

External Quality Assurance (EQA) of G6PD Quantitative Test

Survey No. : RH2018-02
 Sample sent : [22 set](#)

Sample sent on : 2018/04/23
 Results reported (%) : 21 (95%)

Reporting deadline : 2018/04/30

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- 2. [The distribution of G6PD reported in this survey](#)
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Summary Report of G6PD and Hemoglobin (Hb) Quantitative Test Results

Lab	Referral Hosp.	Report (day)	G6PD Reagent Code	Sample 1				Sample 2				Sample 3				Hb 1 (g/dL)	Hb 2 (g/dL)	Hb 3 (g/dL)
				(U/gHb)	D%	z score	SDI	(U/gHb)	D%	z score	SDI	(U/gHb)	D%	z score	SDI			
F02	F02	4	5	16.3	-0.6%	-0.1	-0.1	5.6	-1.8%	-0.3	-0.4	15.8	-1.3%	-0.2	-0.5	2.3	2.2	1.9
F03	F03	5	5	16.5	0.6%	0.1	0.1	5.7	0.0%	0.0	0.0	15.9	-0.6%	-0.1	-0.4	2.2	2.1	1.8
F04	F04	5	5	16.4	0.0%	0.0	0.0	5.6	-1.8%	-0.3	-0.4	15.7	-1.9%	-0.3	-0.7	2.2	2.2	1.8
F05	F05	7	5	17.0	3.7%	0.5	0.6	5.7	0.0%	0.0	0.0	16.0	0.0%	0.0	-0.2	2.2	2.1	1.8
F07	F07	4	5	16.8	2.4%	0.3	0.4	5.9	3.5%	0.5	0.9	16.0	0.0%	0.0	-0.2	2.2	2.1	1.8
F09	F09	7	5	15.0	-8.5%	-1.2	-1.3	5.7	0.0%	0.0	0.0	15.8	-1.3%	-0.2	-0.5	2.3	2.2	1.9
F10	F10	3	5	17.3	5.5%	0.8	0.8	5.9	3.5%	0.5	0.9	16.9	5.6%	0.8	1.5	2.4	2.3	1.9
F11	F11	7	5	17.7	7.9%	1.1	1.2	5.6	-1.8%	-0.3	-0.4	16.9	5.6%	0.8	1.5	2.1	2.0	1.7
F12	F12	7	5	17.7	7.9%	1.1	1.2	6.1	7.0%	1.0	1.7	17.5	9.4%	1.3	2.5	2.3	2.2	1.8
F13	F13	7	5	17.2	4.9%	0.7	0.8	5.9	3.5%	0.5	0.9	16.5	3.1%	0.4	0.7	2.4	2.4	2.0
F14	F14	6	5	17.3	5.5%	0.8	0.8	5.5	-3.5%	-0.5	-0.9	15.6	-2.5%	-0.4	-0.9	1.6	1.6	1.4
F15	F15	3	5	15.1	-7.9%	-1.1	-1.2	5.4	-5.3%	-0.8	-1.3	15.0	-6.3%	-0.9	-2.0	2.4	2.3	1.9
F17	F17	7	5	17.2	4.9%	0.7	0.8	6.0	5.3%	0.8	1.3	16.5	3.1%	0.4	0.7	2.3	2.1	1.8
F18	F18	7	5	14.6	-11.0%	-1.6	-1.7	5.3	-7.0%	-1.0	-1.7	14.3	-10.6%	-1.5	-3.3	2.4	2.3	1.9
F19	F19	3	5	17.3	5.5%	0.8	0.8	5.8	1.8%	0.3	0.4	16.2	1.3%	0.2	0.2	2.2	2.1	2.0
F20	None	N.R.	5	N.R.	N.R.%	N.R.	N.R.	N.R.	N.R.%	N.R.	N.R.	N.R.	N.R.%	N.R.	N.R.	N.R.	N.R.	N.R.
F21	F21	7	5	16.4	0.0%	0.0	0.0	5.9	3.5%	0.5	0.9	16.4	2.5%	0.4	0.5	2.2	2.0	1.8
F22	F22	1	5	15.0	-8.5%	-1.2	-1.3	5.6	-1.8%	-0.3	-0.4	15.8	-1.3%	-0.2	-0.5	2.4	2.1	1.8
F24	F24	4	5	15.2	-7.3%	-1.0	-1.1	5.8	1.8%	0.3	0.4	16.4	2.5%	0.4	0.5	2.4	2.2	1.8
F25	F25	7	5	16.1	-1.8%	-0.3	-0.3	5.6	-1.8%	-0.3	-0.4	16.0	0.0%	0.0	-0.2	2.3	2.2	1.9
F26	F26	4	5	16.0	-2.4%	-0.3	-0.4	5.6	-1.8%	-0.3	-0.4	15.8	-1.3%	-0.2	-0.5	2.2	2.1	1.9
F27	F27	3	5	16.3	-0.6%	-0.1	-0.1	5.3	-7.0%	-1.0	-1.7	15.9	-0.6%	-0.1	-0.4	2.4	2.1	1.8
Total participating laboratories = 22																		
Xa (Median)	-	5	-	16.4				5.7				16.0				2.3	2.1	1.8
u _{Xa}	-	-	-	0.254				0.055				0.132				-	-	-
σ _p	-	-	-	1.148				0.399				1.120				-	-	-
σ _{p'}	-	-	-	-				-				-				-	-	-
Range	-	1-7	-	14.6-17.7				5.3-6.1				14.3-17.5				1.6-2.4	1.6-2.4	1.4-2.0
n	-	-	-	21				21				21				21	21	21
Mean	-	-	-	16.4				5.7				16.1				2.3	2.2	1.8
S.D.	-	-	-	1.06				0.23				0.55				0.12	0.12	0.08
C.V.	-	-	-	6.5%				4.0%				3.4%				5.2%	5.5%	4.4%

