

PWYLLGOR CYLLID FINANCE COMMITTEE

DYDDIAD Y CYFARFOD: DATE OF MEETING:	23 March 2021
TEITL YR ADRODDIAD: TITLE OF REPORT:	Investment in Medical Device Equipment to meet Audit Requirements and reduce Risk of Harm
CYFARWYDDWR ARWEINIOL: LEAD DIRECTOR:	Huw Thomas - Director of Finance
SWYDDOG ADRODD: REPORTING OFFICER:	Chris Hopkins, Head of Clinical Engineering, Innovation & Research.

**Pwrpas yr Adroddiad (dewiswch fel yn addas)
Purpose of the Report (select as appropriate)**

Er Gwybodaeth / For Discussion

ADRODDIAD SCAA SBAR REPORT

Sefyllfa / Situation

Every year the Clinical Engineering Department undertakes a review of the status of medical devices currently being utilised within the Health Board (HB). On the back of these annual reviews and in line with audit requirements, it was determined that a number of medical devices required replacement, or additional medical devices needed to be purchased in order for the HB to be compliant with both audit and patient safety requirements.

The purpose of this paper is to justify the case for investment in medical equipment in order that the HB may ensure compliance with statutory and audit requirements, thus reducing the risk of potential harm to both staff and patients. The additional investment will enable greater resilience in service provision through possession of sufficient resource in terms of available equipment.

This paper will illustrate areas where investment has been made and the rationale supporting the decisions.

Cefndir / Background

Medical devices are defined as any instrument, apparatus, appliance, software, material or other article, whether used alone or in combination, including the software intended by its manufacturer to be used specifically for diagnostic and/ or therapeutic purposes and necessary for its proper application, intended by the manufacturer to be used for human beings for the purposes of :

- Diagnosis, prevention, monitoring, treatment or alleviation of disease;
- Diagnosis, monitoring, treatment, alleviation of or compensation for an injury or handicap;
- Investigation, replacement or modification of the anatomy or of a physiological process;
- Control of conception, and which does not achieve its principal intended action in or on the human body by pharmacological, immunological or metabolic means.

There are c.31,000 medical devices within the HB, with an estimated replacement cost of c.£85m and an annual recurring maintenance cost of c.£8.5m (10% of purchase value). These range from small hand-held devices; such as syringe drivers or infusion pumps, to larger pieces of equipment;

such as intensive care ventilators and (ultimately) Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) scanners.

There are currently a number of medical devices which have passed their prescribed useful life, yet are still in operation throughout the HB; ranging from smaller items, such as medical gas equipment to larger pieces of equipment, such as paediatric beds. There are also a number of items that are required to maintain, or to be used with, other medical equipment; these have also been documented below.

The last report of this type to Capital Estates and Information Management and Technology (CEIM&T) Sub-Committee in July 2020 outlined overdue, current and future capital and revenue investment needs - principally where medical devices were concerned. This detailed review of the medical device inventory followed the theme of previous reports produced following a serious incident in 2017. These reports were the first to furnish the HB with insight into strategic medical equipment replacement requirements, based upon a significant evidential platform.

Table 1 identifies the number of devices that the HB should have considered as being potentially Due/ Overdue/ Requiring Replacement from an age/ technical perspective (as at July 2020):

Table 1. Medical Devices (<i>In-Use</i>) identified as potentially Due/ Overdue/ Requiring Replacement.						
	Capital		Revenue		Overall	
	No. of Devices	Est. Replacement (£m)	No. of Devices	Est. Replacement Cost (£m)	No. of Devices	Est. Replacement Cost (£m)
2020	1,016	£23.48	3,813	£5.32	4,829	£28.8
2019	1,131	£30.07	3,210	£5.29	4,341	£35.36

CEIM&T - July 2020

From Table 1:

- Devices defined in terms of revenue – the number identified as potentially requiring replacement had increased by 603 from the previous year. Despite this rise, the estimated replacement cost had only seen a relatively small increase of £30k – this being largely accounted for by lower cost devices being identified and on-going cleansing work.
- Overall replacement costs have fallen by £6.56m.
- While the welcome fall in the number and value of capital devices requiring replacement can be attributable to recent efforts and the availability of capital funding, **no similar revenue stream existed and (as highlighted in previous CEIM&TSC reports), the number of 'Revenue' devices identified continued to grow.**

Items* procured in order for the HB to be able to de-risk certain outstanding actions as per audit requirements and improve patient care provision include:

Wi-Fi batteries for infusion pumps – These were due for replacement within one year. They are required to support drug library updates and to prevent medication errors.

