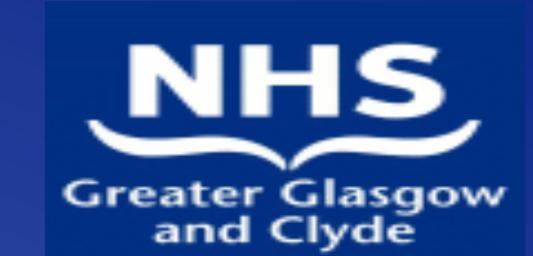
# Cost Effectiveness Analysis of the Management of Potentially Resectable Pancreatic Cancer



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#### **The Problem**

Neoadjuvant therapy has emerged as an alternative treatment strategy for potentially resectable pancreatic cancer.

In the traditional surgery first approach, up to 50% of patients failed to receive adjuvant therapy due to early disease reoccurrence, post-operative complications or decline in function hence rendering costly and high-risk surgery ultimately futile.

Currently upfront surgery and adjuvant therapy is recommended for cases of resectable pancreatic cancer

Neoadjuvant therapy is widely supported for locally advanced and borderline cases.

Aim

Cost-effectiveness analysis comparing neoadjuvant v surgery first approach to the management of potentially resectable pancreatic cancer.



#### **Challenge**

- Lack of level 1 evidence
- Lack of true like-for-like comparisons between treatment strategies
- Heterogeneity of treatment regimes

