

Batched Washout Analysis Summary: Model Performance Retention (0-400K Patients Processed in Batches)

Disease	Immediate (0-Year)	1-Year Washout	2-Year Washout	AUC Drop	Retention	Batches (0yr/1yr/2yr)
Crohns_Disease	0.729±0.224	0.742±0.212	0.559±0.060	0.169	77%	3/2/3
Anxiety	0.771±0.088	0.446±0.109	0.465±0.034	0.306	60%	3/3/3
Secondary_Cancer	0.642±0.053	0.626±0.053	0.587±0.104	0.055	91%	3/3/3
Bladder_Cancer	0.921±0.102	0.653±0.065	0.767±0.096	0.155	83%	3/3/3
COPD	0.760±0.011	0.668±0.037	0.662±0.026	0.098	87%	3/3/3
Atrial_Fib	0.814±0.027	0.673±0.010	0.659±0.022	0.156	81%	3/3/3
Osteoporosis	0.794±0.097	0.704±0.051	0.665±0.033	0.129	84%	3/3/3
Colorectal_Cancer	0.949±0.030	0.669±0.037	0.685±0.069	0.264	72%	3/3/3
Heart_Failure	0.795±0.047	0.607±0.081	0.706±0.021	0.089	89%	3/3/3
Ulcerative_Colitis	0.948±0.067	0.613±0.174	0.549±0.129	0.399	58%	3/3/3
Multiple_Sclerosis	0.886±0.040	0.804±0.081	0.529±0.117	0.357	60%	3/3/3
All_Cancers	0.783±0.024	0.684±0.011	0.675±0.046	0.107	86%	3/3/3
Stroke	0.628±0.075	0.725±0.058	0.708±0.068	-0.080	113%	3/3/3
Breast_Cancer	0.805±0.081	0.632±0.042	0.531±0.074	0.274	66%	3/3/3
Anemia	0.631±0.022	0.572±0.016	0.565±0.027	0.065	90%	3/3/3
Prostate_Cancer	0.855±0.035	0.719±0.024	0.695±0.024	0.161	81%	3/3/3
Asthma	0.739±0.047	0.488±0.039	0.528±0.007	0.211	71%	3/3/3
Diabetes	0.715±0.029	0.603±0.039	0.603±0.037	0.113	84%	3/3/3
Lung_Cancer	0.691±0.206	0.780±0.130	0.666±0.043	0.025	96%	3/3/3
Pneumonia	0.626±0.101	0.582±0.056	0.661±0.083	-0.035	106%	3/3/3
Psoriasis	0.696±0.237	0.404±0.125	0.572±0.093	0.124	82%	3/2/3
Parkinsons	0.793±0.202	0.843±0.082	0.776±0.036	0.017	98%	3/3/3
Thyroid_Disorders	0.741±0.055	0.576±0.015	0.565±0.035	0.176	76%	3/3/3
Depression	0.734±0.129	0.422±0.058	0.430±0.091	0.304	59%	3/3/3
Rheumatoid_Arthritis	0.865±0.096	0.733±0.072	0.646±0.095	0.219	75%	3/3/3
Bipolar_Disorder	0.792±0.114	0.487±0.121	0.363±0.156	0.430	46%	2/3/3
CKD	0.848±0.118	0.711±0.103	0.702±0.098	0.146	83%	3/3/3
ASCVD	0.898±0.006	0.701±0.017	0.680±0.013	0.218	76%	3/3/3