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Bwrdd Iechyd Prifysgol  
Bae Abertawe  
Swansea Bay University  
Health Board



<b>Meeting Date</b>	<b>23 June 2021</b>	<b>Agenda Item</b>	<b>2.2</b>
<b>Report Title</b>	<b>Static PET/CT for Swansea Bay (and the Wales PET/CT PBC)</b>		
<b>Report Author</b>	Neil Hartman, Head of Nuclear Medicine		
<b>Report Sponsor</b>	Jan Worthing, Group Director Singleton Neath Port Talbot, Siân Harrop-Griffiths, Director of Strategy		
<b>Presented by</b>	Christine Morrell, Director of Therapies & Health Science		
<b>Freedom of Information</b>	Open		
<b>Purpose of the Report</b>	<p>To provide the Board with:</p> <ul style="list-style-type: none"> <li>• A briefing on the Programme Business Case for PET/CT in Wales</li> <li>• To highlight the benefits for Swansea Bay (and Hywel Dda) patients</li> <li>• To highlight any associated risks of static PET/CT at Swansea Bay</li> <li>• To agree the CEG and WHSSC response (i.e. a letter from Mark Hackett with Swansea Bay's Support for the PET/CT PBC; see Appendix 'Z')</li> </ul>		
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• Wales is at the bottom of the list for European countries in terms of PET scans per 100,000 population</li> <li>• WHSSC currently supports a fixed site (static) PET/CT scanner in Cardiff (5 days/week), and a mobile PET/CT scanner service (2 days/week) each in Wrexham and Swansea</li> <li>• WHSSC recently commissioned a PBC for PET in Wales which recommends three fixed site PET/CT scanners in Cardiff, Swansea and North Wales (and a future PET/MRI at a to be determined site)</li> <li>• The PBC was supported by CEG and would be a major step in rejuvenating in cancer centre</li> <li>• For governance compliance, Swansea Bay is asked to support the PBC for PET/CT in Wales, and specifically static PET/CT at Singleton Hospital in Swansea (see Appendix 'Z')</li> <li>• The full costs of the service development will be £5,486 million capital (with revenue income of £572+/patient) and will be delivered through commissioned funding from WHSSC should the</li> </ul>		

	FBC be approved. This will cover all our costs of the development			
<b>Specific Action Required</b> <i>(please choose one only)</i>	<b>Information</b>	<b>Discussion</b>	<b>Assurance</b>	<b>Approval</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Recommendations</b>	<p>Members are asked to:</p> <ul style="list-style-type: none"> <li>• <b>APPROVE</b> the all Wales PET/CT PBC and note the income received for the development will meet in full all costs of operating the service;</li> <li>• <b>SUPPORT</b> the CEG decision;</li> <li>• <b>SUPPORT</b> a static PET/CT service at Singleton Hospital</li> <li>• <b>RECOMMEND</b> the Business Case for approval</li> </ul>			

## **STATIC PET/CT FOR SWANSEA BAY (AND WALES PET/CT PBC)**

### **1. INTRODUCTION**

This paper appraises the Board of the Programme Business Case (PBC) for PET/CT in Wales recently presented (and supported by Collaborative Executive Group (CEG)) and also discussed at Management Board on 16<sup>th</sup> June 2021. The PBC outlines the benefits of PET/CT for Swansea Bay (and Hywel Dda) patients, and highlights any associated risks of static PET/CT at Swansea Bay. It further requests that the Health Board supports CEG and send WHSSC a letter of Swansea Bay's Support (see Appendix 'Z') for the PET/CT PBC, and internally support a static PET/CT scanner service as replacement for the current mobile PET/CT service.