Note:

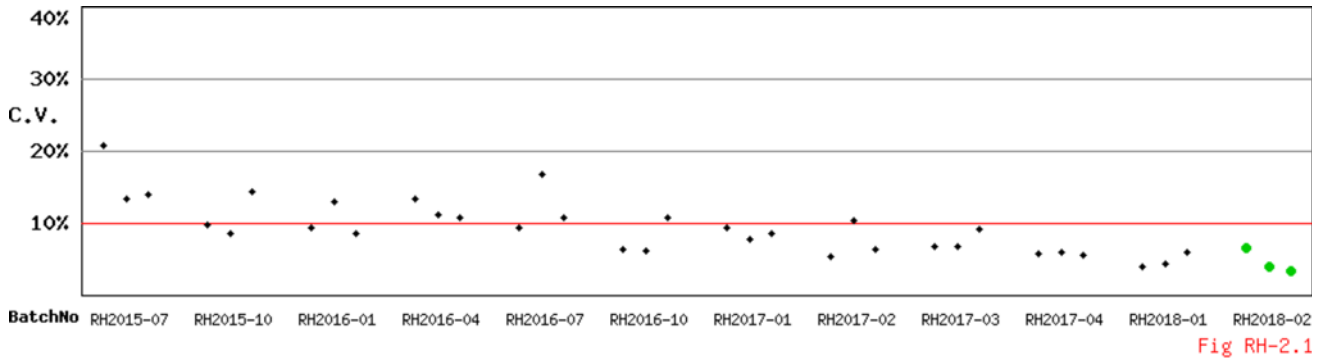
1. $D\% = [(X - X_a) / X_a] \times 100\%$; X = Your Results , X_a = Assigned value
2. $u_{X_a} =$ uncertainty of the assigned value. $u_{X_a} = 1.1 \times SD / n^{1/2}$
3. SD for proficiency assessment (σ_p) = 7% x X_a ; but while X_a < 2.9 U/gHb, $\sigma_p = 0.2$ U/gHb
4. Adjusted SD for proficiency assessment ($\sigma_{p'}$) = $(\sigma_p^2 + u_{X_a}^2)^{1/2}$. $\sigma_{p'}$ is used for proficiency assessment when $u_{X_a} \geq 0.3\sigma_p$
5. z score = D / σ_p ; D = X - X_a, σ_p = SD for proficiency assessment
6. SDI = (X - Mean) / SD ; SD = standard deviation of peer group ; SDI is not calculated when SD equals 0
7. The assigned value (X_a) is the **median** of all the results reported of this EQA sample
8. Robust results (Mean and SD) were calculated by Algorithm A according to ISO 13528
9. The evaluation criteria for measurement result of each specimen : Acceptable : | z | <= 2; Caution : 2 < | z | <= 3; Unsatisfactory : | z | > 3
10. Maximum Allowable Deviation (MAD) = 3 x (σ_p / X_a) x 100% or 3 x ($\sigma_{p'} / X_a$) x 100% when $u_{X_a} \geq 0.3\sigma_p$

Reagent Kit	G6PD Reagent Code	Lab
Medicon	5	F02, F03, F04, F05, F07, F09, F10, F11, F12, F13, F14, F15, F17, F18, F19, F21, F22, F24, F25, F26, F27

