

Digitalisation of Laboratory Inventory and Quality Control Management System

What is Stupid? Why is it Stupid?

- Manual inventory management and quality control processes consumed significant staff time.
- Hardcopy delivery tracking made it difficult to monitor transactions and ordering patterns difficult.
- Physical stock-taking across scattered lab areas was burdensome.
- Manually determining QC requirements for tests, organisms, materials, and expected results increased the risk of transcription errors.

What was Implemented?

A self-developed Microsoft Access Inventory System with QC module eliminated manual laboratory inventory and quality control

Before

- Hardcopy delivery orders and tax invoices were used for tracking purposes.
- Manual inventory checks, ordering pattern reviews, and stock-taking were performed manually.
- Staff manually determined QC requirements for each item received.

Now

- Digital check-in/out system with expiry alerts and laboratory-wide inventory overview.
- Auto-generated QC order lists that include required tests, materials, and expected results.

Impact

- Weekly stock checks were reduced from 3 hours to 30 minutes, saving ~ **130 hours per year**.
- With ~130 deliveries per month, **manual paper-based recording was eliminated entirely, saving ~1500 pcs of paper monthly**
- Reduction in QC transcription errors : **from 3 to 5 errors monthly to near zero**, significantly improving accuracy and reliability in the laboratory.

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