### **2. BACKGROUND**

Continuing with existing PET/CT arrangements in Wales is not feasible because there are some significant business needs which will result in deterioration of the service, growing costs and impact on clinical outcomes and patient experience. There is a growing and aging population, thus the demand for PET-CT is increasing substantially in countries across the world. Critically, in his 2020 report 'Diagnostics: Recovery and Renewal', Professor Sir Mike Richards indicated that between 2014/15 and 2018/19 demand for PET-CT in England increased by 18.7% per annum in England. He recommended that scanning equipment should, as a minimum, be expanded in line with current growth rates and that all imaging equipment older than 10 years be replaced. However, in Wales, scanning activity levels are low compared with the rest of the UK. It is estimated that Wales is currently performing approximately 33% of the PET scans per head of population compared to England (2020). In addition, NHS Wales has a list of commissioned indications for PET-CT which is limited compared to England and Scotland. Furthermore, Wales has just 0.6 scanners per million population versus ~1.0+ scanners per million population in other devolved nations. The picture becomes bleaker when comparing performance and infrastructure with the rest of Europe and beyond.

Several other significant considerations for this programme are:

- there are patient experience and quality issues associated with mobile scanners that are currently used in South West and North Wales;
- the analogue fixed scanner at PETIC is older than its useful life, causing a significant service delivery risk;
- there are critical workforce issues facing the wider imaging and nuclear medicine professions, with staffing levels low and many core personnel being close to retirement;
- there are issues facing the assurance of radiopharmaceutical supply across Wales, with some but not all radiopharmaceuticals being produced at PETIC in Cardiff and the production facility requiring investment to update equipment; and
- there is a clear need for equitable patient access to research, development and innovation activity in Wales.

### **3. GOVERNANCE AND RISK ISSUES**

The current two-day-per-week WHSSC-funded mobile PET/CT service in Swansea presents several difficulties:

- The service is restricted to two days per week, making growth in clinical delivery (20% underlying growth per annum) difficult
- No radiotherapy planning can be performed on a mobile PET/CT
- No cardiac PET/CT can be performed on a mobile PET/CT
- No paediatric or other GA PET/CT can be performed on a mobile PET/CT

As part of the PBC for three new static PET/CT scanners in Wales, the All Wales PET Programme will utilise its governance structure and arrangements to ensure the effective management of risk. The governance structures allow for risks to be escalated from Project boards and Workstream groups, through to the Strategic Programme Board and/or the Health Board/Trust, as appropriate.

Risks:

**1. Resilience**

- Risk of insufficient scanning capacity to meet demand resulting in increased waiting times
- and impacting on patient outcomes
- Risk of cancellations and downtime of service
- Demand Risk that demand and capacity requirements have been under or over-stated

**2. Workforce**

- Risk of insufficient workforce available to provide high quality service
- Risk of challenges recruiting workforce

**3. Implementation**

- Risk of programme delays resulting in insufficient capacity during transition period
- Risk of programme delays resulting in increased programme costs

