UNDEFINING CHILDREN’S PREFERENCES FOR INFLUENZA VACCINES USING CONJOINT ANALYSIS

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OBJECTIVES: To determine children’s ability to understand and complete conjoint questions and assess preferences for influenza vaccine attributes using conjoint analysis.

METHODS: 544 children aged 8–12 years from a nationally representative US sample selected from a standing panel completed an online conjoint survey asking respondents to choose between two hypothetical influenza vaccines. Vaccines varied based on 4 attributes: vaccine efficacy (works very well, works well), chance of sore arm (low, none), chance of runny/stuffy nose (low, none), and mode of administration (shot, nose spray). Three questions were included to identify children with difficulty understanding conjoint questions; those who answered at least one question incorrectly were excluded. Analyses were performed using Hierarchical Bayes and included estimating the utility for each attribute level and the relative importance (RI) of each attribute. RESULTS: 464 (85%) respondents understood the conjoint questions and were included in the analysis. Administration mode was the main driver of preference (RI = 41%), followed by efficacy (RI = 31%), sore arm (RI = 14%), and runny/stuffy nose (RI = 14%). Mode was more important for younger (aged 8–10) vs. older (aged 11–12) children (RI 43% vs. 37%), while efficacy was more important for older vs. younger children (RI 33% vs. 29%). When presented with profiles representative of available influenza vaccines, 79% of children chose the live attenuated influenza vaccine (works well, no chance of sore arm, low chance of runny/stuffy nose, nose spray) over the inactivated injectable vaccine (works well, low chance of sore arm, none of runny/stuffy nose, shot) CONCLUSIONS: Most children aged 28 can make decisions based on attribute trade-offs. Intranasal administration followed by high efficacy are the primary drivers for children’s preference of influenza vaccines.

Health care providers and parents should involve children 28 years in discussions regarding their preferred influenza vaccine, particularly regarding efficacy, side effects and mode.

INFECTION – Health Care Use & Policy Studies

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OBJECTIVES: The Inpatient Prospective Payment System (IPPS) is a payment system for services; cost each is categorized by the diagnosis-related group (DRG). DRGs facilitate efficient allocation of hospital resources, yet alternatively causes concerns in relation to services provision. The main objective of this work is to investigate the impact of using the DRG billing system on medical decision making and service quality in terms of length of stay (LOS), total number of diagnoses (NDX) and total number of ICD-9-CM procedures (NPR).

METHODS: The dataset used was obtained from the Nationwide Inpatient Sample (NIS) for 2005, which contains clinical and resource use information included in a typical discharge abstract, with safeguards to protect the privacy of individual patients, physicians, and hospitals. This study included patients aged ≥ 17, who were admitted to the hospital with an initial diagnosis of seasonal flu. Kernel Density Estimation (KDE) was used to investigate the variation on LOS, NDX, and NPR for the same DRG; several DRG values (89, 68 and 70) were used to define provided services. In addition, LOS values were clustered to illustrate the dissimilarity within the same DRG class. RESULTS: Out of 24,348 patients, 14% were diagnosed with “Simple Pneumonia”, 13% “Otitis Media & Upper Respiratory Infection, age > 17”, 13% with “Otitis Media & Upper Respiratory Infection, age<17”. Also, 16.87% had diabetes and 1.6% died during hospitalization. The KDE showed considerable variation in LOS, NDX and NPR values for the same DRG. Least Squares criteria were used to cluster LOS for DRG “89,” which resulted in 4 clusters. CONCLUSIONS: A strong variation between the length of stay, number of diagnoses and procedures for the same DRG class emphasize the need to reform the inpatient prospective payment system (IPPS) to avoid service provision, improve hospital’s resources utilization, and reduce service costs.

MENINGITIS VACCINE COVERAGE AND ADOPTION ACROSS THE UNITED STATES

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OBJECTIVES: To evaluate coverage of the Meningitis vaccine and explore explanations for variances across the United States. Meningitis vaccine adoption varies significantly by state from 12% to 65% for children 13–17 years. The CDC recommends vaccination after 11 years of age while state legislation ranges from vaccination requirements to public health education initiatives for post secondary or college-bound students. METHODS: Study included analysis of CDC vaccination rates, Census data and State Legislations. Health care system and socioeconomic characteristics were identified and evaluated with respect to meningitis vaccine coverage. Meningitis state legislations were valued on a scale of 1–4 (1 defined as no requirement and 4 defined as vaccine required with only exemptions allowed). Regression models were run on each state level variable separately, then independent predictor variables were identified and run in a multi-variable model to evaluate coverage rate variation.

RESULTS: The correlation between meningitis vaccination rates and the following variables: patients per 1000 state inhabitants, the enactment of state mandates, and state poverty rate yielded RI values of 0.31, 0.06, and 0.03, respectively. When variables were combined in a multi-variable regression, the model suggested an R² value of 0.35 and an F-value of 8.4. We found a positive correlation between the percentage of state college and vaccination rates (R² values 0.26 and an F-value of 17.5), while high school graduation rates did not correlate with vaccination rates. CONCLUSIONS: Pediatrician access and college education appear to be predictive of meningitis vaccination rates by state, while state legislation may not result in a higher vaccination care. More research is required to focus public health intervention on the operative levers to improve vaccine coverage.

POLYMBIDITY, THERAPY AND COSTS OF AMBULATORY CARE FOR HEPATITIS C PATIENTS IN GERMANY

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OBJECTIVES: Hepatitis C virus (HCV) infection is an emerging problem in public health. The purpose was to analyze retention-rates of patients on therapy for HCV with Peginterferon alfa-2b or alfa-2a (pegINF) and Ribavirin (RBV), number of concomitant prescriptions, co-medication, co-diagnoses and cost of therapy in Germany. The purpose was to analyze retention-rates of patients on therapy for HCV with Peginterferon alfa-2b or alfa-2a (pegINF) and Ribavirin (RBV), number of concomitant prescriptions, co-medication, co-diagnoses and cost of therapy in Germany.

METHODS: Retrospective longitudinal aggregated patient data from the IMS Disease Analyzer was used. Patients with at least one diagnosis of HCV (ICD 10: B17.1 HCV acute and/or B18.2 HCV chronic) were analyzed. Starting with the first concomitant prescription of RBV/pegINF every patient was matched with two children in the comparison group (1:2 ratio) using propensity score technique. Multivariable logistic and negative-binomial regressions were conducted to control for patient-related and provider-related characteristics.

RESULTS: Upon matching, 89 patients living with HIV infected parent(s) and 60 patients with 178 children of HIV uninfected parents. Both groups were similar in their demographic and socio-economic characteristics including parents' health insurance status. Children of HIV-infected parent(s) were 1.66 times (95% CI: 1.153–6.453) more likely to have a doctor visit and had 49% (p = 0.0296) more doctor visits than comparativ group. The parent group had 3.0 times more hospital visits (p = 0.0244) and 86% more emergency room visits (p = 0.0646) compared to comparison group. Though the parent group showed no difference in their school/daycare absenteeism, they were 4.041 times more likely (95% CI: 1.887–13.471) to be overweight and 5.320 times more likely to be on a psychotropic medication (95% CI: 1.503–20.276) compared to comparison group. CONCLUSIONS: This study found children living with their HIV infected parent(s) had higher health care utilization and compromised health status, especially mental health, compared to those living with HIV-negative parents. Long term impacts of the study findings needs to be further investigated.