



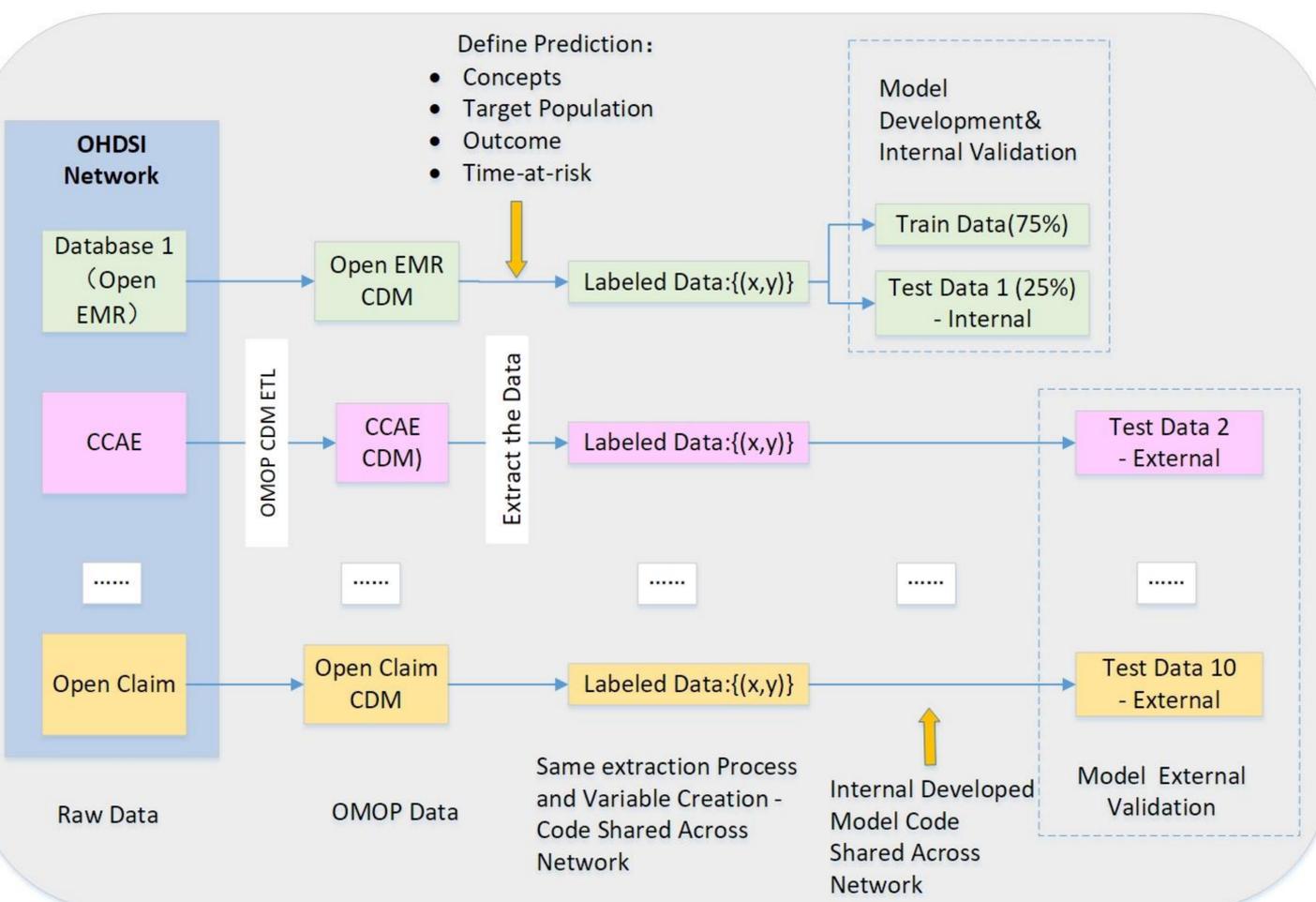
Development and Validation of a Prognostic Model Predicting Hemorrhagic Transformation in Acute Ischemic Stroke

