sant medication for the treatment of adults with MDD who have failed at least two adequate courses of antidepressants. METHODS: A three-year multi-centre trial. The intervention model with two-month cycles was used to compare the costs and quality-adjusted life years (QALYs) of tMS and a mix of antidepressants (including selective serotonin reuptake inhibitors, serotonin and noradrenergic and specific serotonergic antidepressants and noradrenergic and specific serotonergic antidepressants) and a model-synthesized index. The model synthesized data from a meta-analysis, published literature, national cost reports and expert opinions. Incremental cost-utility ratios (ICURs) were calculated for antidepressant and mixed antidepressant and SSRIs. RESULTS: Compared with antidepressant medication therapy, rTMS is a dominant cost-effective alternative for patients with treatment-resistant depressive disorder. The model predicted that rTMS was most cost-effective compared to tMS was higher than for antidepressant treatment. A willingness-to-pay threshold of AUD 50,000 per QALY gain, the probability that rTMS was cost-effective was 73%. Sensitivity analyses confirmed the model stability and superiority of rTMS compared with antidepressant medications. CONCLUSIONS: These findings suggest that the use of rTMS as a treatment alternative for MDD, tMS is shown to outperform antidepressants in terms of cost and utility for patients who have failed at least two adequate courses of pharmacotherapies. The study shows that tMS is a cost-effective therapy alternative for patients with treatment-resistant depression without the many side-effects of pharmacotherapy.

PMID47
FRACTIONAL FLOW RESERVE VERSUS CORONARY ANGIOGRAPHY GUIDED MANAGEMENT IN NON-ST ELEVATION MYOCARDIAL INFARCTION: A HEALTH ECONOMIC ANALYSIS
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OBJECTIVES: Patients with non-ST elevation myocardial infarction are managed based visual assessment of coronary angiography, which can be inaccurate and subjective. A randomized pilot trial has investigated an alternative approach using physiologic guidance with fractional flow reserve (FFR) and optimized outcomes. Objective was to estimate the cost-effectiveness of FFR-guided intervention versus coronary angiography. METHODS: A trial-based economic evaluation was conducted (n=350). We adopted a UK National Health Service perspective. Part 1 of the analysis used raw, unadjusted costs and QALYs assembled using individual resource use and EQD3 scores from the KCT. Part II used statistical modelling to model the effect pathway of FFR by conditioning total costs and QALYs on the intervention: decision coronary artery bypass graft (CABG), medical therapy and percutaneous coronary intervention (PCI)). Results were then applied to treatment decision distributions following FFR or standard care management. Uncertainty in GLM coefficients, unit cost parameters and sampling were incorporated using bootstrapping and Monte Carlo methods. RESULTS: FFR reduced revascularization by FFR or CABG (OR 0.52; 95%CI: 0.28 – 0.94; p=0.02). Part I. FFR led to a mean cost savings ($8,253 vs. $8,603), difference – $350 ($50 to $159). Likely drivers of cost savings were wave staff stay (-331 $342) and index year health events (-217 $223). However, low information size contributed to their large impression. Incremental QALYs were comparable (0.811 vs. 0.799, diff: 0.013 [0.023]). Part II. FFR led again to a mean cost savings ($8,186 vs. $8,603), difference – $417 ($500 to $0.005). The probability of cost-effectiveness remained comparable over common willingness-to-pay (70-75%). Conclusions: Early FFR to identify patients at risk of coronary artery disease in the setting of non-ST elevation myocardial infarction may be cost-effective.

PMID48
COST-EFFECTIVENESS ANALYSES OF LUNG CANCER SCREENING STRATEGIES USING LOW DOSE COMPUTED TOMOGRAPHY (LDT): A SYSTEMATIC REVIEW
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OBJECTIVES: Lung cancer is the leading cause of cancer related mortality in North America. This is attributable to it being often diagnosed at an advanced stage. Low-dose computed tomography (LDCT) is a tool that can be used to identify lung cancer at an earlier stage thereby improving patient outcomes. Recently, the National Lung Screening Trial (NLST) has shown that this method of screening can produce significant mortality reductions; however, whether such a program is cost-effective is well-established. METHODS: We searched MEDLINE, EMBASE, EBSCO Reviews - Health Technology Assessment, the National Health Service (NHS) Economic Evaluation Database, and the Cochrane Database of Systematic Reviews. We included studies that presented a cost-effectiveness analysis of LDCT as a screening strategy for lung cancer. Studies were included if they were based on advances in imaging technologies. Costs are presented in 2012 United States dollars. RESULTS: Thirteen studies were identified that met the criteria for inclusion. Three studies originated from the United States (n=2), Australia, Israel, and Japan. Most studies evaluated an annual screening program while four studies evaluated one time only screening. Incremental cost-effectiveness ratios (ICERs) were calculated for comparison and varied markedly between $18,160/ly to $129,160/ly for various strategies. The ICERs were used to calculate the incremental cost-effectiveness threshold (ICET) of $195,758/LYG (life year gained) or for quality-adjusted life years (QALYs): $1,494/QALY (ICERs) were extracted for comparison and varied markedly between $8,186/LYG to $100,000/QALY. Cost-effectiveness analyses were conducted probabilistic sensitivity analysis. CONCLUSIONS: The cost-effectiveness of LDCT for lung cancer screening varies widely and seems to largely depend on several key model parameters. Improved risk stratification might enhance the cost-effectiveness of such a program.

PMID49
COST-EFFECTIVENESS OF PRESCRIBING EVZIO FOR LAY HEROIN OVERDOSE REVERSAL
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OBJECTIVES: Evzio is a naloxone autoinjector indicated for lay overdose reversal in emergency treatment of known or suspected opioid overdose. The cost-effectiveness of pre-scribing Evzio (for "lay overdose reversal") was compared to "no lay reversal" using a health system perspective over one year. METHODS: A decision analysis model was built using outcomes data obtained from randomized clinical trials and publicly available cost data. Adults at risk of heroin overdose in the US were included in the model. The primary outcome was Quality Adjusted Life Year (QALY). All data were subject to sensitivity analyses. RESULTS: In the base case analysis, Evzio was found to cost health systems an extra $24,126 for every additional QALY saved due to reversal of overdose. However, the probability of an overdose being witnessed, and the probability of survival if no medical treatment was given. CONCLUSIONS: The cost per QALY saved in pre-scribing the naloxone autoinjector, Evzio, for patients at risk of opiate overdose is within acceptable cost effectiveness values for new therapies. When administered by friends, family members, and other witnesses of an opioid overdose, Evzio can be cost-effective.