Estimating the direct medical economic burden of health care-associated infections in public tertiary hospitals in Hubei Province, China

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This study estimated the attributable direct medical economic burden of health care-associated infections (HAIs) in China. Data were extracted from hospitals’ information systems. Inpatient cases with HAIs and non-HAIs were grouped by the propensity score matching (PSM) method. Attributable hospitalization expenditures and length of hospital stay were measured to estimate the direct medical economic burden of HAIs. STATA 12.0 was used to conduct descriptive analysis, bivariate $\chi^2$ test, paired Z test, PSM ($r=0.25\sigma$, nearest neighbor-1:1 matching) and logistic regress analysis. The statistically significant level was set at 0.05. The HAIs group had statistically significant higher expenditures and longer hospitalization stay than the non-HAIs group during 2013 to 2015 ($P<0.001$). The annual average HAI attributable total expenditure, medicines expenditure, out-of-pocket expenditure and number of hospitalization days per inpatient were (2015 US$) 6173.02, 2257.98 and 1958.25 and 25 days during 2013 to 2015. The direct medical cost savings was estimated at more than 2015 US$12 billion per year in Chinese tertiary hospitals across the country. The significant attributable direct medical economic burden of HAIs calls for more effective HAI surveillance and better control with appropriate incentives.

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