

## External Quality Assurance (EQA) of G6PD Quantitative Test

Survey No. : RH2016-07  
Sample sent : [23 set](#)

Sample sent on : 2016/07/04  
Results reported (%) : 23 (100%)

Reporting deadline : 2016/07/11

[1.Summary report on this EQA survey](#)

[4.Long term observation of inter laboratory CV vs. surveys](#)

[2.The distribution of G6PD reported in this survey](#)

[5.Long term observation of inter laboratory CV vs. G6PD activities](#)

[3.The distribution of Hb reported in this survey](#)

[6.Deviation graph for individual laboratory](#)

### Referral Hosp. G6PD and Hemoglobin(Hb) Quantitative Test Results

Lab	Referral Hosp.	Report (day)	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	1	10.8	-5.3%	-0.8	-0.9	2.5	-16.7%	-2.4	-1.0	7.7	-3.8%	-0.5	-0.7	2.1	2.0	1.8
F03	F03	4	10.7	-6.1%	-0.9	-1.0	2.6	-13.3%	-1.9	-0.8	7.8	-2.5%	-0.4	-0.6	2.1	2.1	1.9
F04	F04	7	12.7	11.4%	1.6	0.8	3.3	10.0%	1.4	0.6	8.9	11.3%	1.6	0.7	2.2	2.2	1.9
F05	F05	4	13.7	20.2%	2.9	1.7	3.3	10.0%	1.4	0.6	8.6	7.5%	1.1	0.3	2.0	2.0	2.0
F07	F07	2	11.2	-1.8%	-0.3	-0.5	2.9	-3.3%	-0.5	-0.2	7.9	-1.3%	-0.2	-0.4	2.2	2.2	2.1
F08	F08	5	11.9	4.4%	0.6	0.1	3.2	6.7%	1.0	0.4	8.7	8.7%	1.3	0.4	2.4	2.3	2.0
F09	F09	7	11.5	0.9%	0.1	-0.3	3.2	6.7%	1.0	0.4	8.4	5.0%	0.7	0.1	2.3	2.0	1.9
F10	F10	5	14.1	23.7%	3.4	2.1	3.5	16.7%	2.4	1.0	10.0	25.0%	3.6	1.9	2.4	2.3	2.1
F11	F11	3	12.1	6.1%	0.9	0.3	3.0	0.0%	0.0	0.0	7.7	-3.8%	-0.5	-0.7	2.2	2.2	2.0
F12	F12	10	10.5	-7.9%	-1.1	-1.2	2.4	-20.0%	-2.9	-1.2	7.2	-10.0%	-1.4	-1.2	2.3	2.3	2.1
F13	F13	8	11.0	-3.5%	-0.5	-0.7	2.5	-16.7%	-2.4	-1.0	7.7	-3.8%	-0.5	-0.7	2.3	2.3	2.0
F14	F14	7	11.3	-0.9%	-0.1	-0.5	2.8	-6.7%	-1.0	-0.4	8.7	8.7%	1.3	0.4	2.2	2.2	1.9
F15	F15	3	11.3	-0.9%	-0.1	-0.5	2.8	-6.7%	-1.0	-0.4	7.8	-2.5%	-0.4	-0.6	2.4	2.3	2.1
F16	F16	4	11.9	4.4%	0.6	0.1	3.0	0.0%	0.0	0.0	8.8	10.0%	1.4	0.6	2.4	2.4	2.1
F17	F17	7	13.9	21.9%	3.1	1.9	3.6	20.0%	2.9	1.2	9.8	22.5%	3.2	1.7	2.1	2.1	1.9
F18	F18	3	11.2	-1.8%	-0.3	-0.5	2.7	-10.0%	-1.4	-0.6	7.4	-7.5%	-1.1	-1.0	2.2	2.2	2.1
