

period. For vaccination with PCV13 versus PPSV23, incremental costs per patient were 29.13BRL (CM) and 28.97BRL (IC) leading to a budget impact of 444,074,277BRL (CM) and 37,846,568BRL (IC) for the same period. **CONCLUSIONS:** The addition of PCV13 to the immunization schedule in adults  $\geq 18$  years with comorbidities or immunocompromising condition would avoid more IPD cases, with an incremental cost varying from 37,846,568BRL to 793,005,843BRL over a 10 year period.

## PIN24

## TRICLOSAN COATED ANTIBACTERIAL SUTURE: A BUDGET IMPACT ANALYSIS FROM ITALIAN HEALTH SERVICE PERSPECTIVE

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**OBJECTIVES:** Triclosan coated antibacterial sutures (TCS) are designed to control the bacterial colonization of the suture line, a known risk factor for surgical site infection (SSI). A recently published meta-analysis came to the conclusion that TCS showed a significant advantage in reducing the rate of SSI by 30 per cent (relative risk 0.70, 95 per cent C. I. 0.57 to 0.85;  $P < 0.001$ ). Subgroup analyses revealed consistent results in favour of TCS in adult patients, abdominal procedures, and clean or clean-contaminated surgical wounds. A budget impact analysis (BIA) has been developed to estimate the cost saving associated with use of new technology from the Italian Health Service perspective over a 1 year time horizon. **METHODS:** A literature review has been conducted to evaluate the potential impact of cost savings associated with SSI reduction in different procedures: Abdominal Hysterectomy, CABG, Colorectal Surgery, Hip Prosthesis, Limb Amputation; Small Bowel Surgery. The means and 95% confidence interval (CI) for the BIA were estimated using bootstrap methods (10,000 simulations) assuming lognormal distribution for costs and time data, and beta distribution for percentage data. **RESULTS:** Potential cost savings per procedure with TCS would be 86€ for Abdominal Hysterectomy, 49€ for CABG, 141€ for Colorectal Surgery, 132€ for Hip Prosthesis implantation, 415€ for Limb Amputation, 258€ for Small Bowel Surgery. Considering the annual procedures performed, the use of TCS, could be associated with cost saving of about 26,110,195€ (95%-CI: 10,574,295€ - 41,429,481€): 10% for Abdominal Hysterectomy; 1% for CABG; 30% for Colorectal Surgery; 15% for Hip Prosthesis; 34% for Limb Amputation and 8% for Small Bowel Surgery. **CONCLUSIONS:** The additional costs for TCS appear to be a cost-saving through the reduction of costs associated with SSI allowing budget to be reallocated for other activities within the Health Service/Hospital. The results were consistent according to the developed probabilistic sensitivity analysis.

