

## Did DRG Payment System Change Operation Anesthesia Patterns and Expenditure?

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**Objectives:** To promote health quality and health resources rationalization, Taiwan Diagnosis-Related Groups (Tw-DRGs) payment system was implemented in 2010. We would like to examine the impact of Tw-DRGs on anesthesia patterns, anesthesia expenditure and length of stay among 15 operations of DRGs.

**Methods:** This study was based on National Health Insurance Research Database from 2009 to 2010, and compared the anesthesia utilization of 15 operations before and after implementing Tw-DRGs. Generalized estimating equation of logistic regression and multiple regression analysis were applied to examine the changes in anesthesia patterns, expenditure and length of stay, respectively.

**Results:** Based on univariate analysis, the high-payment anesthetic method, anesthesia expenditure, and length of stay decreased after Tw-DRGs implementation. After controlled for other variables, 13 (87%) DRGs surgeries tended to use low-payment anesthetic procedures; 6 (40%) DRGs surgeries' anesthesia expenditures were significantly reduced by NTW\$ 226- 933; the length of stay of all (100%) DRGs surgeries were significantly reduced by 0.33 to 2.61 days. Furthermore, the study also observed that private hospitals were more likely to adopt a high-payment anesthesia procedure among 11 (73%) DRGs surgeries. In addition, medical centers had a higher probability of using high-payment anesthesia procedures than non-medical center hospitals among 9 (60%) DRGs surgeries.

**Conclusion:** After implementing Tw-DRGs, physicians trended to use low-payment anesthesia procedures on DRG surgeries. Besides, the operations anesthesia expenditure and length of stay were significantly reduced. Therefore, health care providers' behaviors were significantly influenced due to Tw-DRGs payment system.