Vital signs monitors – These monitors take measurements of the body's most basic functions. The four main vital signs routinely monitored are; body temperature, pulse rate, respiration rate and blood pressure. Current records indicate that the age of some monitors in use is in the region of 12-25 years (useful expected life is 10 years). One record suggests an item in excess of 40 years.

Non-Invasive Blood Pressure monitors – These monitors allow the recording and measurement of blood pressure via a non-invasive system. Within the HB, they are required for use in acute and community services (including the Heart Failure service) – at present staff either do not have a device or there is a need to replace unsuitable existing devices.

Bariatric chairs, trolleys, recliners and commodes – These pieces of equipment are larger than average chairs, trolleys or commodes and are able to cope with heavier loads; some are suitable for a seated weight of up to 50 stone. Following a recent audit, it was concluded that there was insufficient resource within the HB for potential patient requirements. Purchase of equipment will also reduce current rental costs, which are circa £300k every 6 months.

Portering chairs – Again following a recent audit it was concluded that there was an insufficient number of usable chairs for the transportation of patients within acute sites.

Suction regulators - A suction regulator is a medical device that converts the high-pressure vacuum that is supplied by the Hospital central vacuum system to a safe level for use on a patient. While most of the equipment currently in operation within the HB is of unknown/ indeterminable age, it has passed its recommended usage life.

Mattresses at Bronglais General Hospital (BGH)– Hybrid power mattresses and dynamic mattresses use air cells which inflate and deflate alternately, powered by a pump/ control unit. Following an audit of equipment levels, it was determined that there was insufficient supply held onsite.

Paediatric beds – These are designed for infants, toddlers, and young children who are patients in healthcare facilities. Current beds do not comply with latest entrapment guidance at either Glangwili General Hospital or BGH.

RFID for acute and field sites – Radio Frequency Identification (RFID) is a wireless system comprised of two components: tags and readers. The reader is a device that has one or more antennae that emit radio waves and receive signals back from the RFID tag. These have been designated as required for all new assets at both acute and field hospital sites and will support the Scan 4 Safety rollout across Wales.

Scales for Oxford hoists – These are digital scales, which are microprocessor controlled, digital weighing devices designed for use with Oxford Hoists. There are approximately 70 Oxford Hoists in use throughout the HB without scales.

Portable suction units (Laerdal) – The Laerdal Suction Unit (LSU) is a portable, powerful and highly reliable suction unit designed for optimal preparation in emergency situations. Most of the equipment currently in operation within the HB has passed its recommended usage life.

**A detailed listing of units ordered and associated costs is provided in the financial table within the assessment.*

[Assessiad /Assessment](#)

Based on the above data, it has been determined that there is an urgent need for procuring approximately £1.842m of medical equipment due to items being classed as obsolete due to age, or due to items integral to providing patient care not being present at some of the sites throughout the HB. The following table itemises the current spend on medical equipment for the HB as part of this piece of work:

