To Improve Wellness Screening Test Turnaround Time (TAT)

**Background**

The ability to provide accurate and fast laboratory reports translates into improved patient care, operational efficiencies and organizational quality. Getting it right the first time will become the mantra for successful laboratories.

**Objectives**

To evaluate whether designing smart laboratory workflow and autoverification could actually improve the turnaround time of screening tests for Wellness Centre, resulting in better customer satisfaction and financial outcomes.

**Method:**

1. Patients waiting at Wellness Centre, 1st floor.
2. Our phlebotomist stationed at Wellness Centre from 8.00 am till 11 am and draws patient’s blood.
3. Despatch staff collects the samples every hourly and brings it down to the laboratory at Lower Ground Floor. The clerk proceeds with the registration.
4. Specimens are sorted by 2 sorters using 2 small centrifuges and samples are sent to designated sections for testing.
5. Tests are carried out at specific analyzer.
6. Results are verified by the validator and the completed results will be printed automatically at Wellness Centre printer.

Our team conducted a one month study to identify workflow bottlenecks and resources constraints in pre-analytical and post-analytical phases of the testing process as shown in Figure 1. By using the Pareto Chart (Figure 3), we prioritized the significant problems as illustrated in Figure 3.

After the study period, we implemented workflow strategies by streamlining pre-analytical processes based on Pareto chart findings and then introduced auto-verification procedure to improve post analytical TAT. Auto-verification is computer releases results by certain criteria. After that, we measured and analyzed pre and post implementation strategies effectiveness. We also conducted a survey to fifty Wellness customers on the waiting time, staff professionalism and hand hygiene to access their satisfaction level with our service.

**Results**

- We compared the TAT data and obtained 13% improvement in median turnaround time in 2012 versus 2011 (Figure 4) despite of increasing of total volume (Figure 5).
- The customer satisfaction survey resulted in over 90% of customers are satisfied in all the three categories as shown in Figure 6.
- Autoverification was found to have substantial savings of RM17,002 by reducing the headcount for manual validation at the validation section. (Figure 7 & 8).

**Discussion and Conclusion:**

Our results show that designing smart laboratory workflow could actually improve Wellness screening turnaround time by 13%, resulting in over 90% satisfied customers and headcount of RM17,002. The effective re-engineered workflow and Laboratory Information System automation or auto verification frees up our staff to concentrate more on abnormal results and other quality improvement projects besides improving the Wellness screening TAT.