**4. Funding and finance**

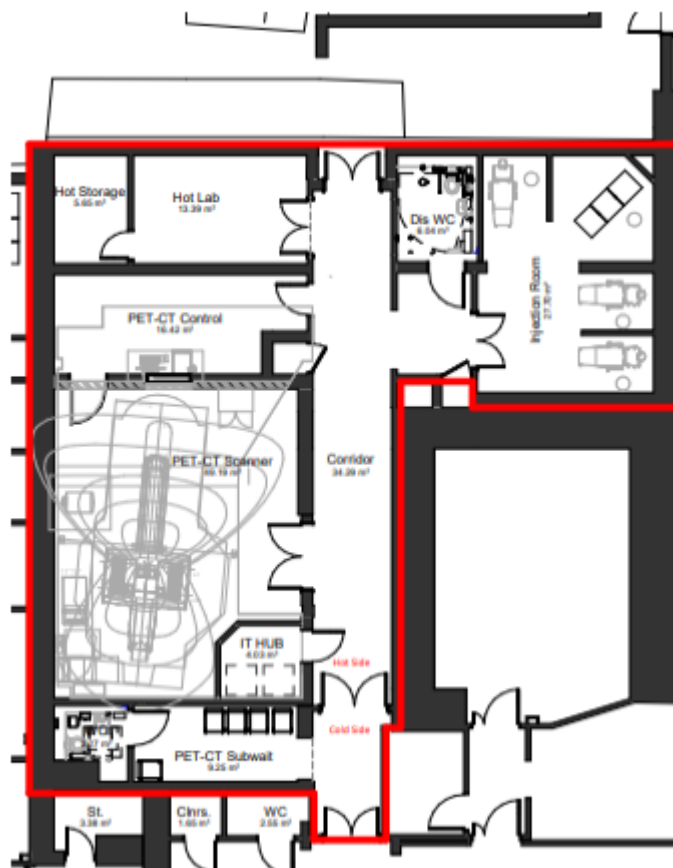
- Risk of insufficient capital funding available to deliver programme
- Risk of increasing revenue costs (WHSSC should enhance the tariff when different and more expensive radiopharmaceuticals are authorised for clinical use, for example)
- Risk that programme costs have been understated
- Risk of a commissioned PET/CT service in Swansea without sufficient referred patients for 5 days/week scanning (Swansea will be at or over capacity according to PBC projections by 2024)

#### **4. FINANCIAL IMPLICATIONS**

South West Wales PET/CT: The Swansea PET/CT scanner is currently the busiest PET/CT scanner on a daily basis. Forecast demand has already exceeded capacity of the existing mobile scanner which currently operates just two days each week. Expanding PET/CT capacity to the equivalent of five days per week for a mobile analogue scanner would only create sufficient capacity to meet forecast demand until 2024. Expanding capacity to the equivalent of five days per week for a digital scanner could only create sufficient capacity to meet forecast demand until 2028. Introducing an additional scanner in 2028 could provide sufficient capacity well beyond 2031.

The PBC for PET/CT propose that Welsh Government fully funds:

- The capital for a PET/CT scanner (approx. £2.75 million plus VAT)
- The renovation costs and building enabling work at the Singleton site (see the architectural plan for the proposed PET/CT area in the cancer centre)



- The total proposed capital costs to be received by Swansea are:

	Net Costs £'000	VAT £'000	Total Costs £'000
Fixed PET/CT scanner Swansea	£4,600	£886	£5,486

- The typical annual maintenance costs for such a PET/CT scanner is approx. £150,000 per annum
- Two other important capital expenses are for two PET radiopharmaceutical injectors (each costing approximately £110,000 with annual maintenance costs of £10,000 each)
- That WHSSC funds each PET/CT scan at a tariff of £572+/patient which would cover all revenue costs and radiopharmaceuticals

	PET/CT scanner
Typical annual staffing costs	£667,985.40

- Assuming we scan 12 patients/day, 5 days per week, the Swansea revenue income should be approx. £1,716,000 per annum. (It is hoped that we could scan up to 15 patients/day, and also perform R&D and private PET/CT work.)

In all, the PET/CT PBC indicates capital and revenue funding for PET/CT at Swansea Bay that will cover all capital and revenue.

There is a case for us to deliver the development earlier than planned in 2022/23 to support our wider service and focussed recovery and develop our cancer centre, therefore it is recommended we request an earlier start date from WHSSC in our letter of support for the development.

## 5. RECOMMENDATION

Members are asked to:

- **APPROVE** the all Wales PET/CT PBC and the funding arrangements which have no additional cost to the Health Board;
- **SUPPORT** the CEG decision. A local case will need to be developed in 2021/22 to consider the implications for revenue funding for private patients and research studies which the NPT and Singleton Unit will develop, but request our development views in 2022/23 to support our service and focussed sustainability;
- **SUPPORT** a static PET/CT service at Singleton Hospital
- **RECOMMEND** the Business Case for approval

