 1.24	77.17 ± 3.26	29.49 ± 0.96	29.47 ± 1.14	55.24 ± 2.84	n = 37	[AA2] Diagnostica Stago STA PTT-Auto
31.77 ± 0.72	79.00 ± 3.27	29.62 ± 0.90	29.34 ± 0.43	55.80 ± 2.64	n = 6	[AA3] Diagnostica Stago PTT-LA
30.99 ± 1.57	114.23 ± 11.39	27.72 ± 0.50	27.50 ± 0.46	74.98 ± 5.37	n = 3	[AD2] Siemens Actin
28.16 ± 1.31	124.12 ± 7.18	26.98 ± 1.21	27.06 ± 1.13	93.53 ± 1.50	n = 4	[AD3] Siemens Actin FS
28.68 ± 1.34	75.84 ± 2.92	26.91 ± 0.87	26.88 ± 0.89	53.37 ± 2.23	n = 116	[AD4] Siemens Actin FSL
27.79 ± 1.63	72.12 ± 3.09	26.48 ± 0.95	26.42 ± 1.15	50.29 ± 1.98	n = 27	[AJ3] HemosIL Test APTT-SP
27.11 ± 4.09	76.12 ± 6.73	26.31 ± 3.58	26.13 ± 3.14	54.40 ± 4.45	n = 4	[AK3] Trin Bio TriniCLOT aPTTS (Plateli
30.08 ± 1.77	93.08 ± 3.83	30.90 ± 1.33	30.77 ± 1.23	63.01 ± 1.82	n = 111	[AO4] HemosIL SynthASil
						<Reagent & Instrument>
32.37 ± 1.30	78.92 ± 2.47	29.86 ± 1.06	29.84 ± 1.48	56.42 ± 2.48	n = 22	[AA2]&[DGC] Diagnostica St & Diagnostic
31.21 ± 0.73	74.15 ± 1.76	28.92 ± 0.55	29.00 ± 0.55	52.97 ± 2.18	n = 13	[AA2]&[DGD] Diagnostica St & Diagnostic
31.77 ± 0.71	77.74 ± 1.70	29.60 ± 0.84	29.34 ± 0.43	54.35 ± 0.39	n = 5	[AA3]&[DGC] Diagnostica St & Diagnostic
28.65 ± 0.36	126.51 ± 8.19	27.47 ± 0.95	27.49 ± 0.80	94.10 ± 1.27	n = 3	[AD3]&[SYX] Siemens Actin & Sysmex CA
25.84 ± 0.39	73.01 ± 2.62	26.01 ± 0.37	25.97 ± 0.53	50.96 ± 1.67	n = 17	[AD4]&[BEB] Siemens Actin & Siemens BC
28.24 ± 0.71	74.89 ± 2.36	26.36 ± 0.55	26.32 ± 0.46	52.01 ± 1.00	n = 34	[AD4]&[SYW] Siemens Actin & Sysmex CA5
29.22 ± 0.68	77.30 ± 2.55	27.40 ± 0.61	27.38 ± 0.59	54.85 ± 1.67	n = 50	[AD4]&[SYX] Siemens Actin & Sysmex CA1
29.76 ± 0.56	75.62 ± 2.00	27.57 ± 0.69	27.62 ± 0.70	53.58 ± 0.95	n = 15	[AD4]&[SYY] Siemens Actin & Sysmex CA7
27.44 ± 1.53	70.13 ± 2.19	26.41 ± 0.90	26.25 ± 0.97	49.24 ± 1.34	n = 11	[AJ3]&[ILA] HemosIL Test A & IL ACL(All
28.31 ± 2.08	71.48 ± 2.21	25.27 ± 0.41	25.15 ± 0.90	50.34 ± 1.75	n = 3	[AJ3]&[ILC] HemosIL Test A & IL ACL Fut
27.65 ± 1.17	74.26 ± 2.70	26.76 ± 0.73	26.78 ± 1.04	51.22 ± 1.97	n = 11	[AJ3]&[ILD] HemosIL Test A & IL ACL(ELI
27.08 ± 1.06	97.88 ± 1.04	29.11 ± 0.90	28.97 ± 0.72	66.07 ± 0.39	n = 4	[AO4]&[ILA] HemosIL SynthA & IL ACL(All
29.88 ± 0.60	97.15 ± 2.68	31.08 ± 0.91	30.50 ± 0.65	64.40 ± 1.13	n = 17	[AO4]&[ILC] HemosIL SynthA & IL ACL Fut
27.03 ± 1.08	95.31 ± 5.11	28.89 ± 1.00	29.11 ± 0.95	63.75 ± 2.07	n = 22	[AO4]&[ILD] HemosIL SynthA & IL ACL(ELI
30.93 ± 0.91	91.68 ± 2.43	31.36 ± 0.86	31.28 ± 0.84	62.26 ± 1.40	n = 67	[AO4]&[ILE] HemosIL SynthA & IL ACL TOP

Summary of Participant Responses
Mean ± One Standard Deviation

Fibrinogen   (mg/dL)

