

Supplementary File 2. Average Precision (AP) for Logistic Regression (LR) and XGBOOST Across Outcomes and Surgical Subgroups

Subgroup	Outcome	AP (LR)	AP (XGBoost)
BPD/DS	All Complications ¹	0.219	0.199
LAGB	All Complications	0.116	0.129
LRYGB	All Complications	0.250	0.253
SG	All Complications	0.169	0.173
Conversion procedure	All Complications	0.256	0.254
Initial Procedure	All Complications	0.194	0.198
Revision procedure	All Complications	0.187	0.171
BPD/DS	Bleeding	0.017	0.015
LAGB	Bleeding	0.004	0.003
LRYGB	Bleeding	0.025	0.021
SG	Bleeding	0.012	0.013
Conversion procedure	Bleeding	0.026	0.019
Initial Procedure	Bleeding	0.016	0.017
Revision procedure	Bleeding	0.035	0.026
BPD/DS	Intervention	0.033	0.019
LAGB	Intervention	0.006	0.004
LRYGB	Intervention	0.021	0.019
SG	Intervention	0.010	0.010
Conversion procedure	Intervention	0.027	0.021

Initial Procedure	Intervention	0.012	0.011
Revision procedure	Intervention	0.055	0.024
BPD/DS	Mortality	0.001	0.004
LRYGB	Mortality	0.002	0.001
SG	Mortality	0.001	0.002
Conversion procedure	Mortality	0.001	0.001
Initial Procedure	Mortality	0.002	0.001
Revision procedure	Mortality	0.009	0.002
BPD/DS	Anastomotic Leak	0.014	0.012
LRYGB	Anastomotic Leak	0.004	0.010
SG	Anastomotic Leak	0.003	0.002
Conversion procedure	Anastomotic Leak	0.010	0.006
Initial Procedure	Anastomotic Leak	0.003	0.002
Revision procedure	Anastomotic Leak	0.009	0.009
BPD/DS	Readmission	0.074	0.077
LAGB	Readmission	0.016	0.011
LRYGB	Readmission	0.076	0.074
SG	Readmission	0.039	0.039
Conversion procedure	Readmission	0.081	0.075
Initial Procedure	Readmission	0.049	0.049
Revision procedure	Readmission	0.078	0.074
BPD/DS	Reoperation	0.037	0.031
LAGB	Reoperation	0.033	0.012
LRYGB	Reoperation	0.027	0.025
SG	Reoperation	0.010	0.010

Conversion procedure	Reoperation	0.028	0.027
Initial Procedure	Reoperation	0.014	0.014
Revision procedure	Reoperation	0.032	0.030
BPD/DS	Serious Complications ²	0.090	0.061
LAGB	Serious Complications	0.021	0.019
LRYGB	Serious Complications	0.065	0.066
SG	Serious Complications	0.038	0.037
Conversion procedure	Serious Complications	0.071	0.068
Initial Procedure	Serious Complications	0.046	0.046
Revision procedure	Serious Complications	0.086	0.074
BPD/DS	SSI	0.043	0.028
LAGB	SSI	0.015	0.012
LRYGB	SSI	0.020	0.018
SG	SSI	0.010	0.009
Conversion procedure	SSI	0.028	0.023
Initial Procedure	SSI	0.010	0.009
Revision procedure	SSI	0.035	0.034

Footnote: ^{1,2} All complications, Serious complications: See Additional File 4 for details.

Abbreviations: BPD/DS, laparoscopic biliopancreatic diversion with duodenal switch; SG, laparoscopic sleeve gastrectomy; LRYGB, laparoscopic Roux-en-Y gastric bypass; LAGB, laparoscopic adjustable band; SSI, surgical site infection (superficial, deep, or organ-space).