Description	Site/s	De-risking of item or Improvement of service	Qty.	Actual Total Cost (inc VAT)
Wi-Fi Batteries for Infusion Pumps	All	Improvement	1,100	£330,000
Monitor - Vital Signs	BGH	De-Risk	20	£35,100
Monitor - Vital Signs	GGH	De-Risk	33	£78,960
	PPH	De-Risk	8	
	WGH	De-Risk	10	
Pacing Boxes	WGH	De-Risk	4	£19,078
	PPH	De-Risk	4	
AED - Defibrillators	All	De-Risk & Improvement	69	£91,009
Patient Trolleys	GGH	De-Risk	16	£53,222
NIBP Monitors	Community	De-Risk	100	£10,000
Oxygen Single Flowmeters	PPH	De-Risk	50	£9,716
	GGH	De-Risk	100	
	Pembs	De-Risk	46	
Entonox Demand Valves	GGH	De-Risk	22	£6,065
Entonox Demand Valves	Ceredigion	De-Risk	12	£7,538
	Pembs	De-Risk	26	
Suction Regulators	Pembs	De-Risk	24	£36,287
	GGH	De-Risk	120	
	PPH	De-Risk	100	
Suction Regulators	Ceredigion	De-Risk	20	£1,588
Paediatric Beds	GGH & BGH	De-Risk	14	£26,460
Hybrid Power Mattress & Pump	BGH	De-Risk	15	£9,088
	GGH	De-Risk	15	£9,088
	PPH	De-Risk	15	£9,088
	WGH	De-Risk	15	£9,088
RFID - asset tracking for Medical Devices	Field Hospitals	Improvement		£107,826
RFID - asset tracking for Medical Devices	All Acute	Improvement		£133,630
Automated Lateral Turning System	BGH	De-Risk	1	£2,448
	GGH	De-Risk	1	£2,448
	PPH	De-Risk	1	£2,448
	WGH	De-Risk	1	£2,448
Cushion	BGH	De-Risk	10	£6,204
	GGH	De-Risk	15	£9,306
	PPH	De-Risk	11	£6,824
	WGH	De-Risk	14	£8,686
Dynamic Mattresses	BGH	De-Risk	15	£27,898
	GGH	De-Risk	15	£27,898
	PPH	De-Risk	15	£27,898

	WGH	De-Risk	15	£27,898
Tourniquet x 5	WGH	De-Risk	5	£15,455
Portable Suction Units	BGH	De-Risk	80	£68,256
	GGH	De-Risk	50	£42,660
	PPH	De-Risk	10	£8,532
	WGH	De-Risk	80	£68,256
NIBP Monitors	Community	De-Risk	200	£20,000
Monitor - Vital Signs	WGH	De-Risk	18	£24,953
RFID - asset tracking for Medical Devices	All	Improvement		£108,257
Scales for Oxford Hoists	GGH	De-Risk	25	£29,880
	PPH	De-Risk	15	£17,928
	WGH	De-Risk	15	£17,928
	BGH	De-Risk	15	£17,928
Portering Chairs	GGH	De-Risk	40	£23,440
	PPH	De-Risk	20	£11,720
	WGH	De-Risk	20	£11,720
	BGH	De-Risk	20	£11,720
Oxygen Bottle Holder for Manchester INN	GGH	De-Risk	40	£4,200
	PPH	De-Risk	20	£2,100
	WGH	De-Risk	20	£2,100
	BGH	De-Risk	20	£2,100
Opt.951 - IV Pole	GGH	De-Risk	50	£850
	PPH	De-Risk	25	£425
	WGH	De-Risk	25	£425
	BGH	De-Risk	25	£425
Orthopaedic Leg Rest and its Support	GGH	De-Risk	40	£5,480
	PPH	De-Risk	20	£2,740
	WGH	De-Risk	20	£2,740
	BGH	De-Risk	20	£2,740
Plastic Document Holder on Rear of Chair	GGH	De-Risk	40	£1,760
	PPH	De-Risk	20	£880
	WGH	De-Risk	20	£880
	BGH	De-Risk	20	£880
Manchester Heavyweight Portering Chair	GGH	De-Risk	10	£9,520
	PPH	De-Risk	5	£4,760
	WGH	De-Risk	5	£4,760
	BGH	De-Risk	5	£4,760
39" Single Patient Use HoverMatt - Box of 10	GGH	De-Risk	2	£1,920
	PPH	De-Risk	1	£960
	WGH	De-Risk	1	£960
	BGH	De-Risk	1	£960
HoverMatt 39" Double Coated	GGH	De-Risk	2	£3,648
	PPH	De-Risk	1	£1,824
	WGH	De-Risk	1	£1,824
	BGH	De-Risk	1	£1,824
Battery pack for HoverJack	GGH	De-Risk	2	£7,188
	PPH	De-Risk	1	£3,594
	WGH	De-Risk	1	£3,594

