



## Cost-Effectiveness Of PET/CT In Pre-Operative Staging Of Pancreatic Cancer

Plumpton, Catrin; Ghaneh, P.; Lloyd-Williams, Huw; Yeo, Seow Tien; Edwards, Rhiannon

### Value in Health

DOI:  
[10.1016/j.jval.2017.08.1078](https://doi.org/10.1016/j.jval.2017.08.1078)

Published: 01/10/2017

Peer reviewed version

[Cyswllt i'r cyhoeddiad / Link to publication](#)

*Dyfyniad o'r fersiwn a gyhoeddwyd / Citation for published version (APA):*  
Plumpton, C., Ghaneh, P., Lloyd-Williams, H., Yeo, S. T., & Edwards, R. (2017). Cost-Effectiveness Of PET/CT In Pre-Operative Staging Of Pancreatic Cancer: An Economic Evaluation Of The PET-PANC Cohort Study. *Value in Health, 20*(9), A589.  
<https://doi.org/10.1016/j.jval.2017.08.1078>

#### Hawliau Cyffredinol / General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

#### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

- No longer than 300 words.
- OBJECTIVES; METHODS; RESULTS; CONCLUSIONS and must include results.
- Accepted abstracts will be published AS SUBMITTED in *Value in Health*. Changes to abstracts will not be accepted after the Submission Deadline; therefore, they should be carefully written and edited prior to submission.

**QUALITY OF STUDY CRITERIA (FOR RESEARCH STUDY OR RESEARCH ON METHODS ABSTRACTS):**

1. Research design is appropriate & transparent.
2. Data sources are appropriate & transparent.
3. Data analyses are appropriate & transparent.
4. Results ARE INCLUDED and are transparent and comprehensible.
5. Conclusions are consistent with the results.

**DEADLINE** 27/07/2017

**RESEARCH TOPIC:** Cost studies.

**RESEARCH SUB-TOPIC:** Cost-effectiveness analysis.

**DISEASE AREA:** Cancer.

**HEALTH CARE TREATMENT:** Medical device/diagnostics

**TITLE:** COST-EFFECTIVENESS OF PET/CT IN PRE-OPERATIVE STAGING OF PANCREATIC CANCER: AN ECONOMIC EVALUATION OF THE PET-PANC COHORT STUDY

**AUTHORS:** Catrin Plumpton, Paula Ghaneh, Huw Lloyd Williams, Seow Tien Yeo, Rhiannon Tudor Edwards

**FINANCIAL SUPPORT:** NIHR HTA programme: 08/29/02

**OBJECTIVES:** Diagnosis of pancreatic cancer is challenging as patients may be relatively asymptomatic during its early course. PET/CT may improve diagnosis and staging of pancreatic cancer but is not widely used across the UK. There is uncertainty whether PET/CT represents good value for money. This study aimed to model the cost-effectiveness of PET/CT compared with multidetector computed tomography (MDCT) alone in the diagnosis and management of patients with pancreatic cancer, based on data collected from the multi-centre PET-PANC cohort study.

**METHODS:** A decision-analytic model was developed to compare patient pathways following diagnosis with PET/CT compared with MDCT alone. Patient management strategies following PET/CT were taken from PET-PANC. Patient management strategies following MDCT alone were based on clinical interpretation of the initial MDCT diagnosis. Event-based regressions were used associate strategies with cost and QALY data collected during PET-PANC. Analysis was conducted from the perspective of the UK National Health Service (NHS), over a 12-month time-horizon. Uncertainty was considered in univariate and multivariate sensitivity analyses. Subgroup analysis considered the impact of PET/CT on patients with diagnosis of chronic pancreatitis; malignancy; and those who were scheduled for resection surgery.

**RESULTS:** The mean total cost and QALYs of pancreatic cancer service use over 12-months were £13,193 per patient (95% confidence interval (CI): £11,634, £14,802), and 0.5540 (95% CI: 0.5261, 0.5811), respectively. PET/CT dominated MDCT, being both less costly and more effective. The

largest cost saving and highest QALY gain were seen for the subgroup scheduled for resection surgery. The probability of cost-effectiveness at a threshold of £20,000/QALY was 82%.

**CONCLUSIONS:** It is likely that use of PET/CT in the diagnosis and staging of pancreatic cancer is cost-effective for the UK NHS, with the most cost-effective use of PET/CT being in patients who are suspected of having pancreatic cancer and are scheduled for resection surgery following MDCT.