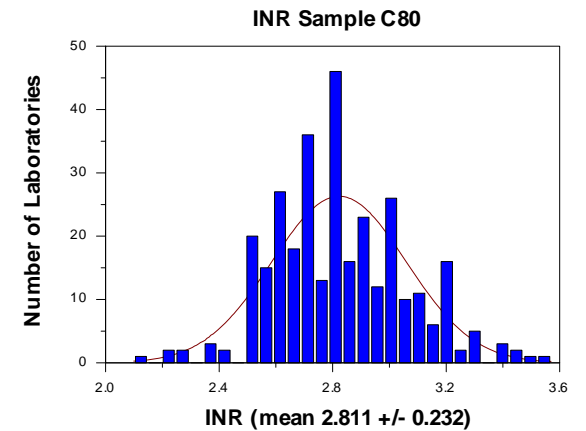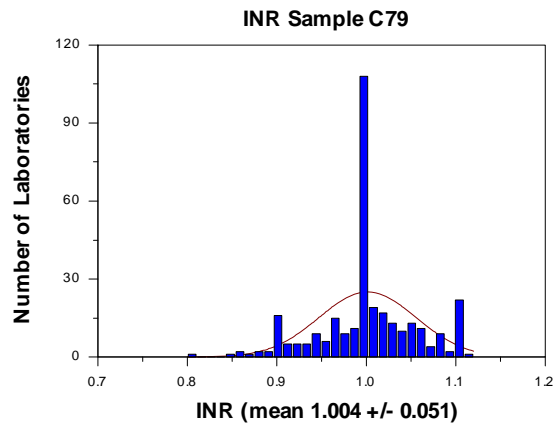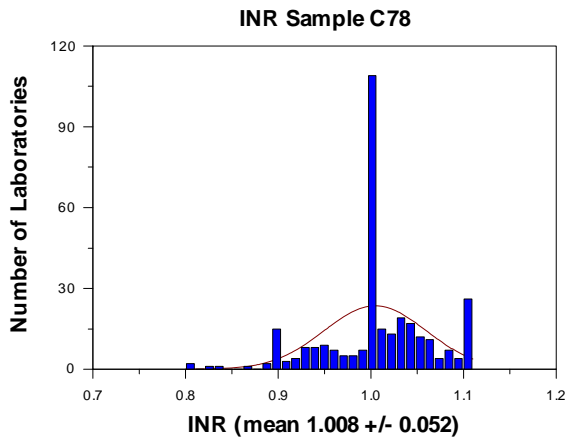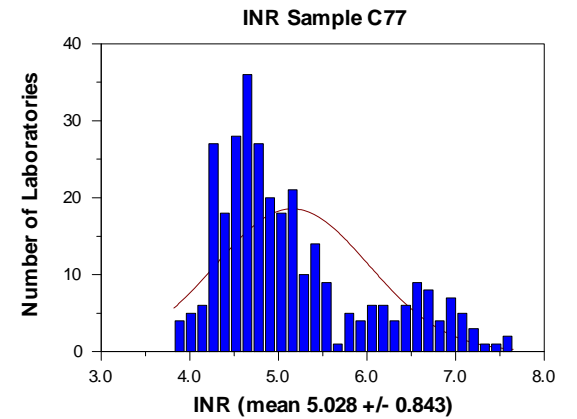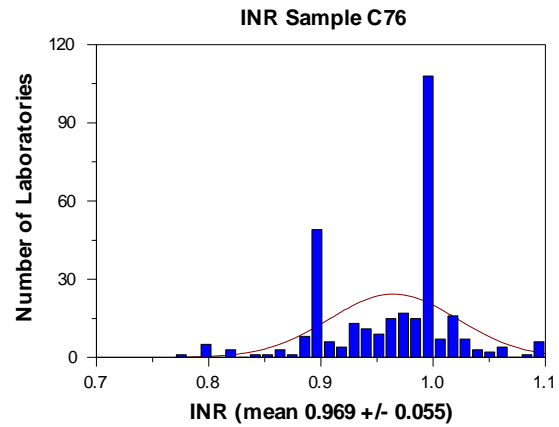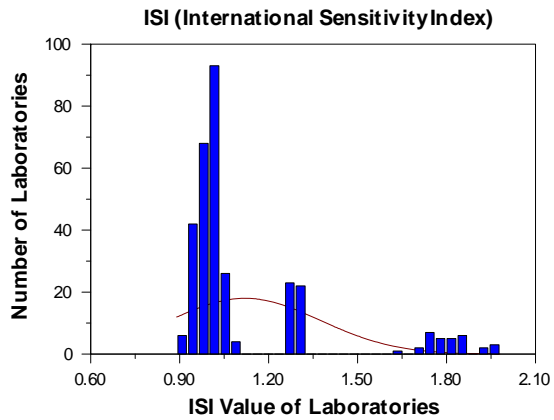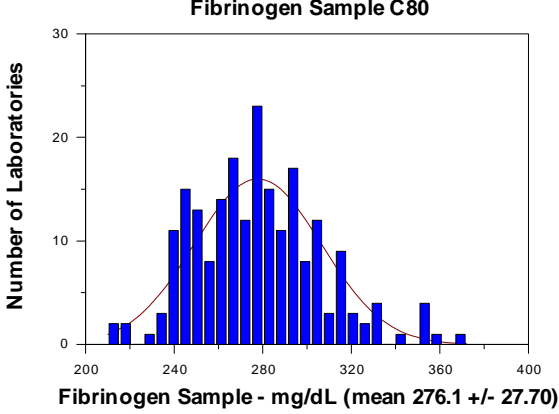| Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent
565.0 ± 80.05	284.4 ± 35.92	310.2 ± 32.84	309.9 ± 30.35	276.1 ± 27.70	n = 213	[---] All Methods & Instruments
						\<Instruments\>
645.8 ± 72.46	334.0 ± 23.25	353.3 ± 16.05	352.2 ± 21.37	304.1 ± 17.68	n = 20	[BEB] Siemens BCS,BCSXP
611.2 ± 26.54	286.2 ± 15.91	326.2 ± 16.02	323.5 ± 15.70	285.8 ± 13.80	n = 26	[DGC] Diagnostica Stago STA Compact
598.2 ± 22.01	278.3 ± 10.41	310.5 ± 12.88	310.2 ± 10.41	278.3 ± 7.13	n = 14	[DGD] Diagnostica Stago STA-R, STA-R Ev
600.3 ± 22.80	351.0 ± 26.42	343.8 ± 2.80	335.3 ± 9.56	346.4 ± 22.25	n = 4	[ILA] IL ACL(All models except 810,ELIT
471.1 ± 55.14	363.5 ± 35.76	269.6 ± 40.76	270.2 ± 41.68	308.8 ± 20.30	n = 18	[ILC] IL ACL Futura/Advance
697.3 ± 61.61	325.6 ± 50.91	341.5 ± 26.95	339.6 ± 17.67	296.6 ± 34.09	n = 9	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
586.6 ± 67.01	280.5 ± 28.84	314.7 ± 28.75	314.7 ± 25.13	270.5 ± 23.83	n = 61	[ILE] IL ACL TOP Series(ACLTOP,ACLTOP C
497.7 ± 44.10	257.7 ± 9.91	268.9 ± 23.75	288.8 ± 8.89	250.3 ± 4.63	n = 5	[SYW] Sysmex CA500/CA600 series
509.2 ± 31.92	260.4 ± 13.52	290.4 ± 15.18	289.4 ± 16.37	253.1 ± 15.37	n = 40	[SYX] Sysmex CA 1500
473.6 ± 21.38	262.6 ± 11.82	290.0 ± 11.84	290.4 ± 10.32	257.0 ± 12.54	n = 13	[SYY] Sysmex CA 7000
						\<Reagents\>
586.2 ± 52.18	371.5 ± 27.67	339.7 ± 23.59	330.0 ± 19.86	340.6 ± 20.21	n = 10	[TJ2] HemosIL PT-Fibrinogen
523.3 ± 60.68	321.8 ± 37.44	310.8 ± 47.05	312.1 ± 46.07	292.8 ± 18.96	n = 37	[TJ8] HemosIL RecombiPlasTin 2G
606.1 ± 25.61	282.7 ± 14.07	320.2 ± 16.95	318.2 ± 15.29	282.8 ± 12.01	n = 40	[FA4] Stago STA-Fibrinogen 5
657.6 ± 57.66	339.1 ± 17.11	355.3 ± 15.09	358.9 ± 15.22	308.0 ± 15.00	n = 17	[FB2] Siemens Multifibren U
502.4 ± 40.30	260.7 ± 13.95	289.4 ± 16.36	290.2 ± 15.58	255.1 ± 15.92	n = 58	[FD2] Siemens Fibrinogen Determination
620.4 ± 99.31	277.2 ± 25.07	316.3 ± 27.83	319.1 ± 25.87	273.8 ± 24.81	n = 23	[FJ2] HemosIL Fibrinogen C,XL