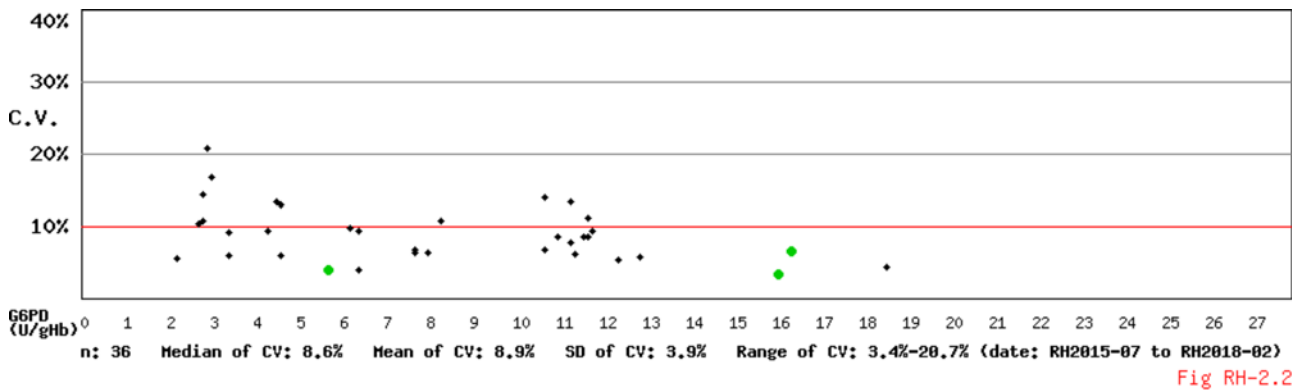
Long Term Observation of Blood G6PD Quantitative Test EQA Survey Results

Survey No : RH2018-02 (in green ●)

- Total participants' CV result plotted against surveys



- Total participants' CV result plotted against G6PD activities



* Mean and SD are calculated by Robust method according to ISO 13528 since 2014

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(Report generated at 2018-05-02 18:21:30)

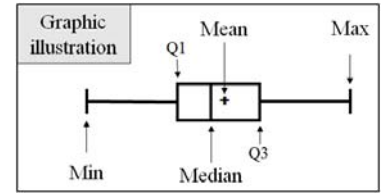
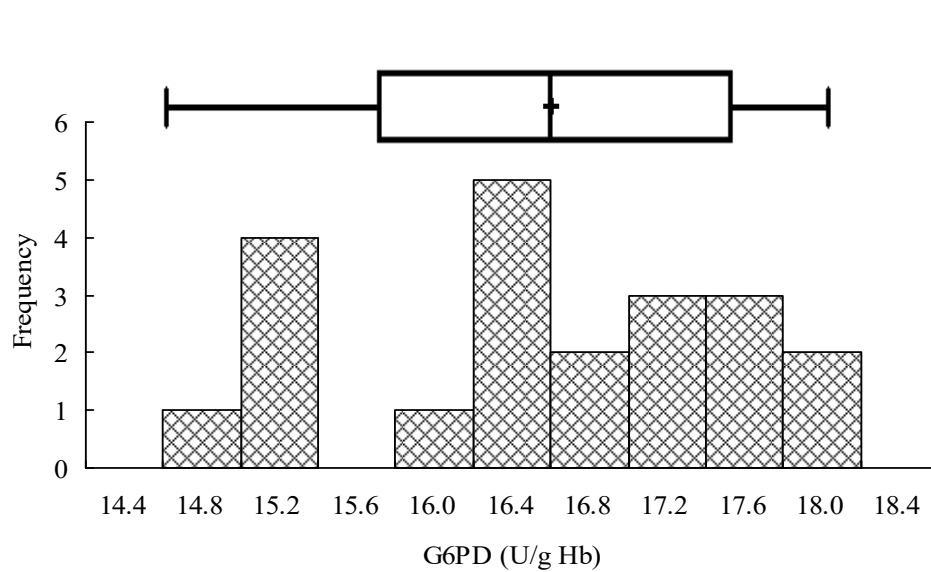
RH2018-02 Distribution of G6PD Test Results

Survey No. : RH2018-02

Sample sent on : 2018/04/23

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Results reported (%) : 95.5%



