lished sources. The zero tolerance MRSA policy set by NHS England, which includes financial sanctions, was implemented in 2014. The model, constructed using Insight (insightmaker.com), simulated a 33-bed ward. Patients were assumed to move between five states: susceptible, susceptible and vulnerable due to antimicrobial use, colonised, colonised and vulnerable, or infected (symptomatic). Clinical inputs were identified from peer-reviewed primary research papers, systematic reviews, published models, data published by the NHS and from clinical experts. Relevant costs were identified from Department of Health guidelines on C. diff infection management and other published sources, and inflated to 2014 values where necessary. We assumed that a fine of £10,000 per case was issued when evidence of hospital outbreaks was available. Annual C. diff attributable costs for the ward were then estimated as £1,490 lower when WGS was performed compared to ribotyping alone, although initial setup costs and service running costs were not included. CONCLUSIONS: This system dynamics model is the first formal attempt to evaluate the cost-effectiveness of WGS for monitoring connections between C. diff for "results" nature of the BPCI. Threshold for cases and the availability of WGS, initial results indicate that WGS may be cost-saving at a hospital level due to fewer cases being subject to a fine.

PMD35

COST-EFFECTIVENESS OF AQP4 ANTIBODY DETECTION WITH CELL-BASED ASSAY COMPARED WITH ELISA FOR DEVIC DISEASE DIAGNOSIS IN COLOMBIA

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OBJECTIVES: Neuromyelitis optica (NMO) or Devic disease is a rare chronic condition characterized by demyelinating lesions in the central nervous system. The aim of this study was to evaluate cost-effectiveness of the detection of antibodies against the protein aquaporin water channel 4 (AQP4) with cell-based assay (CBA), compared with the enzyme-linked immunosorbent assay (ELISA). METHODS: A decision tree model was constructed to compare costs, correctly diagnosed cases and relapses averted in patients with clinical suspicion of NMO, that were subjected to diagnostic tests for the detection of AQP4 antibodies. The analysis assumed that the test-taking decision model was set in a national laboratory. Clinical variables were from a systematic literature review. Univariate and probabilistic sensitivity analyses (a Monte Carlo simulation of a cohort of patients) were performed. RESULTS: The initial characterization of AQP4 antibodies with CBA is a dominant strategy: more effective (85% correctly diagnosed patients compared with 76% detected by ELISA, and 130 avoided relapses), and less costly, with expected yearly costs per correctly diagnosed NMO patient of $16,658 compared with $15,614 for ELISA. Using CBA may represent savings in terms of b given a willingness-to-pay threshold of $50,000 per QALY.

PMD36

COST-EFFECTIVENESS OF LEFT ATRIAL APPENDAGE CLOSURE VERSUS WARFARIN FOR STROKE RISK REDUCTION IN NON-VALVULAR ATRIAL FIBRILLATION IN CMS PATIENTS

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OBJECTIVES: Stroke is the most severe and debilitating consequence of atrial fibrillation (AF), with many patients ranking the resultant disability as worse than death. Warfarin, the established first-line therapy, is effective at reducing ischemic stroke, but is associated with increased bleeding risk and lower quality of life (QoL). Left atrial appendage closure (LAAC) with the Watchman Device has been found to be superior to warfarin at reducing risk of stroke in AF patients. This analysis sought to assess the cost-effectiveness of LAAC versus warfarin for stroke prevention in non-valvular AF from the perspective of the US Centers for Medicare and Medicaid Services (CMS). METHODS: A Markov model was constructed comparing clinical outcomes, QoL, and total costs of LAAC versus warfarin using PROTECT AF 4-year data. All clinical events reported in PROTECT AF were modeled over 1-year increments. RESULTS: Over the first year time horizon (first year with the disease) taking all payer perspective, one year time horizon (first year with the disease) taking all

PMD37

A SYSTEM DYNAMICS MODEL FOR THE COST-EFFECTIVENESS EVALUATION OF BACTERIAL WASTEWATER SEQUENCING FOR MONITORING OUTBREAKS OF CLOSTIDIUM DIFFICILE

