

## **Cost of Intermediate and Long-Term Care: Which Payment Method for Thailand?**

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### **Introduction**

Intermediate and long-term care (ILTC) patients are people of all ages with diminished functional ability due to mental or physical illness and disability, requiring intermediate-care (IMC) or long-term care (LTC) to resume health. The increasing number of ILTC patients tends to cause catastrophic expenditures in Thailand's healthcare system. Additionally, Thailand has only used DRG to pay for inpatient care, which does not reflect the costs of ILTC. This study aims to analyze the costs of ILTC compared to the payment.

### **Methods**

A cost analysis of healthcare services was conducted from a provider's perspective with a micro-costing approach. ILTC patients were recruited from eight public hospitals in 2018 and 2019 by the primary and secondary diagnoses (ICD10) corresponding to nineteen groups of IMC and twenty-one groups of LTC based on the review literature. Then, the hospitalized patients with one admission were selected for the analysis. The treatment cost per admission was estimated in 2019 value. The data were summarized using descriptive statistics. Furthermore, the stepwise multiple regressions were employed to create a cost function. The independent variables are the case type (IMC or LTC), types of national insurance scheme (NIS), groups of diagnosis, and DRG adjusted relative weight (AdjRW) (categorized into >0 to 1, >1 to 2, >2 to 3, >3 to 4, and >4).

### **Results**

14,413 ILTC patients were included, of which 43% were female. The patients comprised 44% of IMC and 56% of LTC. The average age was 57 ( $\pm 22$ ) years of IMC and 41 ( $\pm 22$ ) years of LTC. The length of stay was 5.92 ( $\pm 8.75$ ) days for IMC and 4.67 ( $\pm 7.28$ ) days for LTC. The average AdjRW was 1.12 of IMC and 0.07 of LTC. The average costs per admission of IMC and LTC were USD909 ( $\pm 1,380$ ) and USD601 ( $\pm 990$ ), respectively (USD1 = 31.04 Thai baht). The cost model had an adjusted  $R^2$  of 0.44. The predictor variables were all levels of AdjRW, fifteen diagnosis groups (of 38 potential groups), and the social security scheme. The case type (IMC or LTC) was not significant. The fitted costs per AdjRW of levels of >0 to 1, >1 to 2, >2 to 3, >3 to 4, were USD769, USD825, USD824, USD763, and USD613, respectively. Compared to the current payment per AdjRW (USD269 for general patients and USD387 for high-risk patients), the costs of ILTC are higher than the payment rate by 61% to 70% and 44% to 57% for general ILTC and high-risk patients, respectively.

### **Discussion**

Even though the healthcare reimbursement policy was adjusted for the high-risk disease of ILTC, all of the ILTC costs are still over the NIS payment. So, it is necessary to develop a new national payment policy for ILTC to turn catastrophic expenditure conditions to a value-based healthcare system in Thailand.