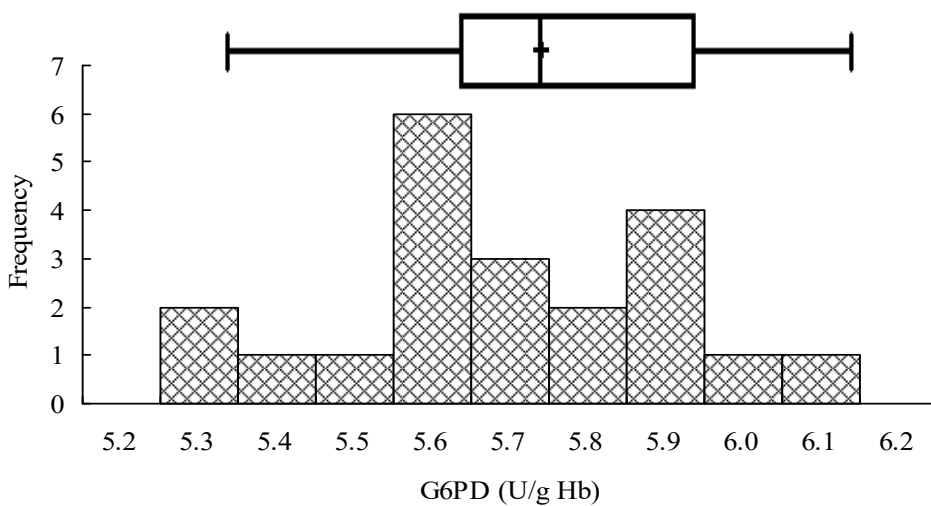
Sample 1

Median = 16.4 (n = 21)

Mean* = 16.4 (n = 21)

SD* = 1.06

CV = 6.5%



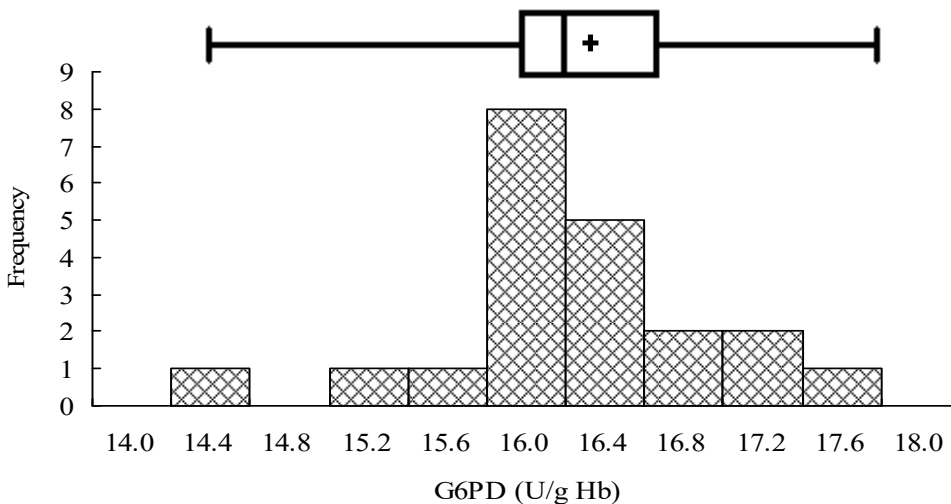
Sample 2

Median = 5.7 (n = 21)

Mean* = 5.7 (n = 21)

SD* = 0.23

CV = 4.0%



Sample 3

Median = 16.0 (n = 21)

Mean* = 16.1 (n = 21)

SD* = 0.55

CV = 3.4%

*Robust results (Mean and SD) were calculated by Algorithm A according to ISO 13528

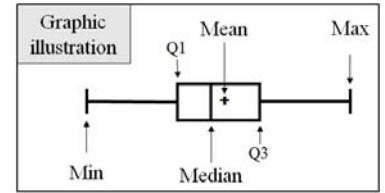
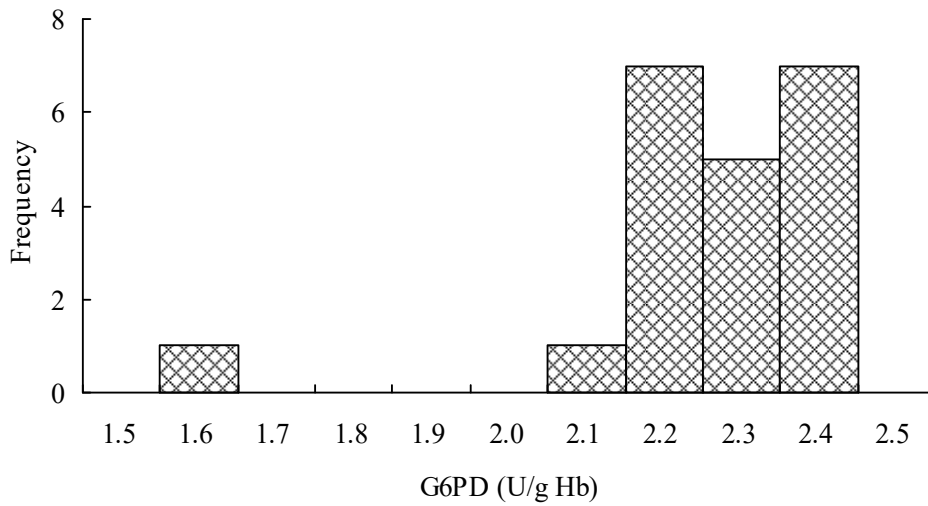
RH2018-02 Distribution of Hb Test Results