F19	F19	1	11.4	0.0%	0.0	-0.4	3.0	0.0%	0.0	0.0	7.7	-3.8%	-0.5	-0.7	2.3	2.3	2.1
F20	F20	3	13.3	16.7%	2.4	1.4	3.6	20.0%	2.9	1.2	9.6	20.0%	2.9	1.4	2.2	2.1	1.7
F21	F21	4	10.7	-6.1%	-0.9	-1.0	2.5	-16.7%	-2.4	-1.0	7.5	-6.3%	-0.9	-0.9	2.3	2.3	2.1
F22	F22	6	12.0	5.3%	0.8	0.2	3.0	0.0%	0.0	0.0	8.0	0.0%	0.0	-0.3	2.0	2.0	2.0
F23	F23	7	12.8	12.3%	1.8	0.9	4.7	56.7%	8.1	3.4	9.7	21.3%	3.0	1.6	2.2	2.2	2.0
F24	F24	7	10.9	-4.4%	-0.6	-0.8	3.0	0.0%	0.0	0.0	8.2	2.5%	0.4	-0.1	2.3	2.3	2.0
F25	F25	4	11.0	-3.5%	-0.5	-0.7	2.0	-33.3%	-4.8	-2.0	8.0	0.0%	0.0	-0.3	2.0	2.2	2.0
Total participating laboratories = 23																	
Xa (Median)	-	4	11.4				3.0				8.0				2.2	2.2	2.0
σ <sub>p</sub>	-	-	0.798				0.21				0.56				-	-	-
Range	-	1-10	10.5-14.1				2.0-4.7				7.2-10.0				2.0-2.4	2.0-2.4	1.7-2.1
n	-	-	23				23				23				23	23	23
Mean	-	-	11.8				3.0				8.3				2.2	2.2	2.0
S.D.	-	-	1.1				0.5				0.9				0.1	0.1	0.1
C.V.	-	-	9.3%				16.7%				10.8%				4.5%	4.5%	5.0%
Note:																	
1. $D\% = [(X - X_a) / X_a] \times 100\%$ ; X = Your Results , X <sub>a</sub> = Assigned value																	
2. $z \text{ score} = D / \sigma_p$ ; D = X - X <sub>a</sub> , σ <sub>p</sub> = SD for proficiency assessment																	
3. $SDI = (X - \text{Mean}) / SD$ ; SD = standard deviation of peer group																	
4. The assigned value ( X <sub>a</sub> ) is the <b>median</b> of all the results reported of this EQA sample																	
5. SD for proficiency assessment ( σ <sub>p</sub> ) = 7% x X <sub>a</sub> ; but while X <sub>a</sub> < 2.9 U/gHb, σ <sub>p</sub> = 0.2																	
6. Robust results ( Mean and SD ) were calculated by Algorithm A according to ISO 13528:2005																	
7. Maximum Allowable Deviation ( MAD ) = 3 x ( σ <sub>p</sub> / X <sub>a</sub> ) x 100%																	
8. The evaluation criteria for measurement result of each specimen : Acceptable : $ z  \leq 2$ ; Caution : $2 <  z  \leq 3$ ; Unsatisfactory : $ z  > 3$																	