## PIN25

## THE BUDGET IMPACT OF USING FIDAXOMICIN FOR HOSPITALISED CDI PATIENTS FROM THE DANISH HEALTH CARE PERSPECTIVE

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**OBJECTIVES:** Analyse the budget impact in Region Hovedstaden in Denmark (Region H), if all Clostridium difficile (CDI) hospitalised patients received fidaxomicin instead of vancomycin during one year. **METHODS:** The Danish national patient database provided the number of hospitalised patients and length of stay (LOS) for CDI patients (ICD-10: A047). A phase III trial provided the risk of a first and second CDI recurrence [Cornely 2012]. Cost per hospital stay calculated by LOS multiplied by cost per bed day (DKK 6,000) plus drug costs, vancomycin (DKK 300), fidaxomicin (DKK 11,641). **RESULTS:** In Region H 840 CDI patients were hospitalised in 2012. Assuming the same outcome as the trial, the total number of CDI hospitalisations would decrease from 1,104 with vancomycin (23.2% risk of 1st recurrence (23.2% \* 840 = 195); 35.5% risk of 2nd recurrence (35.5% \* 195 = 69)) to 930 with fidaxomicin (9.0% risk of 1st recurrence (9.0% \* 840 = 76); 19.7% risk of 2nd recurrence (19.7% \* 76 = 15)). Fidaxomicin prevents 174 hospitalisations compared to vancomycin. Assuming CDI is the primary diagnosis, with an average LOS of 9.0 days, the health care cost will increase by 2% with fidaxomicin. Assuming CDI is the secondary diagnosis, with an average LOS of 16.8 days, the health care cost will decrease by 6% with fidaxomicin. Assuming the average LOS for CDI patients is 13.3 days, the health care cost will decrease with 4%, and assuming LOS is 10 days, using fidaxomicin is cost neutral. **CONCLUSIONS:** In Region H, if all hospitalised CDI patients received fidaxomicin the number of recurrences decreases by 66% and the total number of cases decreases by 16%, compared to vancomycin usage. From the health care payer perspective fidaxomicin reduces recurrences, frees up available bed days, and may be cost neutral or cost saving depending on the assumed LOS, compared to vancomycin.

## PIN26

## A COMPARATIVE PUBLIC HEALTH AND BUDGET IMPACT ANALYSIS OF PNEUMOCOCCAL VACCINES. THE FRENCH CASE

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**OBJECTIVES:** In 2002 routine vaccination with a pneumococcal conjugate vaccine (PCV) was introduced in the French vaccination calendar for infants and toddlers. Since then, an ecological impact has been observed in the incidence of pneumococcal diseases in adults: incidence of invasive pneumococcal disease (IPD) of serotypes covered by PCV decreased, and serotypes not covered by PCV increased. This study aimed to quantify public health and budget impact of several pneumococcal vaccination strategies for at-risk adults in France over 5 years. **METHODS:** The analysis was adapted from a population-based Markov model previously developed for Germany, consisting of five health states: no pneumococcal disease, IPD, non-bacteraemic pneumococcal pneumonia (NBPP), post-meningitis sequelae and death. Epidemiology and costs were estimated from French sources whenever available. Uncertainty around vaccines effectiveness was handled using optimistic and/or pessimistic scenario analyses. At-risk adults received either PPV23 (for the immunocompetent) or PCV13 (for the immunosuppressed). This strategy was compared to PCV13 vaccine alone. **RESULTS:** Between 2014 and 2018, vaccination with PPV23 and PCV13 led to a higher reduction in terms of IPD and NBPP cases avoided in most

scenarios when compared to PCV13 alone [-328 (-1.6%) to 2,268 (9.2%) and from -10,145 (-8.9%) to 3,972 (4%) for IPD and NBPP respectively]. From a budget impact standpoint, none of the scenario was found in favor of PCV13. Under conservative vaccination coverage assumptions, the total incremental budget impact if PCV13 replace PPV23 for the immunocompetent population ranged from €39.8 million to €69.3 million. **CONCLUSIONS:** With the epidemiological changes of pneumococcal diseases and the wider serotype coverage of PPV23, vaccination of at risks adults with PPV23 remains the optimal one strategy from a public health perspective. Moreover, in the current health budget constraint, PCV13 alone is found to be associated with a significant impact on budget, whereas the health benefits are limited.

## PIN27

## COSTS RELATED TO PNEUMONIA, MENINGITIS AND SEPSIS IN PATIENTS 50 YEARS AND OLDER FROM THE PRIVATE HEALTH SYSTEM PERSPECTIVE IN BRAZIL

