among hospitalized patients is substantial. Further research is needed to assess the value of large hospital discharge databases for documenting and distinguishing the costs of specific bacterial pathogens.

ECONOMIC EVALUATION OF INFLUENZA PANDEMIC MITIGATION STRATEGIES IN THE US USING A STOCHASTIC MICROSIMULATION INFLUENZA MODEL

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OBJECTIVES: To project the potential impact of pandemic influenza mitigation strategies on health outcome, cost, and cost-effectiveness from a societal perspective. METHODS: We use a stochastic agent-based model to simulate pandemic influenza in the community. We compare 16 strategies to no intervention, focusing on targeted antiviral prophylaxis (TAP) with oseltamivir (treatment of identified index cases and prophylaxis of exposed people) alone and in combination with school closure. We also consider pre-vaccination of the population. We use the human capital approach to estimate productivity loss. Outcomes include number of cases, deaths, QALYs, direct and indirect costs, and incremental cost-effectiveness ratios (ICERs) expressed as costs per QALY gained. RESULTS: In the absence of intervention, we predict a 50% attack rate with an economic impact of $187 per capita. TAP + school closure and pre-vaccination + school closure (preventing 94–96% of cases at $2730 per capita) are comparable in terms of QALY gain and total costs. The ICER compared to TAP alone (the most effective single strategy) is about $50,500/QALY for either strategy. The most effective single strategy is TAP alone (prophylaxis of 60% of close contacts of index cases) which effectively prevents 54% of cases at a cost of $120 per capita. If vaccine is available and administered before the onset of the pandemic, then pre-vaccinating 70% of the population with a partially effective vaccine prevents 48% of cases and is the least costly alternative ($99 per capita), dominating all but one TAP only strategies, treatment and school closure. Sensitivity analysis on key variables does not change the ranking of strategies but shows that mortality has the greatest impact on QALYs and hence ICERs. CONCLUSION: Targeted antiviral prophylaxis is an effective and cost-saving measure for mitigating pandemic influenza. Adding school closure provides greater benefit and is likely to be an attractive strategy if mortality is high.

PODIUM SESSION IV: OBESITY

IMPACT OF OBESITY SEVERITY ON HEALTH CONDITIONS AND MEDICAL COSTS IN THE US

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OBJECTIVES: To assess the impact of severity of obesity on medical comorbidities, perceived health status and medical costs in the US. METHODS: This study analyzed the 2004 Medical Expenditure Panel Survey (MEPS). Based on the Body Mass Index (BMI), weight groups were defined as Underweight (UW, BMI < 18.5), Normal Weight (NW, BMI 18.5–24.9), Overweight (OW, BMI 25–29.9), Obese I (BMI 30–34.9), Obese II (BMI 35–39.9), and Obese III (BMI ≥ 40). Multiple logistic regressions were modeled to estimate the impact of severity of obesity on medical comorbidities and perceived health status. Two part models (TPMs) were employed to estimate the cost functions controlling for socio-demographic characteristics and physical health conditions. All estimates are weighted to be nationally representative and the costs are adjusted for the Smearing effect. RESULTS: In the nationally representative sample (mean age 45.5 years; 51.4% female), 2.1% were UW, 37.0% NW, 35.1% OW, 16.4% obese I, 6.1% obese II and 3.4% obese III. Compared to NW, obese I, II and III were more likely to have diabetes (odds ratio (OR) = 3.5, 5.7, and 10.8, p < 0.001), asthma (OR = 1.4, 2.1, and 2.6, p < 0.001), and joint pain (OR = 1.7, 2.2 and 2.9, p < 0.001), and reported significantly poorer perceived health status (OR = 0.6, 0.4 and 0.3, p < 0.001), respectively. The TPMs results showed that compared to NW patients, obese II and III were more likely to incur higher costs (OR = 1.3, and 1.4, p < 0.05), and patients from obese I, II and III also had significantly higher costs compared to NW patients ($4643, $5000, $4811 vs. $3999, p < 0.001). CONCLUSION: Obesity is a major public health concern and has a large economic impact to the US population. The severity of obesity is significantly associated with increased medical comorbidities, decreased health status and high medical costs.