



Value IN HEALTH

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using the constant discounting approach. The empirical, hyperbolic and proportional discounting methods provided ICERs three times higher. The time-shifted and stepwise discounting led to favorable ICERs that were much below the NICE threshold. **CONCLUSIONS:** The use of different discounting approaches had a considerable effect on the cost-effectiveness results. For preventive programs and vaccines constant discounting approach was unfavorable since the health benefits are revealed decades later. Constant discounting could not justify the theory of social and individual time preference. The empirical discounting though discounted the outcomes at a much slower rate in the long term; the approach remained unfavorable owing to the heavy discounting in the short term. The time-shifted and stepwise discounting were feasible for the vaccines as they related to the moment of risk reduction and were persistent with the time-preference theory, respectively.

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COST-EFFECTIVENESS ANALYSIS OF EMPIRIC LIPOSOMAL AMPHOTERICIN B VERSUS VORICONAZOLE IN TURKEY

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OBJECTIVES: A pivotal clinical trial failed to demonstrate non-inferiority of voriconazole (VORI) vs. liposomal amphotericin B (LAMB) for empiric treatment of febrile neutropenia (FN). This study investigated the cost-effectiveness of the two options from the Turkish health care system's perspective. **METHODS:** A decision-tree analysis was used to capture downstream consequences of each agent. Outcome measures included success, breakthrough fungal infection, persistent base-line fungal infection, persistent fever, premature discontinuation and death. Probability data were extracted from the published clinical trial. Resource consumption and alternative treatment after initial failure with either agent were estimated by an expert panel. Cost was based on 2012 data within Turkey. Deterministic and probabilistic sensitivity analyses were performed to determine the model's robustness. **RESULTS:** Compared to LAMB, VORI was the cost-effective alternative per patient treated and per patient survival (by TL2,523 (approx USD1,396) and TL2,520 (approx USD1,394), respectively). LAMB was preferred when considering the cost per successfully treated patient (TL5,362 difference in favor of LAMB, approx USD2,966). LAMB had a higher likelihood of success (30.57% vs. 26.02%) and lower probability of death than VORI (5.92% vs. 7.95%). Increasing the list cost or length of stay (LOS) of VORI by >32.4% or 1.2 days, respectively, changes the study outcomes. Decreasing list cost or LOS for LAMB by >15.8% or 1.0 days, respectively, resulted in LAMB becoming favorable. Monte Carlo simulation (MCS) of 10,000 subjects, with variability imputed upon the published outcome probabilities, LOS and hospitalization costs, resulted in a 69.4% chance of favoring VORI. **CONCLUSIONS:** VORI appears to be cost-effective when compared to LAMB in the empiric treatment of FN from the Turkish perspective. One-way sensitivity analyses did not change the conclusion with MCS indicating a 69.4% chance of favoring VORI. The outcome was highly sensitive to list cost and LOS.

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NON-HOMOGENEOUS COST-EFFECTIVENESS MODELING OF A NEW CHG-DRESSING FOR PREVENTING CATHETER-RELATED BLOODSTREAM INFECTIONS FOR PATIENTS IN INTENSIVE CARE UNITS

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OBJECTIVES: Catheter-related bloodstream infection (CRBSI) is a frequent (1-5/1000 catheter-days) and life-threatening complication in intensive care unit (ICU), preventable by systematic use of a new antimicrobial transparent dressing containing a chlorhexidine gluconate (CHG) hydrogel (60% risk reduction in a recent RCT). Our purpose is to evaluate the advantages of routine use of the new CHG-dressing to secure central lines of patients in ICU from the medico-economic viewpoint compared to non-antimicrobial (reference). Both medical and economic criteria are embedded into an analytic decision model to support the choice of the best dressing strategy. **METHODS:** A 30-day ICU-time non-homogeneous markovian model comprises eight states: five combining either occurrence or no-occurrence of: CRBSI, contact dermatitis, and the need of a new central line; one for changing alternative dressing in case of dermatitis and two absorbent states (death and discharge). The probabilities of events derive a multicentre RCT on 1,879 patients. Monte Carlo simulations of 1,000 patients are used for probabilistic sensitivity analysis and 95% confidence intervals (CI) calculations. The final health outcome is the number of CRBSI averted. Costs of ICU stay are updated from estimations of a French study from 2010. This economic evaluation takes into account ICU perspective in France. **RESULTS:** The CHG-dressing prevents 11.75 infections (95% CI: [-19.64; -3.85]), number needed to treat=85) for 1,000 patients as estimated via probabilistic cost-effectiveness sensitivity analysis. The mean adjusted cost per patient is €₂₀₁₃ 21,391 [95% CI: €20,339; €22,443] for the CHG-dressing group and €₂₀₁₃ 20,882 [95% CI: €19,905; €21,859] for the reference dressing. **CONCLUSIONS:** The CHG-dressing, significantly more efficacious to prevent CRBSI when compared to the reference dressing, contributes to preserve patients' health capital at the same cost for the ICU. According to the base case scenario the CHG-dressing is more cost-effective than the reference dressing.