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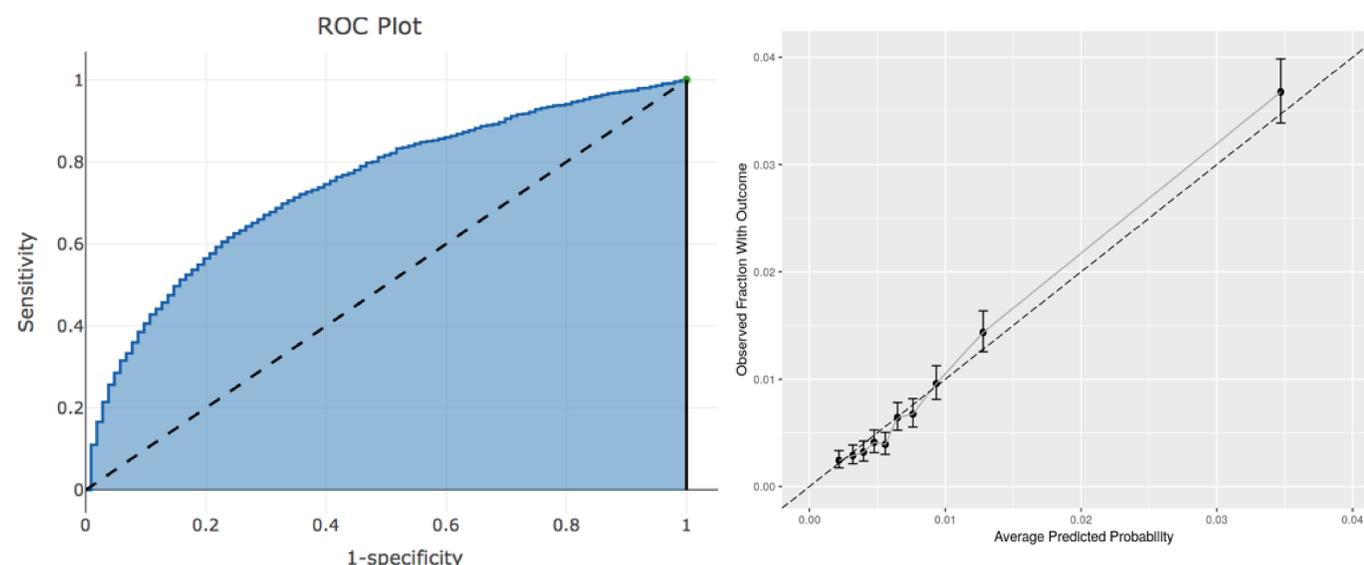
Background

Hemorrhagic transformation (HT) after cerebral infarction is a complex and multifactorial phenomenon in the acute stage of cerebral infarction and often results in a poor prognosis. To better inform physicians on strategies to minimize risk of HT, we developed a model that can predict a patient's personal risk of HT within 30 days of initial ischemic stroke for those aged 45 or older.

Methods



Results



Database	T (Test)	O (Test)	Incidence (%)	AUROC	AUPRC
Optum Panther	621,178 (155,259)	5,624 (1,406)	0.91	Test: 0.749 Train: 0.786	Test: 0.044 Train: 0.059
IBM CCAE	274,384	4,836	1.76	0.763	0.072
IBM MDCR	441,939	6,772	1.53	0.724	0.051
IBM MDCD	151,876	1,629	1.07	0.750	0.044
JMDC	20,181	31	0.15	0.769	0.048
DA Germany	41,311	45	0.11	0.649	0.022
THIN	17,461	35	0.20	0.536	0.003
Hospital CDM	191,036	2011	1.05	0.676	0.023
PharMetrics	556,151	9951	1.79	0.782	0.108
LRxDx	4,331,167	54,973	1.269	0.595	0.027

Conclusions

Based on the OHDSI network, by applying the standardized framework we developed and validated a prognostic model for predicting hemorrhagic transformation in acute Ischemic Stroke. In future work it would be useful to investigate whether the current model that includes 600 variables could be simplified to 20 or fewer variables, while still performing reasonably.

Target Cohorts: Ischemic stroke and without hemorrhage from 30 days earlier to the same day patient elder than 45 gets ischemic stroke.
(<http://www.ohdsi.org/web/atlas/#/cohortdefinition/1770030>)

Outcome Cohorts: Intracerebral hemorrhagic
URL: <http://www.ohdsi.org/web/atlas/#/cohortdefinition/1770029>