530.9 ± 21.65	278.1 ± 2.86	301.6 ± 18.87	313.4 ± 9.68	284.7 ± 4.06	n = 3	[FM1] Kamiya K-Assay Fibrinogen
630.8 ± 63.44	261.7 ± 18.20	296.1 ± 25.34	295.9 ± 16.16	254.9 ± 18.54	n = 22	[FO3] HemosIL QFA(bovine)
503.2 ± 11.32	274.7 ± 4.22	304.4 ± 15.66	300.8 ± 13.15	259.2 ± 10.38	n = 3	[OOO] Other Reagent
						\<Reagent & Instrument\>
600.3 ± 22.80	351.0 ± 26.42	343.8 ± 2.80	335.3 ± 9.56	346.4 ± 22.25	n = 4	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All
543.9 ± 24.12	377.0 ± 14.48	308.5 ± 18.03	307.4 ± 16.53	342.8 ± 17.74	n = 3	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Fut
571.7 ±122.11	393.3 ± 27.95	360.5 ± 18.93	344.7 ± 16.68	332.1 ± 16.45	n = 3	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELI
437.1 ± 10.38	367.2 ± 19.67	244.6 ± 4.49	247.9 ± 16.53	304.2 ± 9.65	n = 12	[TJ8]&[ILC] HemosIL Recomb & IL ACL Fut
550.1 ± 27.94	302.9 ± 17.58	333.4 ± 18.55	333.7 ± 16.01	285.4 ± 16.63	n = 25	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP
611.2 ± 26.54	286.2 ± 15.91	326.2 ± 16.02	323.5 ± 15.70	285.8 ± 13.80	n = 26	[FA4]&[DGC] Stago STA-Fibr & Diagnostic
598.2 ± 22.01	278.3 ± 10.41	310.5 ± 12.88	310.2 ± 10.41	278.3 ± 7.13	n = 14	[FA4]&[DGD] Stago STA-Fibr & Diagnostic
657.6 ± 57.66	339.1 ± 17.11	355.3 ± 15.09	358.9 ± 15.22	308.0 ± 15.00	n = 17	[FB2]&[BEB] Siemens Multif & Siemens BC
533.1 ± 68.70	296.0 ± 9.22	341.1 ± 18.04	323.7 ± 6.73	282.7 ± 9.53	n = 3	[FD2]&[BEB] Siemens Fibrin & Siemens BC
497.7 ± 44.10	257.7 ± 9.91	268.9 ± 23.75	288.8 ± 8.89	250.3 ± 4.63	n = 5	[FD2]&[SYW] Siemens Fibrin & Sysmex CA5
509.9 ± 33.73	259.0 ± 13.15	289.5 ± 14.51	288.5 ± 16.33	252.4 ± 15.68	n = 37	[FD2]&[SYX] Siemens Fibrin & Sysmex CA
473.6 ± 21.38	262.6 ± 11.82	290.0 ± 11.84	290.4 ± 10.32	257.0 ± 12.54	n = 13	[FD2]&[SYY] Siemens Fibrin & Sysmex CA
730.6 ± 49.09	300.9 ± 18.69	330.4 ± 27.88	338.4 ± 20.35	279.3 ± 26.27	n = 5	[FJ2]&[ILD] HemosIL Fibrin & IL ACL(ELI
601.0 ± 78.96	268.4 ± 21.29	309.0 ± 24.17	309.9 ± 18.90	268.1 ± 21.46	n = 16	[FJ2]&[ILE] HemosIL Fibrin & IL ACL TOP
632.7 ± 60.49	258.9 ± 15.55	292.9 ± 24.18	293.7 ± 14.25	252.4 ± 17.15	n = 20	[FO3]&[ILE] HemosIL QFA(bo & IL ACL TOP
503.2 ± 11.32	274.7 ± 4.22	304.4 ± 15.66	300.8 ± 13.15	259.2 ± 10.38	n = 3	[OOO]&[SYX] Other Reagent & Sysmex CA