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**OBJECTIVES:** This study aimed to evaluate the impact of pneumonia, meningitis and sepsis and the how they represent the costs for patients 50 years and older in the Brazilian Private Health System. **METHODS:** An administrative claims database containing over 18 million lives was used to identify episodes of pneumonia, meningitis and sepsis, in all ages, between Oct/2010 and Dec/2013. The episodes were identified using ICD-10 codes of A40.3; B95.3; G00.1; J13; J15; J15.0; J15.3; J15.4; J15.8; J15.9; J18; J18.0; J18.9; J20.2 and P23.3 for pneumonia, A40; A40.0; A40.1; A40.8; A40.9; A41.8; A41.9; P36; P36.0 and P36.1 for sepsis, G00 and G00.9 for meningitis. Patients aged  $\geq 50$  years were identified and all-cause costs were extracted and grouped according to the 3 disease conditions. **RESULTS:** A total of 70,850 patients were identified (pneumonia: 68,717; sepsis: 1,745; meningitis: 388, representing 96.99%, 2.46% and 0.55% respectively). Different diseases disproportionately affected the populations. For pneumonia, 11.71% of episodes were in the ages 50+. Meningitis and sepsis represents 5.15% and 42.35%, respectively. The cost burden was also different by disease. Pneumonia had 56.95% of costs incurred by age 50+. For sepsis and meningitis, 75.8% and 15.53% of the costs were incurred by age 50+, respectively. **CONCLUSIONS:** Pneumonia, meningitis, and sepsis and its associated costs disproportionately affect the population in the Brazilian private health system. In particular, proportion of all pneumonia from patients age 50+ was only 11.71%, yet, the majority of expenditure (56.95%) for pneumonia patients is in the ages 50+. Pneumonia prevention strategies, including vaccinations, targeting adults age 50+, could potentially reduce health care costs associated with this condition.

## PIN28

## ECONOMIC IMPACT OF DENGUE EPISODE: MULTICENTER STUDY ACROSS FOUR BRAZILIAN REGIONS

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**OBJECTIVES:** To evaluate the economic burden of dengue from public payer and societal perspectives in Brazil. **METHODS:** Investigation was designed as a multicenter cost study. Suspected dengue cases were recruited during 2012/2013 in four endemic regions (city): Midwest (Goiania), Southeast (Belo Horizonte and Rio de Janeiro), Northeast (Teresina and Recife), North (Belem). Participants were suspected or laboratory confirmed dengue cases, treated in ambulatory or hospital settings (private and public sectors). A household interview was scheduled 20-30 days after the onset of clinical symptoms. The time horizon was one-year considering dengue seasonality. We calculated the direct cost, public payer perspective and direct/indirect costs for societal perspective. Estimation of annual national dengue costs took into account cases reported by notification system (SINAN) having possible under-reporting from passive surveillance. **RESULTS:** We screened 2,223 patients and 2,097 (94.3%) symptomatic dengue cases were included. The majority of patients were adults. 1,661 cases were treated in ambulatory and 436 cases in hospitals. In the ambulatory cohort, the average number of medical visits ranged from 1.2 to 4.2. A higher number of medical visits were recorded among inpatients (3.2 to 5.0). For the public payer perspective, estimated cost per case was USD 43 (95% CI: 39-47) ambulatory and USD 237 (95% CI: 202-248) hospital. Dengue illness in Brazil was estimated to cost USD 126 million (95% CI: 112-135), ambulatory and hospitalized cases considering the reported cases (SINAN). Outpatients cost account for 62% of the total costs. For the societal perspective, the estimated cost per ambulatory case was USD 163 (95% CI: 142-169) and USD 465 (95% CI: 407-591) hospital. Dengue illness was estimated to cost USD 389 million (95% CI: 339-425), ambulatory and hospitalized cases. **CONCLUSIONS:** Our results show evidence of substantial economic impact in Brazil. We have provided a timely economic evaluation of dengue.

## PIN29

## ECONOMIC EVALUATION OF VACCINATION AGAINST HAV IN HIGH RISK POPULATION

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**OBJECTIVES:** Hepatitis A virus (HAV) infection is self-limiting with no chronic complications but in some cases might be very severe causing significant number of deaths. The results of a previously conducted cost-benefit analysis demonstrated that the vaccination of all 1-year old children in the general population would be cost-effective to the health care system only in the years with an epidemiologic outbreak. The question remains will it be cost-effective in population