A seven-cell Omnicell® automated dispensing cabinet was installed in the pharmacy department in November 2019.

**Results and discussion**

In the pre-ADC period, dispensing data were collated at various times over a two-week period; the data included controlled drug items dispensed to replenish ward stock, and controlled drug items required for patients’ discharge prescriptions. The sample size of 66 items was equivalent to approximately 20% of the weekly controlled drug dispensing workload. Analysis of the dispensing process revealed there were five core steps in the preparation of a controlled drug item:

- Labelling
- Assembly
- Product release
- CD register entry
- CD stock check verification.

The average time to dispense a controlled drug medicine was 6 minutes and 18 seconds.

There are two distinct dispensing processes for controlled drugs within the pharmacy: items required for ward stock replenishment (typical supply is an original pack); and supply for discharge prescriptions, which must be the exact quantity for seven days as per regional policy.

The average length of time to dispense an original pack of a controlled drug for ward stock was 5 minutes and 47 seconds. The average length of time to dispense a 7-day supply of a controlled drug was 8 minutes and 12 seconds due the additional steps of packing down into individually labelled containers. Analysis of the individual dispensing steps found that 43% of the total time was required to complete the controlled drug register entry and verify stock balance.

Three weeks after implementation of the ADC, dispensing data were collated for 76 items over a two-week period, equivalent to approximately 25% of the weekly workload. To replicate the pre-ADC data collection, a similar proportion of ward stock and prescription items dispensed was observed. The number of discrete steps in the dispensing process had reduced from five to four. That is:

- Labelling
- ADC input (formerly CD register and stock check verification)
- Assembly
- Product release.

The impact on dispensing process times was immediate, with the average time taken to dispense a controlled drug item of 2 minutes and 41 seconds (a reduction of 57%).

The average time required to dispense a controlled drug for ward stock was 2 minutes and 8 seconds, which is a 63% reduction in dispensing time. The time taken to dispense a discharge item was on average of 3 minutes and 35 seconds, a reduction of 56%.

The SPC I-chart for dispensing a ward stock item (Figure 2) shows a level of instability and variation in dispensing times in phase 1; however, no rules for special cause variation were observed. In phase 2, there was one data point above the upper control limit, which could have been operator-related, possibly attributed to using the new system. There were 15 consecutive data points close to the centre line suggesting that the improvement in the mean...