Summary of Participant Responses
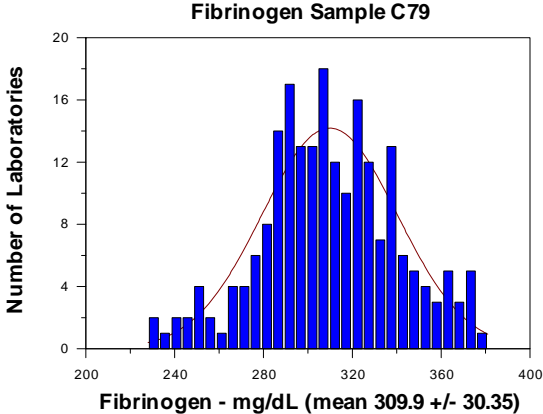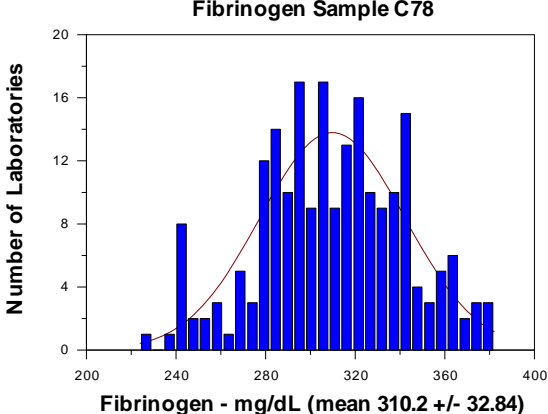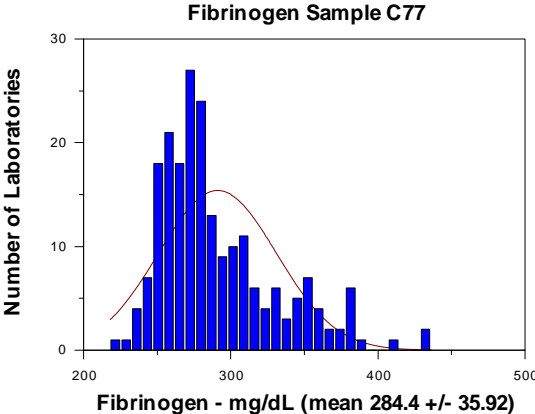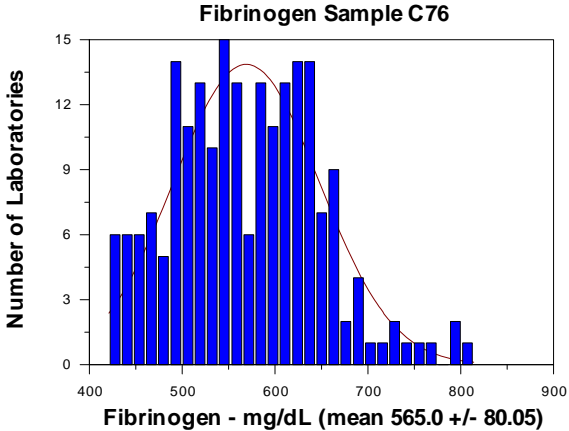### Mean ± One Standard Deviation

