

CLINICAL CHEMISTRY

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The Hong Kong Institute of Medical Laboratory Sciences Quality Assurance Program (HKIMLSQAP) has been operated since 1990. A monthly basis external quality assurance program (EQAP) in clinical chemistry was first introduced in 2003 having joint venture with the external quality assurance scheme of Bio-Rad Pacific Ltd. In 2008 – 2009, there are 44 medical laboratories with 45 participants Table 1 shows the composition, among which private sectors made up the majority.

Table 1. Participants

Laboratories	Participants in 2008 - 2009	
	Number	%
Public hospitals & Institute of Hospital Authority	6	13.3
Private Hospitals	10	22.2
University Laboratories	2	4.5
Private Laboratories	27	60.0
Total	45	100

The program provides a very comprehensive choice of 35 routine analytes. The combination is especially suitable for small to medium sized laboratories. The most popular choices were renal function tests, liver function tests, lipid profile and thyroid profile. The distribution of analytes of participants was listed in Table 2.

Participating laboratories were required to provide information regarding the respective method, instrument, reagent, and, calibrator used, the application temperature and unit of measurement for the analytical results. These parameters are very important to clinical laboratories and medical partners as universal means for comparison. We received quite a number of feedbacks and complaints from participants regarding the transcription error made by the collaborator, Bio-Rad Laboratory. Amendments were made accordingly. In the meantime, preventive measures are being explored to minimize and evade transcription errors. Electronic submission may be a feasible way.

Table 2. Analytes of participants

Analytes	No.	Analytes	No.
Albumin	42	Alanine Aminotransferase (ALT)	42
Bicarbonate (CO2)	27	Alkaline Phosphatase (ALP)	42
Bilirubin, Total	42	Amylase, Total	29
Calcium, Total	39	Asparate Aminotransferase (AST)	42
Chloride	35	Creatine Kinase (CK)	33
Cholesterol, Total	41	Gamma-Glutamyl Transferase (GGT)	39
HDL_Cholesterol	38	Lactate Dehydrogenase (LDH)	33
Creatinine	42	Thyroid Stimulating Hormone	34
Glucose	44	Thyroxine, (T4) Total	33
Iron	32	Triiodothyronine (T3), Total	28
Magnesium	21	Bilirubin, Direct	24
Phosphate	37	Calcium, Ionized	5
Potassium	41	Lipase	6
Protein, Total	42	Lithium	7
Sodium	41	Osmolality	8
Triglycerides	41	Amylase, Pancreatic	1
Urea	42	Iron Binding Capacity, Total	19
Uric Acid	39		

Conclusion

Quality assurance program is crucial to monitor the quality and improve performance in medical laboratories. HKIMLSQAP provides a good means to local laboratories to pursue the goal. Most medical laboratories operate in a relative isolation and have little mechanism to realize their performances among the peers in the local community. HKIMLS may serve as a useful aid to their operations and enable them to monitor their performance and make necessary corrective action.

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