Survey No. : RH2018-02

Sample sent on : 2018/04/23

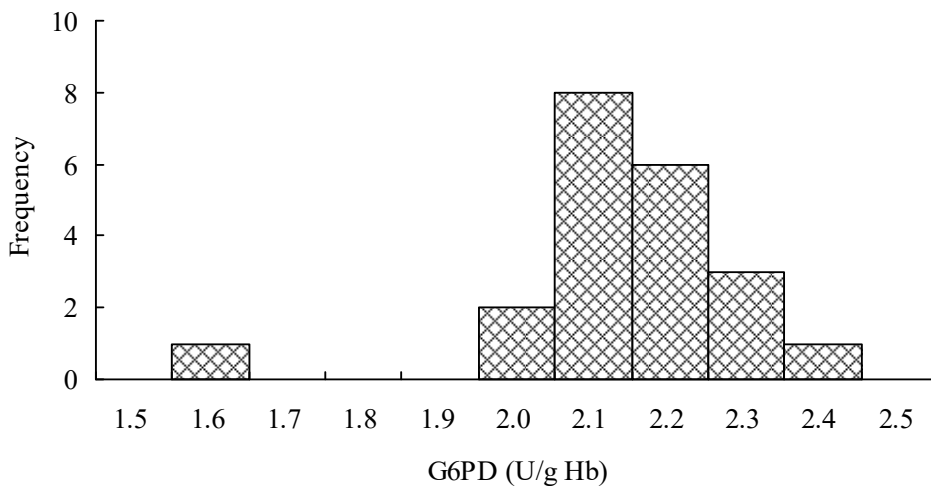
Reporting deadline : 2018/04/30

Results reported (%) : 95.5%



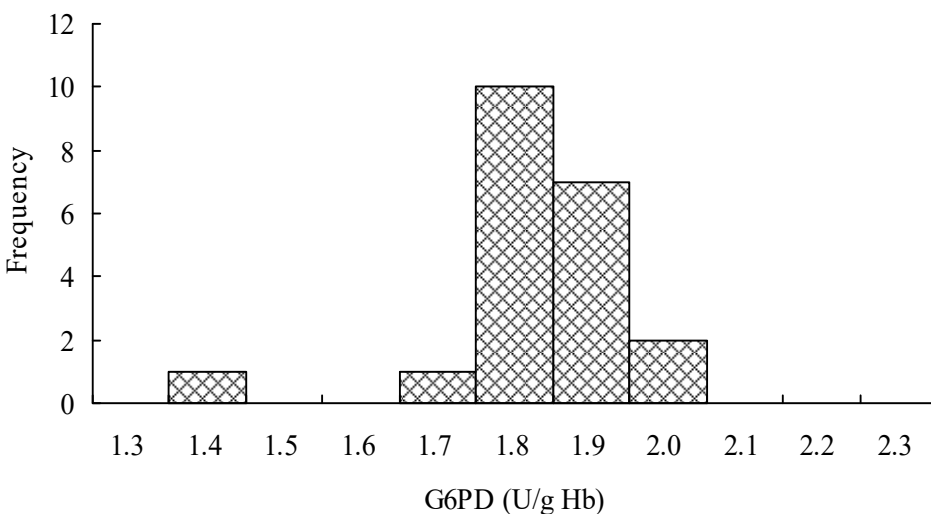
Sample 1

Median = 2.3 (n = 21)
Mean* = 2.3 (n = 21)
SD* = 0.12
CV = 5.2%



Sample 2

Median = 2.1 (n = 21)
Mean* = 2.2 (n = 21)
SD* = 0.12
CV = 5.5%



Sample 3

Median = 1.8 (n = 21)
Mean* = 1.8 (n = 21)
SD* = 0.08
CV = 4.4%

*Robust results (Mean and SD) were calculated by Algorithm A according to ISO 13528