

Trust Board Briefing Paper

From: Kevin McMahon, Interim Director Surgery & Clinical Services

To: Trust Board

Date: 20th January 2022

Subject: Synopsis of Business cases to purchase replacement mobile X-ray units and mobile Image Intensifier Units.

Action Required: For retrospective approval from Trust Board following approval by Chairman in December to facilitate delivery before end March 2022.

1. Mobile X-ray units:

Currently, the NHSCT runs a mobile X-ray service on the Antrim, Causeway, Mid Ulster and Whiteabbey sites. Mobile X-ray imaging is required for patients when they are unable to attend fixed X-ray departments, either because of severe illness or susceptibility to infection. Areas of particularly high need of mobile imaging include ICU, ED resuscitation and Neonatal ICU. Because of increased infection prevention and control measures, there is a requirement to decrease the cross-cover usage of mobile x-ray equipment to ensure patient safety e.g. a single unit is required to service Neonatal ICU, which is not used in other areas.

The recommended age of replacement of mobile X-ray units is 7 years old. The units for replacement are aged between 11 and 7 years old. Image quality of older machines will compromise over time, which has the potential to lead to misdiagnosis of patient conditions, and failure of the service.

The loss of an aged mobile X-ray unit in an unplanned manner will have a significant detrimental impact on throughput and patient safety. As well as having the potential to increase Length of Stay for patients who go on to need inpatient care following diagnosis and/or treatment (potential delayed diagnosis due to aging equipment could result in patients being more unwell at the time of diagnosis and require more intensive treatment).



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The mobile X-ray services in Antrim and Causeway Hospitals runs for 24 hours, 7 days a week. Resilient scanners that get little 'down time' due to faults are required to ensure service continuity. Providing new replacement mobile X-ray units will:

- Improve the safety and sustainability of the Antrim Area and Causeway hospital sites by ensuring uninterrupted provision of mobile X-ray service
- Reduce further the X-ray dose to patients by employing the latest imaging technology and radiation dose reduction
- Future proof the mobile X-ray service by ensuring ageing equipment is replaced
- Maintain emergency and acute patient access and capacity

The option of choice is to replace nine units with new updated equipment. This option will ensure all the equipment is up to date and provides resilience for the mobile imaging service into the future.

It will ensure premium image quality and dose reduction for all patients including paediatrics.

The total cost is £1.14m. The units will be purchased through NHS Supply Chain, in collaboration with PaLS.

2. Mobile Image Intensifier units:

The NHSCT runs a mobile Image Intensifier service on the Antrim, Causeway, Mid Ulster and Whiteabbey sites. Mobile Image Intensifier imaging is required for patients when they are undergoing specific types of surgery.

The recommended age of replacement of mobile Image Intensifier units is 5 years old. The units for replacement are aged between 15 and 5 years old.

Image quality of older machines will be compromised over time, which has the potential to lead to misdiagnosis of patient conditions, and failure of the service.

The loss of an aged mobile Image Intensifier unit in an unplanned manner will have a significant detrimental impact on throughput and patient safety as well as having the potential to increase Length of Stay for patients who go on to need inpatient care following diagnosis and/or treatment (potential delayed diagnosis due to aging equipment could result in patients being more unwell at the time of diagnosis and require more intensive treatment).



Northern Health and Social Care Trust

The mobile Image Intensifier services in Antrim and Causeway Hospitals runs for 24 hours, 7 days a week. Resilient units that get little 'down time' due to faults are required to ensure service continuity.

The total cost is £635k. The units will be purchased through NHS Supply Chain, in collaboration with PaLS.

3. Common themes for both cases:

Advancement of radiation technology brings reduced doses and improved image quality with each new 'generation' of X-ray units. The replacement of aging equipment will ensure dose efficient and high quality imaging, which will benefit the patient through decreased risk and improved clinical care.

The replacement of the aged units will allow the Radiology department to dispose of the final analogue units, replaced by Digital units. This will introduce increased flexibility through image manipulation, real time image viewing, allowing all post processing and decisions on repeat imaging to be made in surgery or on wards, rather than returning to the Radiology department, and then back to the theatre/wards.

Dose reduction capabilities that are available with modern up to date technology will allow the Trust to deliver its legislative obligation of ensuring doses to patients are 'as low as reasonable achievable', as required by the Ionising Radiation (Medical Exposure) Regulations, 2018 (IRMER). At the same time, the Trust will also be able to deliver the legislative requirement of reducing doses to staff and public as required under the Ionising Radiation Regulations (IRR), 2017.

Improvements in imaging technology now allow lightweight systems to be employed. This aids positioning, and improves ergonomics, thereby reducing staff weights that must be carried and lifted by staff.