

Optimising the use of bladder ultrasound scanners to improve the quality and safety of patient care and reduce costs in a hospital NHS trust (Prieto, 2016)

Inputs

Investment

- › Set up costs
 - › £18,343 for 2 additional scanners for the Medical Equipment Library (MEL), including consumables but no maintenance contract for first year (under warranty)
 - › £300 for a model bladder for in-service training
- › Running / operational costs
 - › £20,480 for maintenance and repair
 - › £1,618 for consumables (paper and gel)
 - › £900 to replace 3 scanner chargers per year
- › Total projected costs for 2016/17:
 - › **£22,903** for a fleet of 32 scanners
 - › **£41,546** if the fleet is increased to 34 scanners and run by the MEL

Resources

- › Staff
 - › Clinical engineers to arrange maintenance
 - › MEL staff to set up system for scanners
 - › Clinical skills training team to provide training for clinical staff

The Service

How bladder scanners avoid harm and reduce costs

Advantages

- › Non-invasive, fast and painless alternative to bladder catheterisation
- › Reduced urinary tract infection (UTI)
- › Increased patient comfort and satisfaction

Use and avoided spend

- › In one month 16 scanners enabled 320 catheterisations and 20 UTIs to be avoided, an avoided spend of **£51,118**
- › Extrapolating to one year using 32 scanners would result in an avoided spend of at least **£1,226,822**

Training

- › Managing scanners outside of the MEL means no access to a scanner for in-service training. Instead, training is provided on an irregular, ad-hoc basis by the manufacturer with limited availability for staff
- › Access to a scanner from the MEL and purchase of a model bladder would enable in-house training for all staff

Maintenance and replacement

- › At any one time several scanners can be off-site for maintenance or repair, which means they are out of use from 5 days to several weeks
- › Replacement of old scanners is a lower priority when managed outside of the MEL
- › Managing scanners within the MEL would allow a more coordinated approach to use, maintenance and replacement, creating efficiencies within the system by improving access and use across the Trust

Summary of Benefits

For patients

- › All patients receive the most clinically appropriate and timely care
- › Avoidance of unnecessary treatment (e.g. urinary catheterisation), delays in treatment and adverse events (e.g. catheter-associated UTI, delayed discharge from hospital).

For staff

- › Improved access to scanners for wards and departments, saving nursing time
- › Access to a scanner from the MEL for short-term or ad-hoc use (e.g. for training, clinics)
- › Improved access to training on scanner use

For the trust

- › Reduction in adverse events and associated costs
- › Equitable system for distributing costs of scanner use and upkeep across all divisions
- › Improved efficiency of scanner use over time
- › Better trained workforce
- › Succession planning for replacement of scanners
- › Coordinated approach to equipment purchase at best available price
- › Standardisation of equipment across the trust