INR   (International Normalized Ratio)

Specimen: C76	Specimen: C77	Specimen: C78	Specimen: C79	Specimen: C80	Number	[Code] Instrument or Reagent
0.969 ± 0.055	5.028 ± 0.843	1.008 ± 0.052	1.004 ± 0.051	2.811 ± 0.232	n = 319	[---] All Methods & Instruments
						\<Instruments\>
0.900 ± 0.000	4.609 ± 0.216	1.017 ± 0.047	1.000 ± 0.000	2.807 ± 0.123	n = 19	[BEB] Siemens BCS,BCSXP
0.942 ± 0.051	6.745 ± 0.406	0.980 ± 0.041	0.974 ± 0.050	3.111 ± 0.145	n = 29	[DGC] Diagnostica Stago STA Compact
0.971 ± 0.042	6.691 ± 0.420	0.990 ± 0.045	0.986 ± 0.051	3.063 ± 0.189	n = 16	[DGD] Diagnostica Stago STA-R, STA-R Ev
0.883 ± 0.079	6.080 ± 0.483	0.980 ± 0.079	0.966 ± 0.068	3.034 ± 0.225	n = 15	[ILA] IL ACL(All models except 810,ELIT
0.999 ± 0.059	5.375 ± 0.479	0.998 ± 0.057	0.992 ± 0.037	2.976 ± 0.153	n = 23	[ILC] IL ACL Futura/Advance
0.968 ± 0.074	5.169 ± 0.608	0.998 ± 0.058	1.002 ± 0.059	2.881 ± 0.216	n = 34	[ILD] IL ACL(ELITE,ELITE PRO,8/9/10000)
0.985 ± 0.050	5.019 ± 0.344	0.999 ± 0.043	0.991 ± 0.044	2.803 ± 0.170	n = 68	[ILE] IL ACL TOP Series(ACLTOP,ACLTOPC
0.973 ± 0.047	4.603 ± 0.284	1.037 ± 0.049	1.025 ± 0.041	2.698 ± 0.146	n = 38	[SYW] Sysmex CA500/CA600 series
0.980 ± 0.035	4.391 ± 0.217	1.032 ± 0.044	1.032 ± 0.046	2.625 ± 0.099	n = 54	[SYX] Sysmex CA 1500
0.994 ± 0.015	4.514 ± 0.183	1.017 ± 0.032	1.029 ± 0.042	2.646 ± 0.093	n = 17	[SYY] Sysmex CA 7000
						\<Reagents\>
0.952 ± 0.050	6.723 ± 0.391	0.979 ± 0.044	0.973 ± 0.051	3.105 ± 0.144	n = 44	[TA3] STA Neoplastine CL+
0.969 ± 0.046	4.497 ± 0.256	1.030 ± 0.045	1.026 ± 0.044	2.670 ± 0.130	n = 128	[TD2] Siemens Innovin
0.877 ± 0.076	6.194 ± 0.624	0.961 ± 0.080	0.963 ± 0.081	3.034 ± 0.272	n = 30	[TJ2] HemosIL PT-Fibrinogen
0.993 ± 0.046	5.048 ± 0.335	1.005 ± 0.043	0.997 ± 0.040	2.843 ± 0.171	n = 109	[TJ8] HemosIL RecombiPlasTin 2G
						\<Reagent & Instrument\>
0.942 ± 0.051	6.745 ± 0.406	0.980 ± 0.041	0.974 ± 0.050	3.111 ± 0.145	n = 29	[TA3]&[DGC] STA Neoplastin & Diagnostic
0.975 ± 0.039	6.711 ± 0.363	0.984 ± 0.043	0.979 ± 0.051	3.105 ± 0.144	n = 14	[TA3]&[DGD] STA Neoplastin & Diagnostic
0.900 ± 0.000	4.609 ± 0.216	1.017 ± 0.047	1.000 ± 0.000	2.807 ± 0.123	n = 19	[TD2]&[BEB] Siemens Innovi & Siemens BC
0.971 ± 0.047	4.596 ± 0.288	1.035 ± 0.048	1.023 ± 0.040	2.693 ± 0.145	n = 37	[TD2]&[SYW] Siemens Innovi & Sysmex CA5
0.980 ± 0.035	4.391 ± 0.217	1.032 ± 0.044	1.032 ± 0.046	2.625 ± 0.099	n = 54	[TD2]&[SYX] Siemens Innovi & Sysmex CA1
0.994 ± 0.015	4.514 ± 0.183	1.017 ± 0.032	1.029 ± 0.042	2.646 ± 0.093	n = 17	[TD2]&[SYY] Siemens Innovi & Sysmex CA7
0.883 ± 0.079	6.080 ± 0.483	0.980 ± 0.079	0.966 ± 0.068	3.034 ± 0.225	n = 15	[TJ2]&[ILA] HemosIL PT-Fib & IL ACL(All
0.905 ± 0.069	6.513 ± 0.872	0.926 ± 0.063	0.930 ± 0.072	3.016 ± 0.309	n = 6	[TJ2]&[ILC] HemosIL PT-Fib & IL ACL Fut
0.849 ± 0.070	6.305 ± 0.794	0.957 ± 0.080	0.987 ± 0.099	3.042 ± 0.324	n = 9	[TJ2]&[ILD] HemosIL PT-Fib & IL ACL(ELI
1.017 ± 0.038	5.274 ± 0.266	1.019 ± 0.041	1.001 ± 0.030	2.979 ± 0.120	n = 16	[TJ8]&[ILC] HemosIL Recomb & IL ACL Fut
1.000 ± 0.025	4.961 ± 0.264	1.008 ± 0.049	1.005 ± 0.041	2.846 ± 0.162	n = 25	[TJ8]&[ILD] HemosIL Recomb & IL ACL(ELI
0.986 ± 0.049	5.027 ± 0.340	1.000 ± 0.042	0.992 ± 0.043	2.807 ± 0.168	n = 67	[TJ8]&[ILE] HemosIL Recomb & IL ACL TOP

Hematology Proficiency Test Event
June 3, 2013
International Sensitivity Index (ISI) and International Normalized Ratio (INR)

ISI (International Sensitivity Index)

ISI Value of Laboratories

INR Sample C76

INR (mean 0.969 +/- 0.055)

INR Sample C77

INR (mean 5.028 +/- 0.843)

INR Sample C78

INR (mean 1.008 +/- 0.052)

INR Sample C79

INR (mean 1.004 +/- 0.051)

INR Sample C80

INR (mean 2.811 +/- 0.232)

Hematology Proficiency Test Event
June 3, 2013
Fibrinogen Data

Fibrinogen Sample C76

Number of Laboratories

Fibrinogen - mg/dL (mean 565.0 +/- 80.05)

Fibrinogen Sample C77

Number of Laboratories

Fibrinogen - mg/dL (mean 284.4 +/- 35.92)

Fibrinogen Sample C78

Number of Laboratories

Fibrinogen - mg/dL (mean 310.2 +/- 32.84)

Fibrinogen Sample C79

Number of Laboratories

Fibrinogen - mg/dL (mean 309.9 +/- 30.35)

Fibrinogen Sample C80

Number of Laboratories

Fibrinogen Sample - mg/dL (mean 276.1 +/- 27.70)

Hematology Proficiency Test
June 3, 2013

D-dimer Educational Challenge

The table below summarizes results of the quantitative D-dimer educational proficiency test of June 2013 as reported by participants.

