Acute Frailty Network Return on Investment Case Study:
Royal Shrewsbury Hospital

Changes to the frailty pathway made by the Shrewsbury and Telford Hospital NHS Trust have resulted in a reduction in occupied bed days by patients aged 75 and above. The financial saving associated with this reduction is investigated in the following report.

Figure 1: Daily number of occupied bed days at the Royal Shrewsbury Hospital, for patients aged 75 or above.

The daily number of bed days occupied by patients 75 years of age and above at the Royal Shrewsbury Hospital are shown in Figure 1. Two groups were identified based upon visual inspection of a decreasing trend. An SPC chart was then created for each of the two groups, permitting calculation of the average, as well as upper and lower control limits, for the number of occupied bed days in each time period (see Figures 2 and 3).

Figure 2: Daily number of occupied bed days for group 1, which runs from 01/12/2016 to 10/02/2017.
Figure 3: Daily number of occupied bed days for group 2, which runs from 11/02/2017 to 30/10/2018.

To calculate the reduction in occupied bed days, the difference between the average, upper control limit, and 80% control limit for the two groups was calculated (see Table 1). A 15.6% decrease was observed in the average number of bed days occupied by patients aged 75 and above, dropping from 226.89 to 191.49 per day. This decrease was even greater for the 80% limit and upper control limit, which decreased by 16.5% and 17.2% respectively.

Table 1: Calculation of the reduction in occupied bed days and the associated financial saving when using either £59 or £171 as the daily bed day cost.

Two different pricings were used to calculate the financial saving associated with the observed reduction in occupied bed days. First, the price of £59 per day, which was the price provided by Audit Commission data. Second, a daily cost of £171, as calculated by the Royal Bournemouth Hospital.
Based upon the £59 and £171 daily bed day costs, it is estimated that between £760,131.70 and £1,378,544.00 is being saved on average per year. This saving is even greater when looking at the 80% and upper control limits, which result in an annual saving of between £846,841.60 and £1,535,798.00, and £933,479.20 and £1,692,920.00 respectively.