Governance and Assurance		
<b>Link to Enabling Objectives</b> (please choose)	<b>Supporting better health and wellbeing by actively promoting and empowering people to live well in resilient communities</b>	
	Partnerships for Improving Health and Wellbeing	<input checked="" type="checkbox"/>
	Co-Production and Health Literacy	<input type="checkbox"/>
	Digitally Enabled Health and Wellbeing	<input type="checkbox"/>
	<b>Deliver better care through excellent health and care services achieving the outcomes that matter most to people</b>	
	Best Value Outcomes and High Quality Care	<input checked="" type="checkbox"/>
	Partnerships for Care	<input checked="" type="checkbox"/>
	Excellent Staff	<input checked="" type="checkbox"/>
	Digitally Enabled Care	<input type="checkbox"/>
	Outstanding Research, Innovation, Education and Learning	<input checked="" type="checkbox"/>
Health and Care Standards		
(please choose)	Staying Healthy	<input checked="" type="checkbox"/>
	Safe Care	<input type="checkbox"/>
	Effective Care	<input checked="" type="checkbox"/>
	Dignified Care	<input type="checkbox"/>
	Timely Care	<input checked="" type="checkbox"/>
	Individual Care	<input checked="" type="checkbox"/>
	Staff and Resources	<input checked="" type="checkbox"/>
Quality, Safety and Patient Experience		
A static PET/CT scanner in Swansea will give patients (cancer/cardiology/geriatric) a safe, regional, efficient diagnostic service of exceptional value.		
Financial Implications		
<p>The capital for PET/CT (£5.5million incl VAT) will be funded <u>directly/wholly</u> by Welsh Government, and the revenue will be funded by WHSSC on a fee per scan basis (£572/scan) as for the current mobile service.</p> <p><i>Anticipated capital expenses (ex-VAT):</i></p> <ul style="list-style-type: none"> <li>• PET/CT scanner (£2.75million)</li> <li>• PET-radiopharmaceutical injectors (2) (£0.22million for two)</li> <li>• Building/enabling works (£1.45million)</li> </ul> <p><i>Anticipated revenue expenses:</i></p> <ul style="list-style-type: none"> <li>• PET/CT scanner maintenance (£110,000 pa)</li> <li>• PET-radiopharmaceutical injectors (2) (£20,000 pa for two)</li> <li>• Staffing (£0.67million pa)</li> <li>• Consumables (£75,000/annum)</li> <li>• Radiopharmaceuticals (£100+/patient)</li> </ul>		
Legal Implications (including equality and diversity assessment)		
No legal implication; a replacement / enhancement of an existing (albeit smaller) service.		

## Staffing Implications

The staffing component is discussed in the PBC, and the following staffing (included in the fee/service from to be received from WHSSC) should be assigned/recruited to:

Role	AfC Band	WTE (up to 6 patients per session)	WTE (7-12 patients per session)
Booking clerk/ Administrator/ Reception staff	3 or 4	1.5	2.5
Radiographer/ Technologist	6-8a	3.0	4.0
HCA/Clinical Support Staff	4	1.0	2.0
Clinical Scientist (physics)/ Medical Physics Expert	8a-8c	2.0 (includes RWA & RPA roles)	(2.5 for >12 patients)
Finance Business Partner	6-8a	0.2	0.2
Consultant Radiologist	Consultant pay scale	1.5	3.0
PET/CT Manager	8a-8c	0.4	(0.8 for >12 patients)

## Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015)

- Avoid high-cost late stage interventions
- Reduced waiting times for PET/CT in West Wales
- Increased certainty of treatment and planning
- Improved patient experience
- Increased job opportunities contributing to Welsh economy
- Reduced patient travel time - reduced greenhouse gases
- Income generation opportunities
- Better equity of access

## Report History

- PET/CT PBC for Wales, May 2021
- Discussed at Management Board 16<sup>th</sup> June 2021

## Appendices

- PET/CT PBC for Wales (PBC and 15 appendices)
- LHB Letter of Support (Mark Hackett, Appendix 'Z')