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OBJECTIVES: To develop a system dynamics model to analyse the cost-effectiveness of bacterial whole-genome sequencing (WGS) versus current typing methods (ribotyping) alone, when implemented in the Clindrimium difficult (C. difficile) in the UK National Health Service (NHS). METHODS: The model, constructed using Insight

PMD38

COSTS AND CONSEQUENCES OF DIADEMY RELATION INFECTIONS: IMPLICATIONS FOR THE BUNDLED PAYMENTS FOR CARE IMPROVEMENT INITIATIVE

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OBJECTIVES: To quantify the potential value of cerebrospinal fluid (CSF) biomarker testing for patients with mild cognitive impairment (MCI). Biomarkers provide information about a patient's risk of developing AD and can allow for early targeted interventions for those patients found to be at higher risk of AD than others. METHODS: We developed a state-transition Markov model to project lifetime AD-free life expectancy, costs and quality-adjusted life years (QALYs). We conducted a cost-effectiveness analysis of using CSF biomarker testing combined with the subsequent treatments to delay the clinical diagnosis of AD (test-treat) compared to no treatment, and treatment strategies. For the test-treat strategies, we considered treating by different levels of risk, varying from treating only the highest risk group to treating all but the lowest risk group (total 5 risk levels). We performed deterministic and probabilistic sensitivity analyses (PSA) and conducted an expected value of perfect information (EVP) analysis to estimate the value of eliminating uncertainty of all parameters. RESULTS: We found that treating MCI patients by their risk levels produced extra 0.9-3.8 AD-free life months compared to no treatment. Three out of four test-treat strategies were ruled out by extended dominance. No treatment resulted in the highest cost and the highest effectiveness, with an incremental cost-effectiveness ratio of $30,000 per QALY compared to treating all patients. No treatment was optimal in 63% of the PSA iterations over 37% of the treatment strategy at willingness to pay of $50,000/QALY. The total EVP was $3,512 per patient. CONCLUSIONS: This study illustrates the potential for early targeted interventions for MCI patients who are at increased risk of developing AD. The decision model is an important tool to be used in further research evaluating the cost-effectiveness of other biomarkers used to identify MCI patients at increased risk of progression to AD.

PMD39

A COST-EFFECTIVENESS ANALYSIS OF BIOMARKER TESTING TO TARGET TREATMENT TO PATIENTS WITH MILD COGNITIVE IMPAIRMENT AT INCREASED RISK OF ALZHEIMER'S DISEASE

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OBJECTIVES: To develop a system dynamics model to analyse the cost-effectiveness of bacterial whole-genome sequencing (WGS) versus current typing methods (ribotyping) alone, when implemented in the Clindrimium difficult (C. difficile) in the UK National Health Service (NHS). METHODS: The model, constructed using Insight Maker (insightmaker.com), simulated a 33-bed ward. Patients were assumed to move between five states: susceptible, susceptible and vulnerable due to antimicrobial use, colonised, colonised and vulnerable, or infected (symptomatic). Clinical inputs were identified from peer-reviewed primary research papers, systematic reviews, published models, data published by the NHS and from clinical experts. Relevant costs were identified from Department of Health guidelines on C. diff infection management and other published sources, and inflated to 2014 values where necessary. We assumed that a fine of £10,000 per case was issued when evidence of hospital outbreaks was available. Annual C. diff attributable costs for the ward were then estimated as £1,490 lower when WGS was performed compared to ribotyping alone, although initial setup costs and service running costs were not included. CONCLUSIONS: This system dynamics model is the first formal attempt to evaluate the cost-effectiveness of WGS for monitoring connections between C. diff for "results" nature of the BPCI. Threshold for cases and the availability of WGS, initial results indicate that WGS may be cost-saving at a hospital level due to fewer cases being subject to a fine.

PMD30

COST-EFFECTIVENESS ANALYSIS OF EXTERNAL LOOPING RECORDING COMPARED TO HOLER MONITORING FOR SYNCOPE IN COLOMBIA

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OBJECTIVES: Cardiac rhythm disturbances related to syncope are of increasing incidence and prevalence worldwide including Colombia. Diagnosis of transient arrhythmia is difficult with short term monitoring methods. We sought to compare cost-effec-