Results reported as less than or greater than a cutoff value were excluded from the statistical analysis. Results for instrument/reagent where the number of laboratories using those systems is three or greater are provided.

Participant results are listed as the mean ± 1SD. The unit reported most frequently by participants was ng/mL; results from laboratories using different units were converted. For example, laboratories that reported in mg/L were converted to the equivalent concentration in ng/mL. Please keep this in mind when comparing results reported by your laboratory.

Instrument/Reagent	Unit	Number of Laboratories	M01 (ng/mL)	M02 (ng/mL)
All Methods and Instruments	DDU	71	177 ± 66	1000 ± 365
All Methods and Instruments	FEU	147	283 ± 108	1915 ± 650
Alere (Biosite) Triage + Alere (Biosite) Triage D-dimer Test	DDU	17	135 ± 11	1362 ± 109
Alere (Biosite) Triage + Alere (Biosite) Triage D-dimer Test	FEU	11	132 ± 18	1439 ± 133
BioMerieux VIDAS/miniVIDAS + BioMerieux Vidas D-dimer Exclusion	FEU	19	224 ± 29	1516 ± 86
Diagnostica Stago STA Compact + Diagnostica Stago Liatest	FEU	22	225 ± 40	1511 ± 93
Diagnostica Stago STA-R, STA-R Evolution+ Diagnostica Stago Liatest	FEU	13	259 ± 55	1542 ± 101
IL ACL Futura/Advance + HemosIL D-dimer	DDU	5	234 ± 48	905 ± 30
IL ACL ELITE, ELITE PRO 8,9,10,000 + HemosIL D-dimer	DDU	5	191 ± 26	784 ± 49
IL ACL TOP Series + HemosIL D-dimer	DDU	7	284 ± 25	881 ± 52
IL ACL TOP Series + HemosIL D-dimer	FEU	4	271 ± 41	842 ± 39
IL ACL TOP Series + HemosIL D-dimer HS	DDU	26	138 ± 50	737 ± 102
IL ACL TOP Series + HemosIL D-dimer HS	FEU	4	113 ± 10	734 ± 44
IL ACL TOP Series + HemosIL HS 500	FEU	10	363 ± 17	2326 ± 186
Roche Hitachi/cobas c + Roche D-dimer	FEU	4	186 ± 38	1785 ± 33
Siemens BCS,BCS XP + Siemens INNOVANCE D-dimer	FEU	10	320 ± 34	2645 ± 158
Sysmex CA500/CA600 series Systems + Siemens INNOVANCE D-dimer	FEU	11	353 ± 27	2626 ± 151
Sysmex CA1500 + Siemens INNOVANCE D-dimer	FEU	22	312 ± 22	2581 ± 235
Sysmex CA7000 + Siemens INNOVANCE D-dimer	FEU	7	350 ± 28	3083 ± 186

D dimer Sample M01 — Mean = 283 ng/mL (D dimer ng/mL FEU)

D dimer Sample M02 — Mean = 1915 ng/mL (D dimer ng/mL FEU)

D dimer Sample M01 — Mean = 177 ng/mL (D dimer ng/mL DDU)

