

Purpose: The Hilltop Pre-AH Model[™]—which generates the rankings for the Avoidable Hospitalizations (Pre-AH) scores—is designed to assist providers by allowing them to easily identify patients at a high risk of incurring an avoidable inpatient hospitalization or emergency department (ED) visit. The Pre-AH Model provides risk scores and reasons for risk for all attributed beneficiaries of Maryland Primary Care Program (MDPCP) practices every month to help care teams make informed decisions about how to direct scarce care coordination resources to the individuals who will benefit from them the most.

Outcome: The Hilltop Pre-AH Model[™] predicts risk for an avoidable inpatient hospitalization or ED visit in the next month using a composite of 10 conditions (prevention quality indicators, or PQIs) determined to be potentially preventable with high-quality outpatient care by the Agency for Healthcare Research and Quality.

Risk Factors: The Hilltop Pre-AH Model[™] includes 204 risk factors engineered specifically for this model that are categorized into five domains: Condition, Utilization, Pharmacy, Demographic, and Environmental. These risk factors were created using administrative claims data and publicly available data sources (e.g., the American Community Survey, Environmental Protection Agency). All features have been shown to predict avoidable hospital events in previously published work.

For more information on the tool, including a full list of risk factors, visit the MDPCP "practice information" web page.

204 Pre-AH Model FeaturesCondition – 96 FeaturesExample: Heart failureUtilization – 45 FeaturesExample: High-risk prior hospital dischargePharmacy – 12 FeaturesExample: Insulin useDemographic – 10 FeaturesExample: Beneficiary ageEnvironmental – 41 FeaturesExample: Rurality index



The Hilltop Institute The Hilltop Pre-DC Model™: Severe Diabetes Complications

Purpose: The Hilltop Pre-DC Model[™]—which generates the rankings for the Severe Diabetes Complications (Pre-DC) scores—is designed to facilitate the active management of type 2 diabetes by estimating individuals' risk of incurring inpatient admissions or emergency department (ED) visits for severe diabetes complications. The Pre-DC Model provides risk scores and reasons for risk for all attributed beneficiaries of Maryland Primary Care Program (MDPCP) practices every month to help care teams proactively identify high-risk individuals and allocate scarce care management resources.

Outcome: The Hilltop Pre-DC Model[™] predicts risk for an inpatient hospitalization or ED visit due to severe complications of type 2 diabetes in the next month across six domains of complications: ophthalmic/retinopathy; nephropathy; cerebrovascular; cardiovascular; peripheral vascular; metabolic.

New Risk Factors: In addition to the 204 risk factors already included in the Hilltop Pre-AH Model[™], the Hilltop Pre-DC Model[™] will include 18 new risk factors engineered specifically for this model. These risk factors were created using administrative claims data and have been shown to predict severe complications of type 2 diabetes in previously published work.

For more information on the tool, visit the MDPCP "practice information" webpage.







The Hilltop Institute The Hilltop Pre-HE Model[™]: Hospice Eligibility & Advanced Care Planning

Purpose: The Hilltop Pre-HE Model[™]—which generates the rankings for the Hospice Eligibility and Advanced Care Planning (Pre-HE) scores—is designed to support proactive advanced care planning discussions by estimating a patient's risk of eligibility for hospice. The Pre-HE Model provides risk scores and reasons for risk for all attributed beneficiaries of Maryland Primary Care Program (MDPCP) practices every month in order to identify patients that are potentially appropriate for hospice care and to provide care teams with information that can guide the sensitive and difficult conversations about end-of-life care with patients and their families.

Outcome: The Hilltop Pre-HE Model[™] predicts risk of eligibility for hospice.

New Risk Factors: In addition to the 204 risk factors already included in the Hilltop Pre-AH Model[™], the Hilltop Pre-HE Model[™] will include 18 new risk factors engineered specifically for this model. These risk factors are created using administrative claims data and have been shown to predict mortality in previously published work.

For more information on the tool, visit the MDPCP "practice information" webpage.





UMBC