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COSTS EVALUATIONS OF READY-TO-USE PROPOFOL SYRINGES VERSUS SYRINGES DRAWN FROM VIALS IN CRITICALLY ILL

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OBJECTIVES: Primary nosocomial bloodstream infections (BSI) (5-15% of all infections) are associated with increased length of stay and additional hospital costs. Propofol infusions, commonly used for sedation in intensive care units (ICU), are formulated in lipid emulsion which promotes microbial growth. The present study aimed at identifying the probabilities and costs of contamination of syringes of

propofol in critically ill patients, and subsequently determining the best strategy for administering propofol. **METHODS:** Costs of propofol-related infection and the different strategies of administration of propofol were computed according to the literature and microcosting method. The additional length of stay in ICU due to major infections related to propofol administration was estimated using the disability model, assuming a cost of CHF 2'118/intensive care unit day (local cost). The cost of each strategy was estimated based on all costs and on the probability of major infections related to propofol administration. **RESULTS:** According to the links found in the literature by genotyping bacteria (syringe-patient), we assumed that a patient has a mean 22.6% risk of developing an infection by a contaminated preparation of propofol. Thus, the ready-to-use syringe and syringes drawn from vials have an infection probability of 0.0014 [0.0009 - 0.0038] and 0.0118 [0.0056 - 0.0181] respectively. Probability of infection and the extended length of stay were the cost-drivers of this analysis. Ready-to-use syringes of propofol saved money, decreasing the cost by at least CHF 251 per sedation. Ready-to-use syringes remained a cost saving strategy when the propofol related infection rate probability according to the literature was as high as 0.38%. **CONCLUSIONS:** Ready-to-use syringes of propofol save money by preventing major infections related to its administration.

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COST EFFECTIVENESS OF PREPEX DEVICE AND DORSAL-SLIT TECHNIQUE FOR SCALING-UP ADULT SAFE MEDICAL MALE CIRCUMCISION IN HIV PREVENTION IN RURAL CENTRAL UGANDA

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OBJECTIVES: Averting 20% of new HIV infections, the country has to achieve 80% national circumcision coverage. Given the inadequacy of human resource at circumcision centers in Uganda, we conducted a study to assess the cost-effectiveness of PrePex device (none surgical) and Dorsal-slit technique (surgical) for scaling-up adult safe medical male circumcision. **METHODS:** In a four weeks cost effectiveness course project during November 2012, we modeled the costs and effects of male circumcision of the 2 commonest strategies (Dorsal-slit technique as standard and PrePex device) used in Uganda. Effectiveness was defined as days of complete healing measured by costs from start of procedure to complete healing. This was the time until end of each procedure when all scores for drainage from incision, epithelialization, granulation of tissue, and edema were zero. We estimated costs and effects from previous studies in developing countries. Direct and indirect costs were included in a cost effectiveness analysis with limited government perspective. Costs for demand creation (training, patient counseling, and promotion campaigns) were excluded. One-way sensitivity analysis was done by varying costs and days of complete healing as main model parameters. Analyses were done using TreeAge Pro-2011 software. **RESULTS:** PrePex (none surgical) utilized \$52.13 over the days to complete healing (31 days) compared to dorsal-slit (surgical) utilizing \$67.8 over the days to complete healing (23 days). PrePex was less costly (\$52) and with lowest adverse-events (0.98) compared to dorsal-slit technique 0.96 adverse-events costing \$65.9. PrePex device was mostly not sensitive to changes in costs and days to complete healing. **CONCLUSIONS:** PrePex device was cost-saving and cost effective.

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COST-EFFECTIVENESS OF CASPOFUNGIN VERSUS VORICONAZOLE FOR EMPIRIC THERAPY IN TURKEY

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OBJECTIVES: Two major clinical trials examined the efficacy of caspofungin (CAS) and voriconazole (VORI) for empiric therapy of febrile neutropenia (FN). We investigated the cost-effectiveness of empiric CAS vs. VORI in FN from the Turkish perspective. **METHODS:** The downstream consequences of CAS or VORI were captured through decision tree analysis. Outcome measures included success, breakthrough fungal infection, persistent base-line fungal infection, persistent fever, premature discontinuation and death. Probability data were extracted from the major studies. An expert panel estimated health care resource consumption and alternative treatment after initial failure with either agent. Cost was based on 2012 data using Turkish Lira (TL). Deterministic and probabilistic sensitivity analyses were performed. **RESULTS:** Compared to VORI, CAS was dominant by TL2,533, TL29,256 and TL2,536 per patient treated, successfully treated and patient survival, respectively (approx. USD1,414, 16,328 and 1,415). CAS had a higher likelihood of success and lower mortality than VOR (34.17% vs. 26.02% and 7.37% vs. 7.95%, respectively). Increasing the list cost or length of stay (LOS) for CAS by >35% or 1.3 days, respectively, changes the study outcomes. A decrease of list cost or LOS for VOR by >32% or 1.2 days resulted in it being favorable. Removing fever resolution as part of the composite outcome afforded a contracted difference (CAS preferred by TL298 and 299 per patient treated and surviving with VORI preferred by TL488 per patient successfully treated). Monte Carlo simulation of 10,000 subjects, with variability imputed on the outcome probabilities taken from the literature, LOS and hospitalization costs, resulted in a 78.8% chance of favoring CAS. **CONCLUSIONS:** There is a high likelihood of CAS being cost-effective compared to VORI in the treatment of FN in Turkey. Sensitivity analyses highlighted a robust advantage towards CAS. The model is moderately sensitive to changes in LOS or cost of each agent.

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ECONOMIC ANALYSIS OF PROTEASE INHIBITORS IN FIRST-LINE HAART IN ADULT PATIENTS WITH HIV

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