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The risks of mismanaged medical technology



Medical Technology is changing rapidly - creating risks and opportunities. The medical technology market is estimated to be worth (annually) £150-170Bn worldwide.

(HM Government, Strength and Opportunity 2011)

UK - NPSA

- ...uncontrolled purchasing and device management, in the absence of competency-based training, were contributing factors in causing incidents.

National Patient Safety Agency, 2004. Standardising and Centralising Infusion Devices. London: NPSA.

2014, UK News headlines

- At least 1,400 'killed by NHS equipment failures'
 - “As medical staff rely more and more on technology, lives are being put at risk **because of a lack of engineers working to fix, maintain and test equipment...**”
- Currently six patients are dying a week and thousands more NHS and private patients have been left seriously injured after vital equipment failed to work.

□ <http://www.mirror.co.uk/news/uk-news/least-1400-killed-nhs-equipment-3909340>

UK, Dr Patrick Finlay – ImechE

- In 2013 over 13,000 incidents were reported to the UK regulator relating to faulty medical equipment, which led to over 300 deaths and almost 5,000 serious injuries.

- [Dr Finlay is chairman of the ImechE Biomedical Engineering Association](#)
- [http://www.imeche.org/news/institution/New report lack of NHS engineers is putting lives at risk](http://www.imeche.org/news/institution/New_report_lack_of_NHS_engineers_is_putting_lives_at_risk)

USA – Incorrect operation

- In an investigation on incidents involving defibrillators in the US (2), it was concluded that the majority of the incidents were due to incorrect operation and maintenance.

- World Health Organisation, 2010. Increasing Complexity of Medical Technology and Consequences for Training and Outcome of Care. [Online at http://whqlibdoc.who.int/hq/2010/WHO_HSS_EHT_DIM_10.4_eng.pdf].

Australia – Equipment failure and improper use

- A study of 2000 adverse incidents in operating theatres in Australia showed that only 9% were due to pure equipment failure (9). In two reports on the use of critical care equipment by nursing staff, 19% (10) and 12.3% (11) of nurses, respectively, indicated that they had used equipment improperly, which had consequently harmed a patient
 - World Health Organisation, 2010. Increasing Complexity of Medical Technology and Consequences for Training and Outcome of Care. [Online at http://whqlibdoc.who.int/hq/2010/WHO_HSS_EHT_DIM_10.4_eng.pdf].

Healthcare Technology Issues *

Improving Healthcare Technology Management saves money and lives

20-40% of equipment remains under-utilised

- Poor standardisation

30-50% additional cost for maintenance

- Purchase of sophisticated equipment where users and maintenance staff are not properly trained

10-30% unplanned costs

- Poorly specified technology

25-35% of equipment out of service

- Due to absence of preventative maintenance

Loss of 30-80% of the potential lifetime of equipment

* How to organise a system of Healthcare Technology Management (Lenel, et al., p.31)

Department of Health report

- Across the NHS, there needs to be a means by which hospital trusts can objectively determine the right specification of machine for their needs, and be assured that they are gaining value for money from procurement decisions.

- NAO Report by the Comptroller and Auditor General, HC 822 Session 2010–2011, 30 March 2011

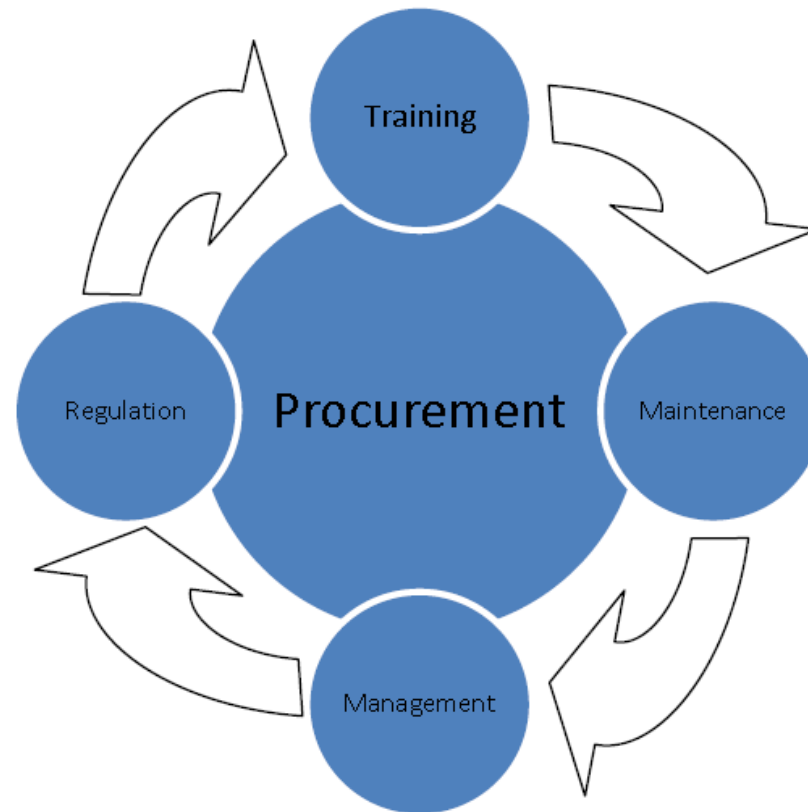
NHS Funding issues

- The current total replacement value is estimated at *£5Bn.
 - A shortfall in funding of £2Bn creating an NHS aging technology fleet.
 - *NHS Supplies

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Procurement at the centre



Thank you

Any questions?