

### **Appendix File 3.**

#### **The pre-defined protocol deviations:**

- (1) Diagnosed as asthma by pulmonary function test at 90-day follow-up;
- (2) Using nebulized corticosteroid or LABA, or LAMA during the index hospitalization;
- (3) Using ICS or inhaled LABA;
- (4) Patients in the systematic corticosteroid group received corticosteroid therapy more than 5 days or less than 5 days;
- (5) Patients in the control group receive systematic corticosteroid therapy;
- (6) Incorrect initial diagnosis of COPD;
- (7) Diagnosis of pulmonary embolism and pneumonia after enrollment;
- (8) Patients explicitly asked to withdraw from the study;
- (9) Macrolides or traditional Chinese medicine used during follow-up.