Installation and verification of Tempus600®

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Background/Purpose

For staff: Find an ergonomic solution and reduce manual handling of samples sent and received by pneumatic tube transport.

For patients: Generate faster test results and reduce care time while maintaining the quality of test results.

Method

During sampling, 9 test tubes were taken from each of 10 volunteers. For evaluation, 5 different tube types and a total of 28 different analytes were compared.

The analysis results were compared according to 3 different modes of transport: walk from Accident and Emergency (A&E) to Clinical Chemistry, existing pneumatic tube transport and new Tempus pneumatic tube transport.

Results

Of 28 analytes, 4 showed a statistically significant difference in analysis results between walking and sending via Tempus600®. However, these differences lacked medical relevance. The number of pneumatic tube transport cartridges decreased from 80 to about 10 per day and creatinine received a 20-minute faster turn around time (TAT).

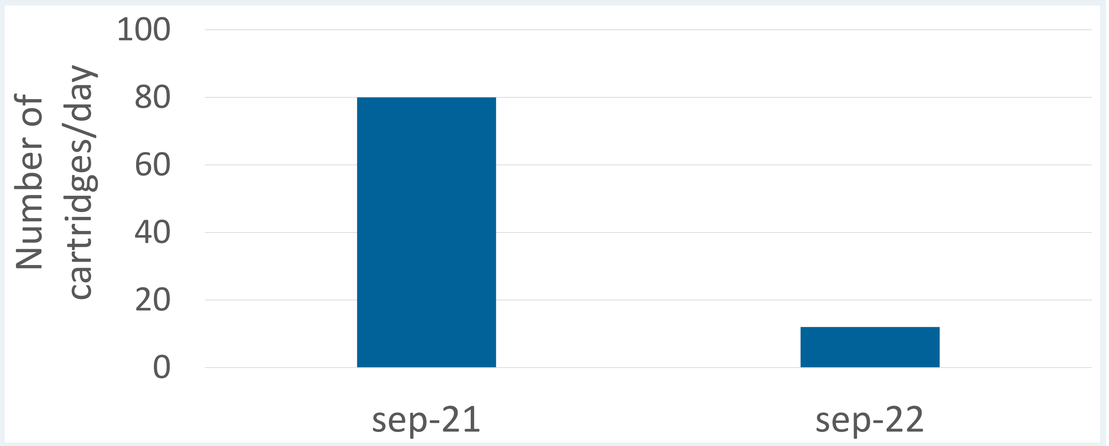

Figure 1. Comparison of number of pneumatic tube transport cartridges sent before and after installation of Tempus600®.

“The best thing that ever happened to A&E” is the installation of Tempus600®

A transport system for one patient sample at a time, connected to the automation system in Clinical Chemistry

Sending station in A&E
Image: Cecilia Junfors

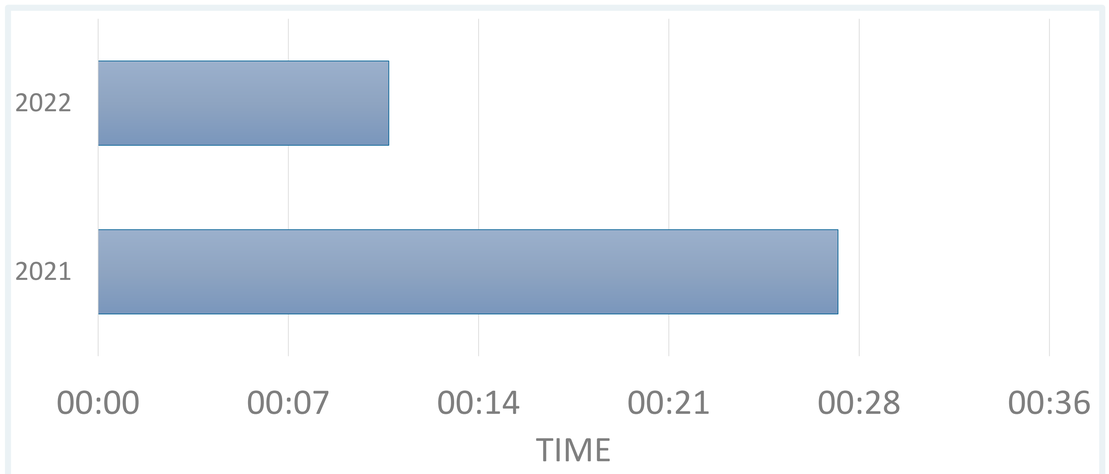

Figure 2. Comparison of TAT (turn around time) Median, sampling to arrival to the automation system, in 2021 and 2022 for creatinine taken in A&E.

Results benefit both patients and staff

- **Transport via Tempus600® showed no medically relevant difference in analysis results**
- **Patient samples arrive at the automation system in 10 seconds**
- **Significantly fewer pneumatic tube transport cartridges**
  Currently, about 10 cartridges are sent per day
- **Minimal manual handling**
  No bubble wrap, rubber band or sample sleeve required
- **Fast sample handling regardless of time of day and staffing level**
  Patient samples arrive in the automation system and are handled directly
- **TAT decreased with 20 minutes**

Receiving station in Clinical Chemistry
Image: Yasmin Chahrour

The goal for the future is to connect more departments

Clinical Chemistry Unit 3,
Primary Diagnostics 1,
Sahlgrenska University Hospital

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