	BGH	De-Risk	1	£3,594
Bariatric Chairs/ Trolleys	GGH	De-Risk	110	£48,300
	PPH	De-Risk	55	£23,880
	WGH	De-Risk	55	£23,880
	BGH	De-Risk	55	£23,880
	BGH	De-Risk	20	£360
PSU for Bbraun Infusion Devices	GGH	De-Risk	40	£720
	PPH	De-Risk	20	£360
	WGH	De-Risk	20	£360
HB Total ordered spend on medical equipment as at 10.02.21				£1,842,024*

**Figure does not include an additional c.£160k worth of orders yet to be placed or in progress. These include; Doppler machines (for both foetal and vascular usage), additional bariatric recliners and trolleys, Baby lifeline training equipment, ICU ceiling panels, docking stations and cylinder trolleys. All of these items are expected to be ordered in the next few weeks.*

- **The total value committed on de-risking items is £1.12m**
- **The total value committed on improvement of patient provision is c.£725k**

Summary of Benefits against the preferred way forward

The benefits from investment will be;

- An increased level of safety for both staff and patients resulting from use of appropriate up-to-date equipment;
- A reduction in clinical incidents due to the removal of obsolete medical equipment;
- The ability to address and then close off risks with regards to audit requirements;
- Mitigation of any potential enforcement action, (previous enforcement action received c.1998).
- A reduction in costs relating to repairs of medical devices, as all equipment will be under warranty for 1 year, so there will be a non-recurrent benefit in the region of c.£90k.
- Increased capacity on the wards due to sufficient equipment being available.

Argymhelliad / Recommendation

The Finance Committee is asked to note the expenditure incurred during the year on medical equipment below the capitalisation threshold, which has been submitted to the Executive Team for approval, and which will be noted in the Financial Report to the Board.

Amcanion: (rhaid cwblhau)

Objectives: (must be completed)

Cyfeirnod Cofrestr Risg Risk Register Reference:	Risk 384 (Score 8): Ability to fully comply with statutory and manufacturer guidelines for medical devices and equipment.
Safon(au) Gofal ac Iechyd: Health and Care Standard(s):	Safe Care: Standards 2.1 Managing Risk and Promoting Health and Safety Standard 2.9 Medical Devices, Equipment and Diagnostic Systems Effective Care: Standards 3.1 Safe and Clinically Effective Care

Amcanion Strategol y BIP: UHB Strategic Objectives:	To improve the productivity and quality of our services using the principles of prudent health care and the opportunities to innovate and work with partners. To deliver, as a minimum requirement, outcome and delivery framework work targets and specifically eliminate the need for unnecessary travel & waiting times, as well as return the organisation to a sound financial footing over the lifetime of this plan
Amcanion Llesiant BIP: UHB Well-being Objectives:	Support people to live active, happy and healthy lives

Gwybodaeth Ychwanegol: Further Information:	
Ar sail tystiolaeth: Evidence Base:	Evidence is included within the report.
Rhestr Termau: Glossary of Terms:	Explanation of terms is included within the report.
Partion / Pwyllgorau â ymgynhorwyd ymlaen llaw y Pwyllgor Cyllid: Parties consulted prior to Finance Committee	Details included within the report/ bid.

Effaith: (rhaid cwblhau) Impact: (must be completed)	
Ariannol / Gwerth am Arian: Financial / Service:	Significant opportunity exists in relation to a standardised approach to equipment replacement.
Ansawdd / Gofal Claf: Quality / Patient Care:	Mitigate potential harm to patients through the use of ageing equipment.
Gweithlu: Workforce:	Safeguard our workforce by providing the required equipment to support Health and Safety at Work
Risg: Risk:	Risks are described in the report.
Cyfreithiol: Legal:	Potential litigation from sustained harm to patients and staff caused by use of ageing equipment.
Enw Da: Reputational:	Potential risk of reputational damage to the HDUHB through legal challenges from utilisation of ageing equipment.
Gyfrinachedd: Privacy:	Not applicable
Cydraddoldeb: Equality:	If systems are not robust there is a potential that patients will be harmed through the use of ageing equipment.