

Time Performance Reports from an Emergency Service

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Abstract:

Turnaround time (TAT) is one of the most noticeable signs of laboratory service and is often used as a key indicator of laboratory performance. Preanalytic phase is an important component of laboratory quality. A 90% completion time (from sample registration to result reporting) of less than 60 minutes for common laboratory tests is suggested as an initial goal for an acceptable TAT.

Keywords: TAT, Preanalytical Phase, Quality, Emergency Service

Material and Methods:

This study aimed to evaluate the TAT of the following analytes: potassium, C-reactive protein (CRP), troponin I, pancreatic amylase and B-type natriuretic peptide (BNP) from emergency service patients during 1 month (October 2016), between 8.30 a.m. and 12 p.m.

Results

Results are shown in Table 1- Time (t) Performance Reports of some analytes

		Potassium	CRP	Creatinine	Troponin I	Pancreatic Amylase	BNP
Number of tests		2061	2053	2136	776	531	43
Average t	Prescription to collecting sample	0:17:08	0:12:18	0:23:42	0:03:09	0:11:42	0:17:12
	Collecting sample to	0:22:37	0:26:22	0:23:25	1:07:22	0:58:34	1:18:12

	medical validation						
	TAT	0:34:45	0:40:29	0:48:38	1:10:32	1:10:17	1:35:24
Maximum <i>t</i>	Prescription to collecting sample	2:47:32	2:44:18	2:42:37	0:43:37	3:14:03	1:44:11
	Collecting sample to medical validation	1:32:05	1:30:25	1:11:29	4:17:38	3:05:54	3:05:55
	TAT	3:51:05	2:10:09	3:49:10	6:52:08	3:53:31	3:42:34
Minimum <i>t</i>	Prescription to collecting sample	0:00:50	0:01:05	0:00:50	0:02:06	0:01:25	0:01:34
	Collecting sample to medical validation	0:18:59	0:22:26	0:21:40	0:29:37	0:22:26	0:38:04
	TAT	0:25:19	0:25:19	0:25:18	0:33:12	0:26:01	0:39:45

In total, the average *t* of TAT response was of 00:59:32. Potassium had the lower average TAT (00:34:45) whereas BNP had the highest average TAT (1:35:24). Troponin I had faster "Prescription to collecting sample" *t* (0:03:09) but had not the best *t* concerning "Collecting sample to medical validation" (1:07:22), which is held by potassium (0:22:37). Creatinine had the worst "Prescription to collecting sample" *t* (0:23:42). The maximum "Prescription to collecting sample" *t* was observed for pancreatic amylase (3:14:03), whereas the minimum was observed for Creatinine and Potassium (both 0:00:50). The maximum "Collecting sample to medical validation" *t* was observed for Troponin I (4:17:38), whereas the minimum was observed for Potassium (0:18:59). The maximum TAT was observed for Troponin I (6:52:08), whereas the minimum was observed for Creatinine (0:25:18).

Conclusions:

In order to improve clinical and laboratory interface, it is very important to have quick answers, standardized practices and good communication of results.