D dimer Sample M02 — Mean = 1000 ng/mL (D dimer ng/mL DDU)
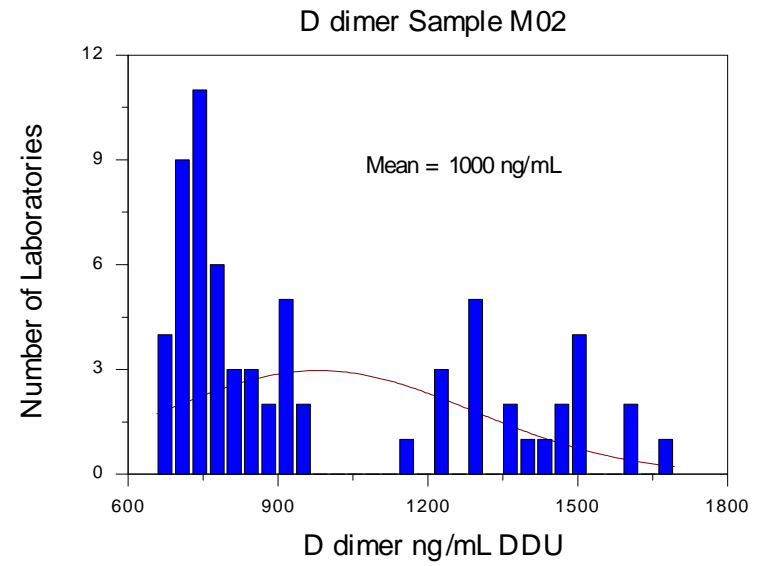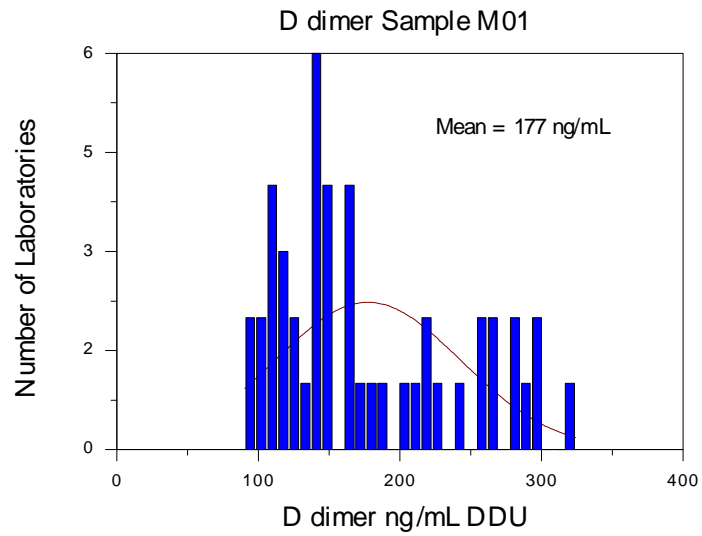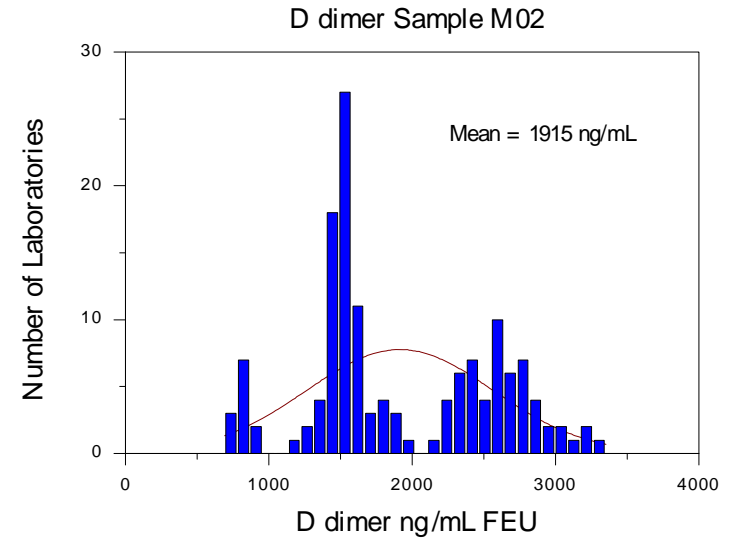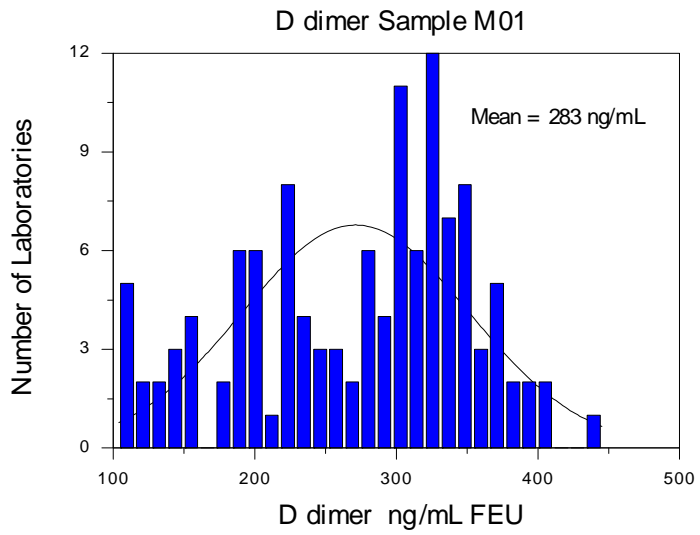
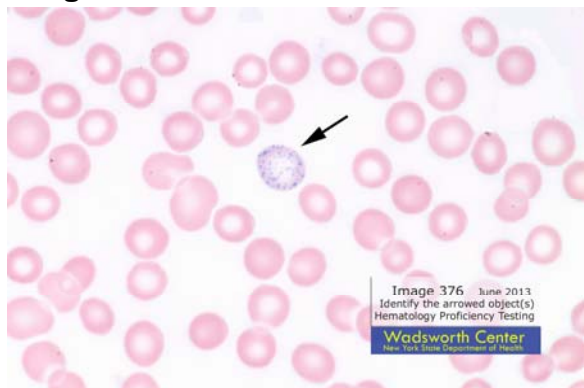# NEW YORK STATE HEMATOLOGY PROFICIENCY TESTING PROGRAM

June 3, 2013

Images on the Hematology and Clinical Chemistry web page: http://www.wadsworth.org/chemheme/cellPT were used to test all laboratories that perform manual white cell differentials. A summary of responses appear below, acceptable responses are shown in shaded areas.

Image 376

Number of Responses	Percent of Laboratories	Cell type or finding
349	99.1%	**Basophilic stippling**
3	0.9%	Basophil

The arrowed erythrocyte in Image 376 contains round, dark-blue granules known as basophilic stippling, correctly identified by 349 participants. The granules are composed of precipitated ribosomes and mitochondria present in immature red blood cells and are associated with various conditions including chronic lead poisoning, exposure to certain drugs, severe burns, septicemia and anemia. This case was obtained from an individual with anemia, secondary to acute myelogenous leukemia (AML). The red blood cells appear hypochromic; the hemoglobin concentration was 8.4 g/dL.
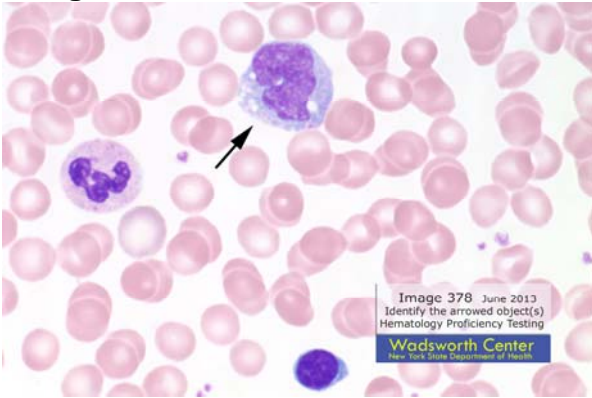
Image 377
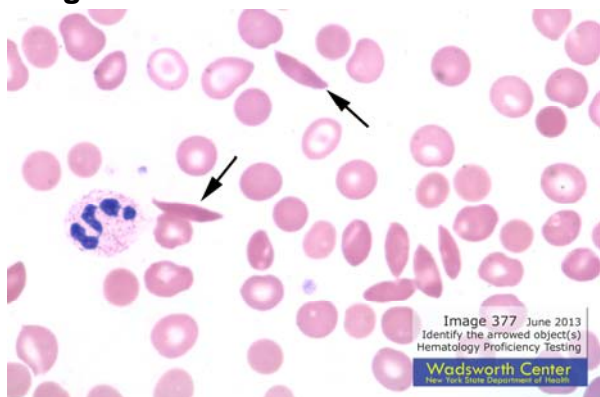
Number of Responses	Percent of Laboratories	Cell type or finding
349	99.1%	**Sickle cell (drepanocyte)**
2	0.6%	Elliptocyte/Ovalocyte
1	0.3%	Schistocyte

