

## **Chronic Care Model Implementation and Outcomes among Patients with COPD in Care Teams with and without Advanced Practice Nurses**

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**Abstract:** The aims of this study were to: explore the level of implementation of a care model in chronic obstructive pulmonary disease care programs provided by healthcare teams with and without advanced practice nurses in community hospitals in northern and eastern Thailand; and, compare the difference of outcomes between the healthcare teams with and the healthcare teams without advanced practice nurses. The sample consisted of 210 Thais (105 for each type of care team) with chronic obstructive pulmonary disease who were receiving care from six selected community hospitals in northern and eastern Thailand. Data were analyzed via descriptive statistics, Chi-square, t-test, PERMANOVA and the Mann-Whitney U test.

The results revealed that all of the chronic care model components, except self-management support within the care team without advanced practice nurses, were implemented, at an acceptable level, within the chronic obstructive pulmonary disease care programs of both types of care teams. With respect to outcomes, those receiving care from the care teams with advanced practice nurses exhibited higher self-care behaviors and pulmonary function scores, shorter lengths of stay, and lower costs of care services, than those receiving care from care teams without advanced practice nurses. However, those receiving care from care teams without advanced practice nurses, compared to those receiving care from care teams with advanced practice nurses, were found to have higher physical functioning scores, and lower scores on impacts of coughing/breathlessness and chest problems, regarding health-related quality of life, as well as higher overall health-related quality of life. No other statistically significant differences were found, between individuals receiving care from the two types of care teams, regarding other parts of their health-related quality of life or the remaining outcomes.

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**Keywords:** chronic care model; chronic obstructive pulmonary disease; advanced practice nurses; outcomes

### **Introduction**

Chronic obstructive pulmonary disease (COPD) has placed a large burden on the healthcare systems of many countries, including Thailand.<sup>1, 2</sup> Thus, there appears to be a need to improve healthcare systems so as to lessen this burden. Presently, use of the Chronic Care Model (CCM) and advanced practice nurses (APNs) are recognized as important strategies for dealing with comprehensive chronic illness care. The

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