

## TTSH Microbiology Laboratory Automation: Quality Improvement & Challenges

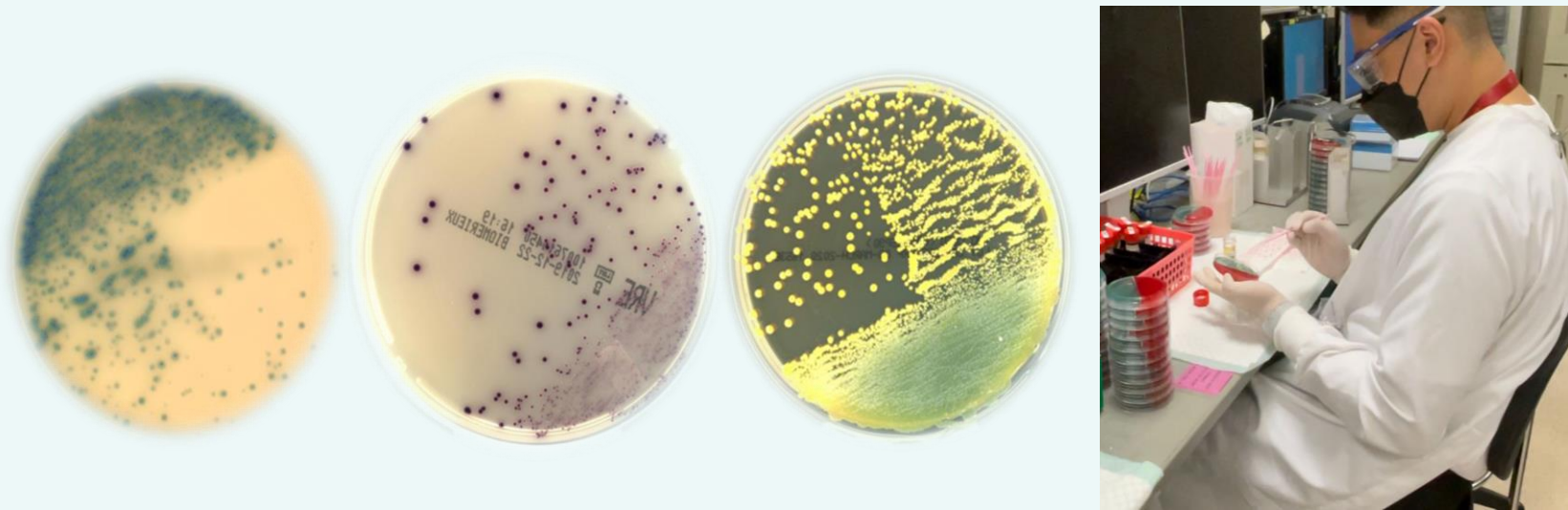
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### Problem Statement

Healthcare challenges of an aging population and the need for consistent, high quality microbiology results necessitates the transformation of Microbiology culture workflows.



### Potential Solutions

After a systematic analysis of our current processes with behavior over time diagrams, it was decided to holistically redesign workflows to leverage capabilities of automation. Staff at all levels were engaged, leading to crafting of different solutions, implementation of innovative workflows and reduction in waste. Microbiology Laboratory Automation resulted in sustained improvements in turnaround times, greater capacity with current resources and increased laboratory productivity by 25%.



### Project Aim

To improve the quality, consistency, productivity, and turnaround time within the Microbiology Laboratory by process redesign and leveraging robotic automation for traditional microbiology culture processes.

### Lessons Learnt

Different skill sets were pivotal throughout the journey. Clear, concise communication and understanding of different perspectives is key. Mutual respect, patience, tolerance and empathy has resulted in a more cohesive team.

By automating much of the pre-analytical steps, laboratory scientists can now focus on analytical work which has led to sustained improvements in quality metrics.

### Outcomes & Impacts

