Supplementary Materials

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Supplementary Table 1. Algorithms of identified risk scores		
Risk scores (Original population)	Variables, score points, and categories	Notes regarding application in KolosSal and BliTz (Age range was limited to [≥ 50 and < 75]).
Sekiguchi 2018 (12) (Japanese)	Age [0: 40 - 49; 2: 50 - 59; 3: 60 - 69; 3.5: ≥ 70] Sex [0: Female; 1: Male] Number of first degree relatives with CRC [0: 0; 0: 1; 2: ≥ 2] BMI [0: ≤ 22.5; 0.5: > 22.5] Smoking, pack-years [0: ≤ 18.5; 1: > 18.5]	
Hong 2017 (13) (Korean)	Score = -8.39 + 0.0154 × Smoking duration (years) + 0.1003 × Drinking frequency [0: no drinking; 1: once a month; 2: 2 - 3 times per month; 3: 1 - 2 times per week; 4: 3 - 4 times per week; 5: 5 - 6 times per week; 6: everyday] - 0.5772 × Aspirin use [1: regular use; 0: no use] + 0.4098 × Sex [0: female; 1: male] + 0.0736 × Age	Drinking frequency [1: once a week] was changed to [1: once a month].
Murchie 2017 (14) (American)	Score = $-6.71 + 0.04 \times Age + 6.84 \times 10^{-5} \times (Age - 43)^3 - 0.000186 \times (Age - 50)^3 - 0.000919 \times (Age - 51)^3 + 0.00173 \times (Age - 54)^3 - 0.000688 \times (Age - 58)^3 + 0.0118 \times BMI - 1.42 \times 10^{-5} \times (BMI - 21)^3 - 9.73 \times 10^{-5} \times (BMI-25)^3 - 0.000233 \times (BMI-27)^3 + 0.000508 \times (BMI - 30)^3 - 0.000164 \times (BMI - 38)^3 + 0.178 \times (Male) + 0.0087 \times (Male) \times BMI + 0.435 \times (Smoking\ history) + 0.000673 \times Age \times BMI - 0.0838 \times (BA) + 0.19 \times (BC) + 0.163 \times (H) + 0.0846 \times (O) + 0.181 \times (W)$	Race variable (BA: Black Africa American, BC: Black Caribbean, H: Hispanic, O: Other, and W: White) was not applicable in these Caucasian populations.
Sung 2017 (15) (Hong Kongese)	Age [0: 50 - 54; 1: 55 - 64; 2: 65 - 70] Sex [0: Female; 1: Male] Family history of CRC in FDR [0: No; 1: Yes] Smoking [0: No; 1: Current or past] BMI [0: < 23; 1: ≥ 23]	
Yang 2017 (16) (Korean)	Age [0: < 50; 5: 50 ≤ to < 60; 8: 60 ≤ to < 70; 11: ≥ 70] Sex [0: Female; 2: Male] Current smoking [0: No; 1: Yes] Family history of CRC in FDR [0: No; 1: Yes] BMI [0: < 25; 1: ≥ 25] Fasting glucose, mg/dL [0: < 100; 1: ≥ 100 or diabetes] LDL cholesterol, mg/dL [0: < 100; 1: ≥ 100] CEA, ng/mL [0: < 5; 4: 5 ≤ to < 10; 10: ≥ 10]	Fasting glucose, LDL cholesterol and CEA were reported as optional factors. These were not available in BliTz and KolosSal and therefore were excluded.