[Ordered by Referral Hosp.](#)



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# Long Term Observation of Blood G6PD Quantitative Test QA Survey Results

Survey No : RH2016-07 (in green ●)

- Total participants' CV result plotted against surveys

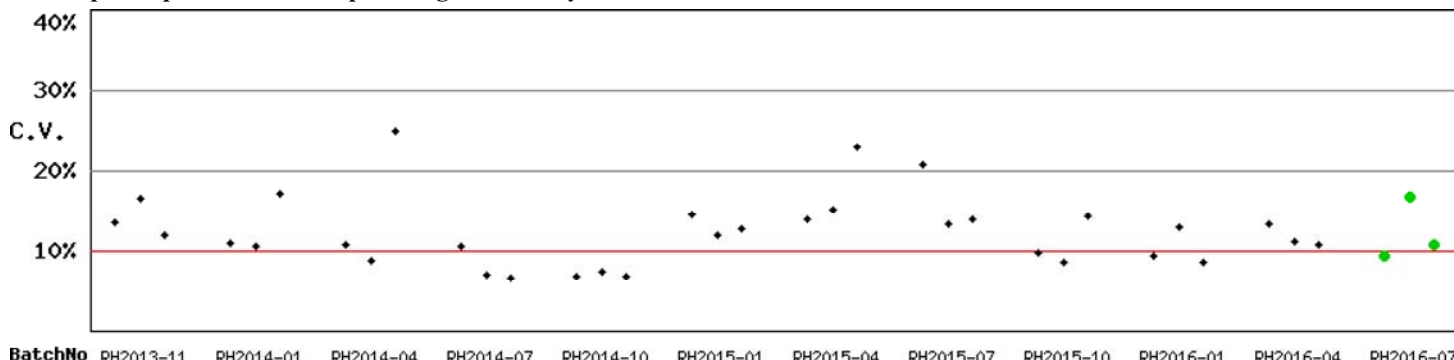


Fig RH-2.1

- Total participants' CV result plotted against G6PD activities

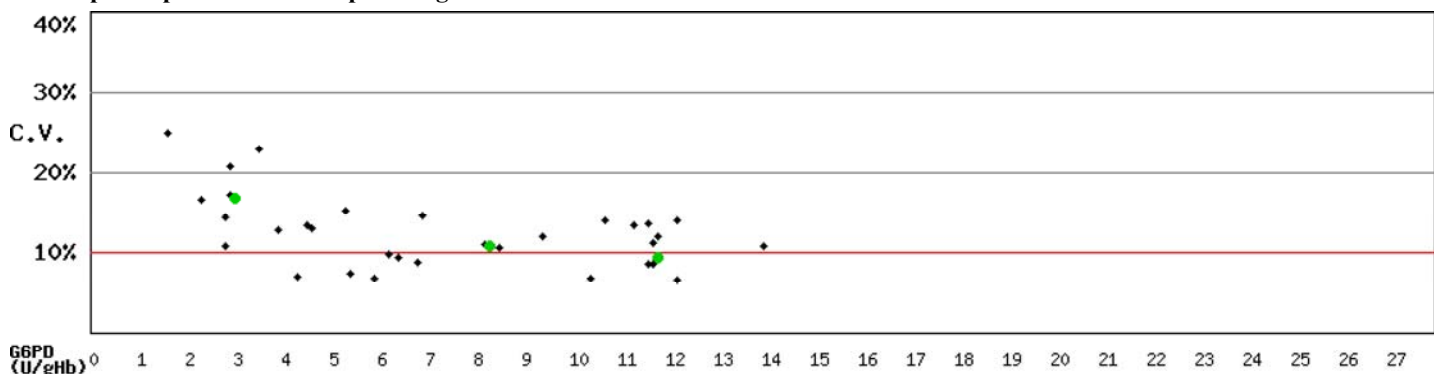


Fig RH-2.2

n: 36 Median of CV: 11.5% Mean of CV: 12.4% SD of CV: 4.3% Range of CV: 6.6%-25.0% (date: RH2013-11 to RH2016-07)

\* Mean and SD are calculated by Robust method according to ISO 13528:2005 since 2014

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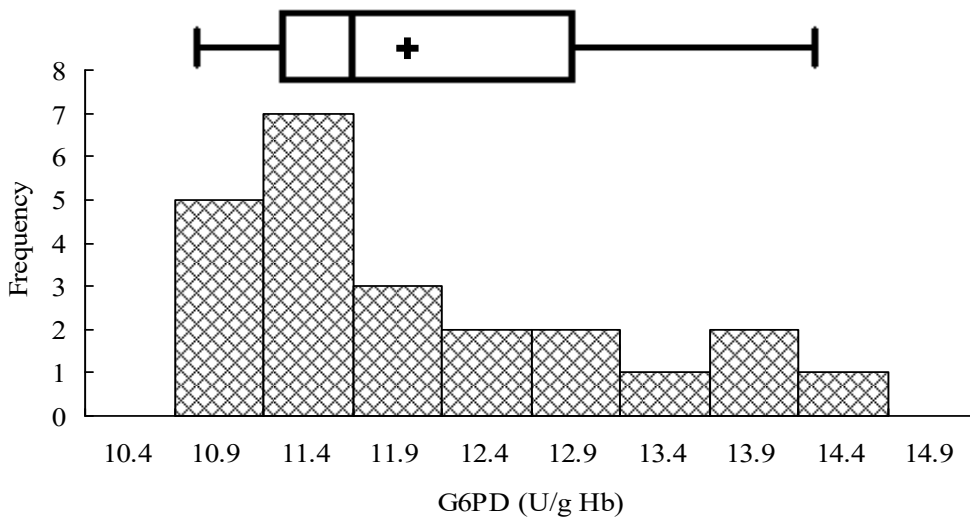
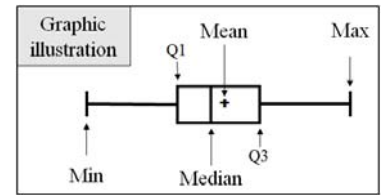
# RH2016-07 External Quality Assurance -G6PD