The arrowed crescent-shaped erythrocytes in Image 377 were correctly identified by 99.1% of participants as sickle cells (drepanocytes). Image 377 was obtained from a 30 year-old female diagnosed with sickle cell anemia. "Sickle cell anemia (Hb SS disease) is caused by inheritance of two β^s genes and is the most serious of the sickling syndromes. The natural history is characterized by a triad of chronic hemolytic anemia, vasoocclusive crises, and vulnerability to infection. The most commanding and disheartening of these afflictions are the vasoocclusive crisis, which gradually consume the patient, organ by organ, through the destructive and debilitating effects of cumulative infarctions." Jandle, J.H. Blood: Textbook of Hematology 2nd Ed. Boston: Little, Brown and Company, 1996, p.544.
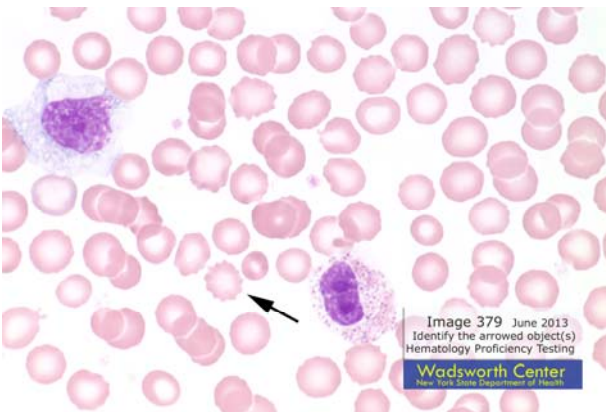
Image 378

Number of Responses	Percent of Laboratories	Cell type or finding
351	99.7%	**Monocyte**
1	0.3%	Monoblast

The arrowed white blood cell in Image 378 contains a large indented and somewhat lobular nucleus composed of smooth chromatin. The abundant blue-gray cytoplasm of the cell contains fine azurophilic granules and vacuoles. The white blood cell was correctly identified by 351 participants as a monocyte. The image was obtained from a 40 year-old female who presented with fatigue and abdominal tenderness. The peripheral blood smear revealed no diagnostic findings.
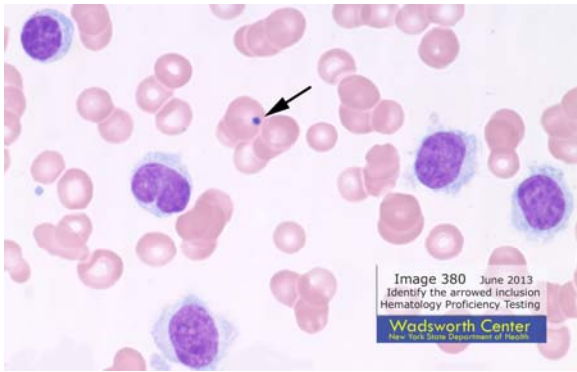
Image 379

Number of Responses	Percent of Laboratories	Cell type or finding
348	98.9%	**Echinocyte (crenated cell) or burr cell**
2	0.6%	Acanthocyte
2	0.6%	Erythrocyte- hypochromic

The arrowed red blood cell in Image 379 is an echinocyte (crenated cell) or burr cell as correctly identified by 348 participants. The arrowed erythrocyte, like many of the erythrocytes in the image, possesses numerous blunt spicules regularly dispersed over the cell surface, an area of central pallor and is slightly smaller in size than that of a normal red blood cell. These characteristics best describe the cell as an echinocyte. Echinocyte formation is often the result of faulty drying of the blood smear. Rare pathological forms are associated with chronic renal disease, bleeding peptic ulcer, liver disease, vitamin E deficiency, hyperlipedemia and pyruvate kinase deficiency.

Image 380

Image 380   June 2013
Identify the arrowed inclusion
Hematology Proficiency Testing

Wadsworth Center
New York State Department of Health

Number of Responses	Percent of Laboratories	Cell type or finding
350	99.4%	**Howell-Jolly body**
1	0.3%	Döhle body
1	0.3%	Pappenheimer body

The arrowed inclusion in the erythrocyte in Image 380 is round, dark blue and was correctly identified by 350 participants as a Howell-Jolly body. The image was taken from the peripheral blood smear of an 86 year-old female who presented with fatigue and abdominal pain. The peripheral blood smear revealed a significantly elevated white blood cell count (100.4 x 10^9/L) with a population of cells characterized by large kidney shaped nuclei with suspicious feather-like cytoplasm. The red blood cells were normochromic with occasional polychromasia. The platelet morphology was normal, however, the count was markedly decreased (65 x 10^9/L). The final diagnosis was Hairy Cell Leukemia (HCL).