Recommendations

The following recommendations are based on the average scores for 4 and 5 ratings for each measure, identified as important by the model's feature importance analysis, and the current scores of Evanston hospital for the respective measure. Working on improving on **Patient Experience, readmission and Patient Safety** measures are key for improved rating for Evanston hospital. Following are the steps could be taken,

- ❑ **Median Time to ECG (OP_5):** Ensure timely ECG administration, need to target **6.52 minutes** for a 5-star rating.
- ❑ **Acute Myocardial Infarction (AMI) 30-Day Readmission Rate (READM_30_AMI):** Reduce readmission rate from **16.5%** to at least **15.93%**.
- ❑ **Hospital-Wide Readmission Rate (READM_30_HOSP_WIDE)**: Reduce from **15.2%** to **14.30%**
- ❑ **Nurse Communication (H_COMP_1_LINEAR_SCORE)**: Improve nurse communication score from **91** to at least **94.07**.
- ❑ **Overall Hospital Rating (H_HSP_RATING_LINEAR_SCORE)**: Increase from **89** to **93.04** by focusing on patient satisfaction and service quality.
- ❑ **Serious Complications (PSI_90_SAFETY)**: Reduce the rate from **1.45** to **0.73** to enhance patient safety.
- ❑ **Staff Responsiveness (H_COMP_3_LINEAR_SCORE):** Improve from **84** to **89.81** by ensuring timely response to patient needs.
- ❑ **Acute Myocardial Infarction (AMI) 30-Day Mortality Rate (MORT_30_AMI)**: Monitor and optimize interventions to maintain or further improve patient survival.
- ❑ **Aspirin at Arrival (OP_4):** Ensure patients receive aspirin on arrival to maintain a high compliance rate (**97.16%** for 5-star).
- ❑ **Recommended Hospital Score (H_RECMND_LINEAR_SCORE)**: Improve the likeliness to recommend score from **90** to **93.82** by enhancing patient experience and overall service quality.

Recommendations 2

- ❑ **Pain Management (H_COMP_4_LINEAR_SCORE):** Increase from **87** to **90.26** through better care.
- ❑ **Care Transition (H_COMP_7_LINEAR_SCORE):** Improve from **81** to **84.98**
- ❑ **Heart Failure (HF) 30-Day Readmission Rate (READM_30_HF)**: Reduce from **21.2%** to **20.12%**
- ❑ **Central Line-Associated Bloodstream Infections (HAI_1a_SIR)** : Lower from **0.605** to **0.43** by enhancing infection control practices.
- ❑ **COPD Readmission Rate (READM_30_COPD):** Reduce from **19.7%** to **18.78%** by optimizing disease management.
- ❑ **Surgical Site Infection from Colon Surgery (HAI_3_SIR):** Reduce from **1.158** to **0.99** by improving surgical protocols.
- ❑ **Warfarin Therapy Discharge Instructions (VTE_5):** Maintain or improve compliance to **95.77%**.
- ❑ **Cleanliness Score (H_CLEAN_LINEAR_SCORE)**: Improve patient satisfaction score from **88** to **90.82**.
- ❑ **Stroke Readmission Rate (READM_30_STK):** Reduce from **12.8%** to **11.87%**
- ❑ **Communication About Medicines (H_COMP_5_LINEAR_SCORE)**: Increase from **76** to **83.07** by ensuring clear explanations to patients.
- ❑ **Doctor Communication (H_COMP_2_LINEAR_SCORE)**: Improve from **91** to **93.90** through better patient interactions and information sharing.

To achieve a 5-star rating, Evanston Hospital should focus **on enhancing patient experience measures** through improved communication, responsiveness, cleanliness, and care., also prioritizing to **reducing readmission rates, serious complications, and controlling infections.**