Survey No. : RH2016-07

Sample sent on : 2016/07/04

Reporting deadline : 2016/07/11

Results reported (%) : 100%



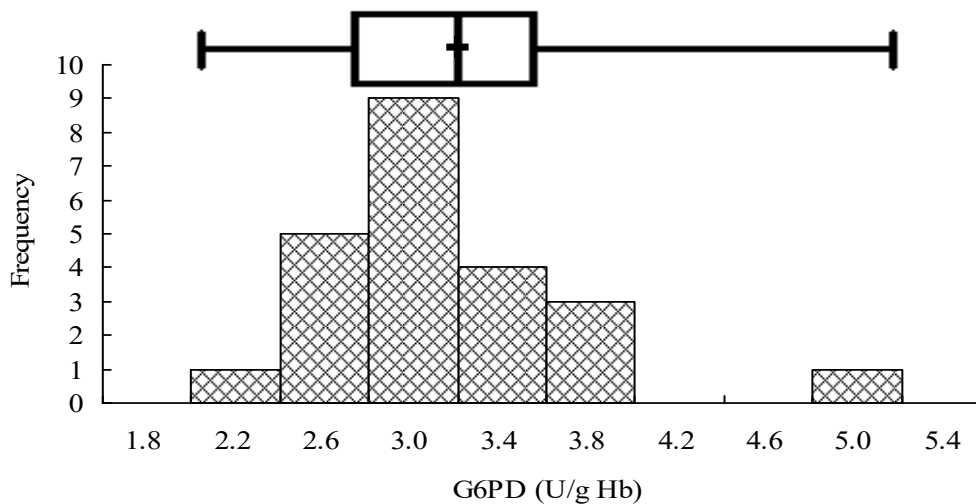
## Sample 1

**Median = 11.4 (n = 23)**

**Mean\* = 11.8 (n = 23)**

**SD\* = 1.1**

**CV = 9.3%**



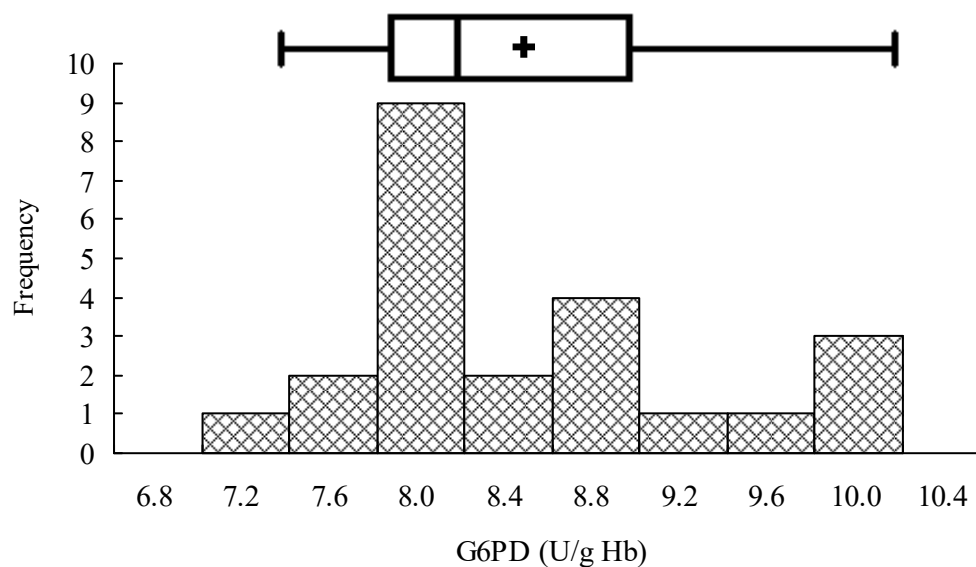
## Sample 2

**Median = 3.0 (n = 23)**

**Mean\* = 3.0 (n = 23)**

**SD\* = 0.5**

**CV = 16.7%**



## Sample 3

**Median = 8.0 (n = 23)**

**Mean\* = 8.3 (n = 23)**

**SD\* = 0.9**

**CV = 10.8%**

\*Robust results ( Mean and SD ) were calculated by Algorithm A according to ISO 13528:2005

