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
Published: 01/10/2017

Peer reviewed version

Citation for published version (APA):

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.
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.