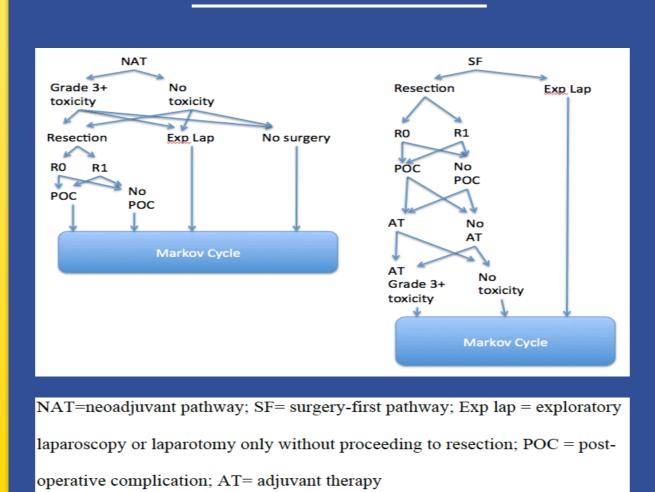


#### **Strategy For Change**

### **Evidence Synthesis**

Meta-analysis of pooled proportions

## **Markov Model**

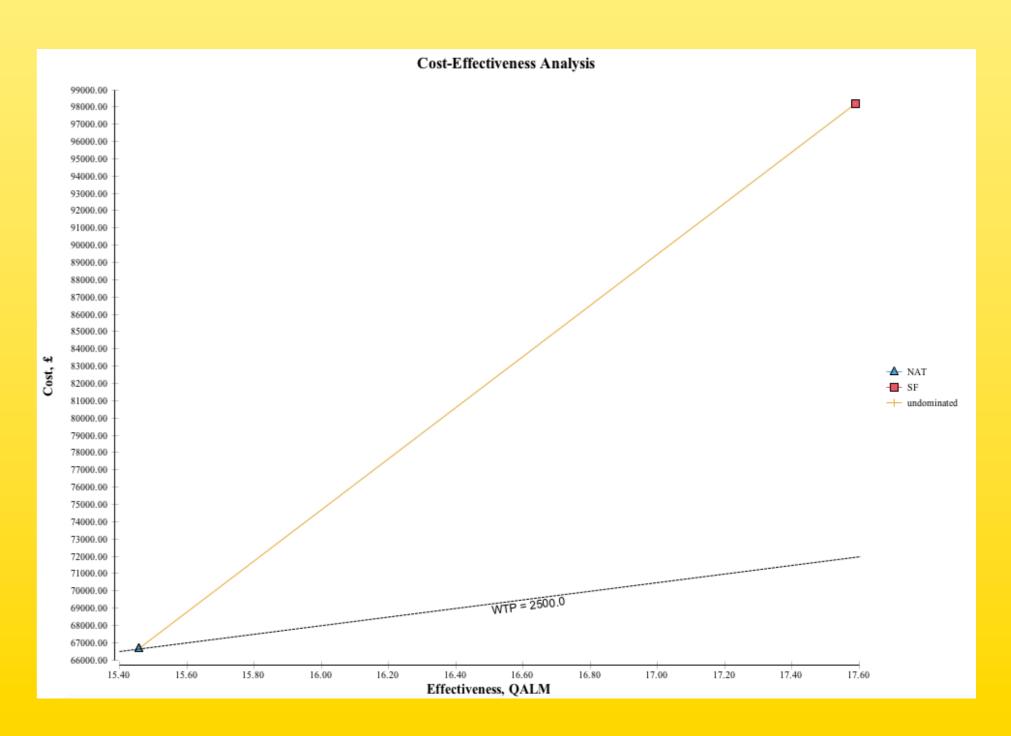


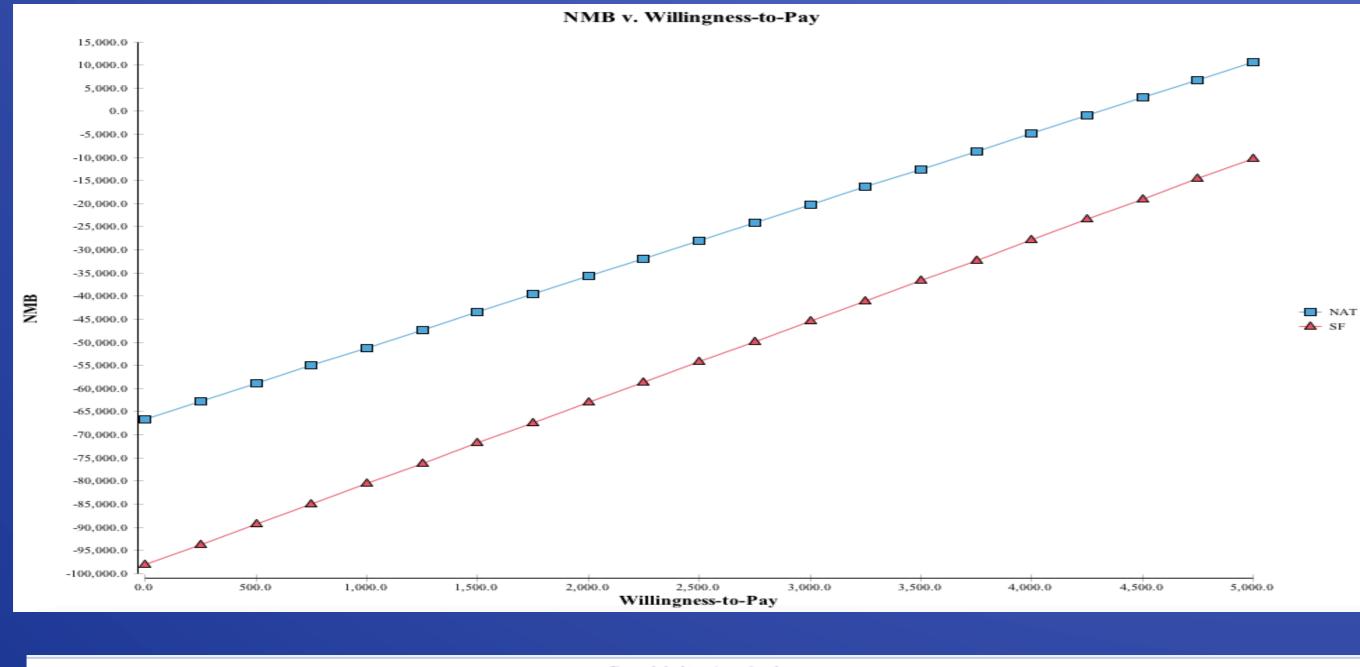
#### **Cost Effectiveness Analysis**

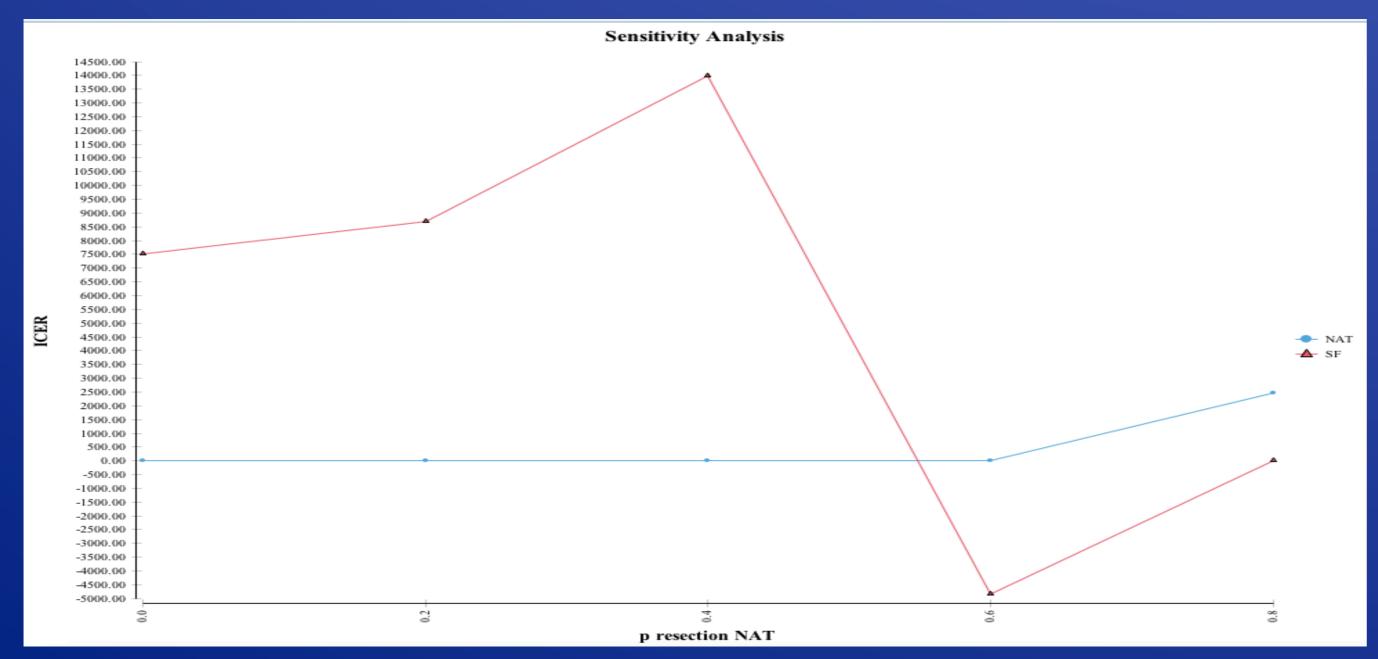
- Effectiveness: quality-adjusted-life-months (QALMs)
- 1 Markov cycle = 1month
- Total follow-up time of 60 cycles or until death. Discount for cost and benefit: 3.5
- Model uncertainties were tested through one and two-way deterministic and probabilistic Monte Carlo sensitivity analysis.

# Results

- Surgery first pathway: 17.59 QALMs at a cost effectiveness ratio of £5582.85.
- Neoadjuvant pathway gave 15.46 QALMs at a cost effectiveness ratio of £4311.02.
- This meant the surgery first had an incremental effectiveness of 2.13 QALMs with an incremental cost effectiveness ratio of £14804.81.
- When willingness-to-pay was set at £30,000 per QALY as per NICE guidelines, neoadjuvant pathway was then most cost-effective pathway for treatment of patients with potentially resectable pancreatic cancer.







### **Take Home Message**

Cost-effectiveness analysis adds an important dimension to the debate Costs and benefits in cancer treatment are multifaceted and complex Greater patient and carer input in future research

Future research focus on personalised predictive medicine to support shared clinical decision-making and better streamlining of services to meet individual patient needs.