Fig PHIQ-3

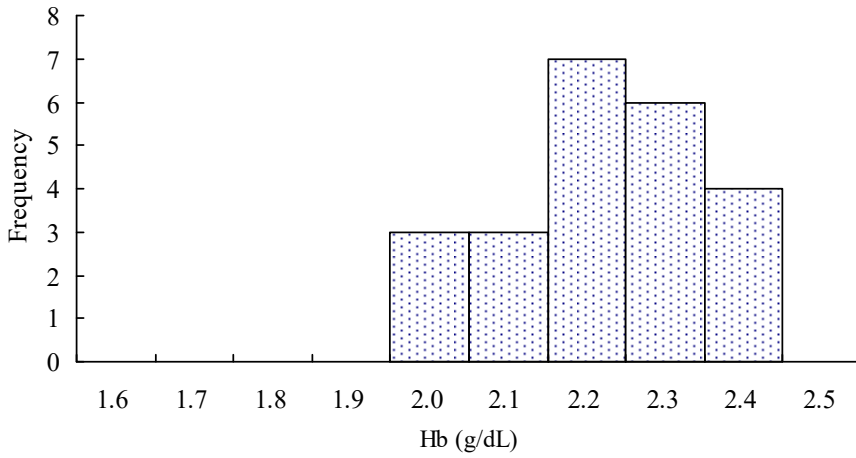
# RH2016-07 External Quality Assurance -Hb

Survey No. : RH2016-07

Sample sent on : 2016/07/04

Reporting deadline : 2016/07/11

Results reported (%) : 100%



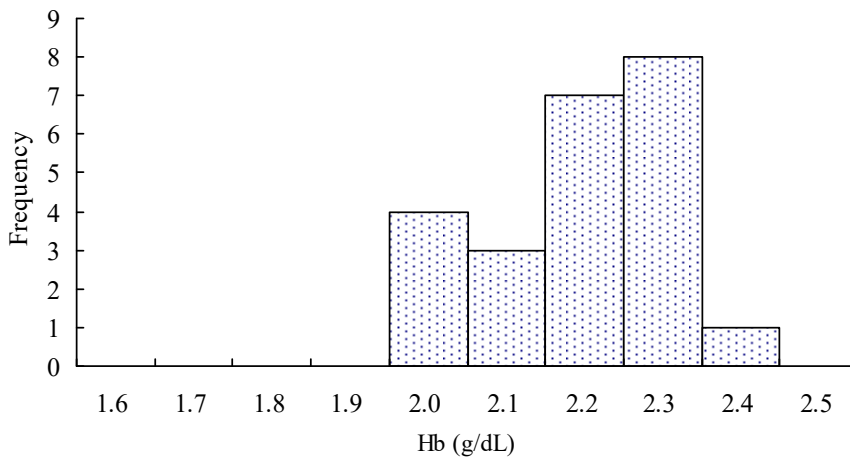
**Sample 1**

**Median = 2.2 (n = 23)**

**Mean\* = 2.2 (n = 23)**

**SD\* = 0.1**

**CV = 4.5%**



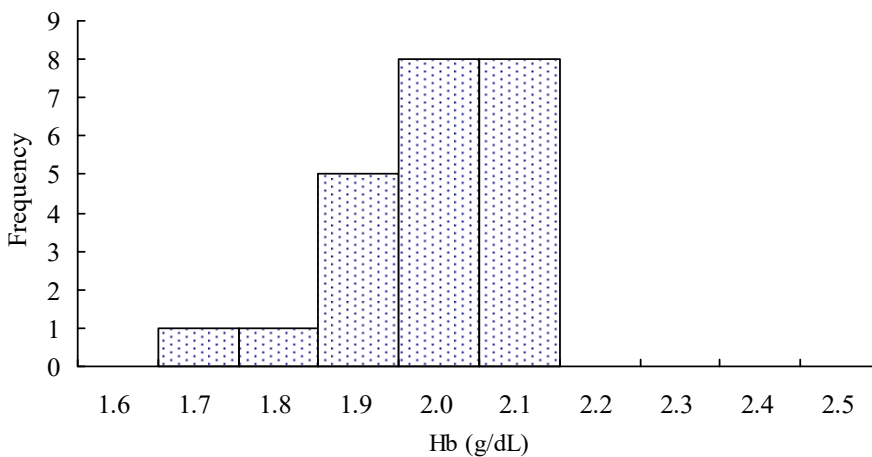
**Sample 2**

**Median = 2.2 (n = 23)**

**Mean\* = 2.2 (n = 23)**

**SD\* = 0.1**

**CV = 4.5%**



**Sample 3**

**Median = 2.0 (n = 23)**

**Mean\* = 2.0 (n = 23)**

**SD\* = 0.1**

**CV = 5.0%**

\*Robust results ( Mean and SD ) were calculated by Algorithm A according to ISO 13528:2005

Fig PHIQ-4