

Abstract **Societal Costs of Health Impact of People Living in Industrial Areas and their Perimeters with Risk of Acute Myeloid Leukemia**

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This study was modelling-based analyses and was aimed at an estimate of societal costs of health impact on people who lived in industrial areas and their perimeters facing the risk of acute myeloid leukemia (AML) caused by benzene exposure. This study was a part of the research for development of health benefit package under Universal Coverage Scheme within the time period May - July 2010. Lifetime costs estimation and societal perspective costing were applied. Costs included two therapies: chemotherapy cost and hematopoietic stem cell transplantation (HSCT) cost. A Markov model was employed to calculate societal costs of health impacts of two scenarios according to the unit of interest.

First scenario was an individual with AML and lived in industrial areas and their perimeters. The second scenario was community with the same condition.

Results show that the total estimated patient's lifetime costs incurred from chemotherapy was 3,821,293 THB and 6,519,701 THB from HSCT. The model anticipated that there would be an annual increasing number of AML cases resulted from benzene exposure. The thirty-year projection assumed that 350 cases would suffer from AML which would cost approximately 3,500 million THB. Thus, strategic plan and action from stakeholders in order to reduce pollution levels and potential health risks are highly recommended. Based on the findings, there is a potentially large amount of health expenditure. If cost containment is a primary focus of Thai health care system, the National Health Security Office (NHSO), responsible for health of most of Thai population, should play a major role to address this problem in collaboration with other agencies.

Key words: leukemia, cost, industrial area, benzene