Supplementary Table 1 continued. Algorithms of identified risk scores		
Risk scores (Original population)	Variables, score points, and categories	Notes regarding application in KolosSal and BliTz (Age range was limited to [≥ 50 and < 75]).
Cao 2015 (17) (American, female)	Age [0: < 55; -0.163: 55-59; -0.041: 60-64; 0.122: 65-69; 0.231: ≥ 70] + Family history of CRC in FDR [0: No; 0.344: Yes] + BMI [0: <24.1; 0.131: 24.1-25.9; 0.207: 25.9-28.2; 0.255: ≥ 28.2] + Aspirin [0: No; -0.128: Yes] + NSAID [0: No; -0.261: Yes)] + Smoking, pack-years [0: No; -0.073: 1-4; 0.104: 5 - 19; 0.223: 20-39; 0.405: ≥ 40]+ Alcohol, g/day [0: < 30; 0.278: ≥ 30] Red meat as main dish, servings [0: < 2/month; 0.077: 2/month - < 2/week; 0.231: ≥ 2 week] Calcium, mg/day [0: < 300; -0.128: 300 - 599; -0.223: ≥ 600] Oral contraceptive [0: Never; -0.117: Ever]	"Red meat" was ascertained as "≤ 1 time/day" and ">1 time/day" in our data, and therefore scored [0: ≤ 1 time/day; 0.231: > 1 time/day]. "Calcium (mg/day)" and "Oral contraceptive" were not available in BliTz and KolosSal and therefore were excluded.
Cao 2015 (17) (American, male)	Age [0: < 55; 0.693: 55-59; 1.125: 60-64; 1.230: 65-69; 1.292: ≥ 70] + Family history of CRC in a FDR [0: No; 0.358: Yes] + BMI [0: < 24.1; 0.464: 24.1 - 25.9; 0.525: 25.9 - 28.2; 0.548: ≥ 28.2] + Aspirin [0: No; -0.248: Yes] + NSAID [0: No; -0.357: Yes] + Smoking, pack-years [0: No; -0.094: 1 - 4; 0.255: 5 - 19; 0.378: 20 - 39; 0.495: ≥ 40] + Physical activities [0: Low; -0.211: Moderate; -0.357: High] + Sitting watching TV/VCR, hours/day [0: < 0.5; 0.030: 0.5 - <2; 0.399: ≥ 2] + Alcohol (g/day) × Multivitamin [0: < 5 and never; 0.030: < 5 and ever; 0.365: 5 - 29 and never; 0.174: 5-29 and ever; 0.842: ≥ 30 and never; 0.020: ≥ 30 and never]	"Sitting watching TV/VCR" and "Alcohol (g/day) × Multivitamin" were not available in BliTz and KolosSal and therefore were excluded.
Imperiale 2015 (18) (American)	Age [0: < 55; 1: 55 ≤ to <60; 2: 60 ≤ to <65; 3: 65 ≤ to <70; 4: ≥ 70] Sex [0: Female; 1: Male] Number of family history of CRC in FDR ≥1 [0: No; 1:Yes] Waist circumference, cm [0: < 95.0 (Male), < 87.9 (Female); 1: 95.0 ≤ to <119.9 (Male), 87.9 ≤ to <110.0 (Female); 2: ≥ 119.9 (Male), ≥ 110.0 (Female)] Smoking, pack-years [0: 0; 2: 0 < to <30; 4: ≥ 30]	"Waist circumference" was not available and was replaced by BMI [0: =< 25; 1: >25 to =< 30; 2: > 30].
Kim 2015 (19) (Korean)	Age [0: < 50; 2: 50 - 69; 4: ≥ 70] Sex [0: Female; 1: Male] BMI [0: < 25; 1: ≥ 25] Smoking [0: Non-smoker; 1: Current or past smoker] Family history of CRC in FDR [0: No; 1: Yes]	

Supplementary Table 1 continued. Algorithms of identified risk scores		
Risk scores (Original population)	Variables, score points, and categories	Notes regarding application in KolosSal and BliTz (Age range was limited to [≥ 50 and < 75]).
Schroy III 2015 (20) (American)	Age [1: 50 - 59; 2: 60 - 69; 3: 70 - 79] Race/ethnicity by sex [2: White males; 1: Black males; 0: Others] Smoking, pack-years [0: Never or < 20; 3: ≥ 20] Alcohol, servings per day [0: None or < 2; 2: ≥ 2] Height, m [1: Male > 1.78; female > 1.70; 0: Male ≤ 1.78; female ≤ 1.70]	Our study included only white race, hence “Race/ethnicity by sex” was replaced by only sex. The adapted scores for sex were [0: Female; 2: Male].
Kaminski 2014 (21) (Polish)	Age [0: 40 - 49; 1: 50 - 54; 2: 55 - 59; 3: 60 - 66] Sex [0: Female; 2: Male] Family history [0: No; 1: One FDR, Age ≥ 60; 2: One FDR, Age < 60; 2: Two FDRs] Smoking, pack-years [0: None or < 10; 1: ≥ 10] BMI [0: < 30 or ≥ 30 (Male); 1: ≥ 30 (Female)].	
Tao 2014 (9) (German)	Age × 6 + Sex [0: Female; 1: Male] × 104 + Number of first-degree relatives with CRC × 35 + Smoking, pack-years × 1 + Alcohol ethanol, g/d × 1 + Ever regular use of NSAID [0: No; 1: Yes] × (-31) + Previous colonoscopy [0: No; 1: Yes] × (-147) + Polyp history [0: No; 1: Yes] × 187 + Red meat [0: ≤ 1 time/day; 1: > 1 time/day] × 47	

Supplementary Table 1 continued. Algorithms of identified risk scores		
Risk scores (Original population)	Variables, score points, and categories	Notes regarding application in KolosSal and BliTz (Age range was limited to [≥ 50 and < 75]).
Wong 2014 (23) (Hong Kongese)	APCS score [0: APCS score ≤ 3; 0.553: APCS score > 3] BMI [-0.157: < 18.5; 0: ≥ 18.5 to < 23; 0.420: ≥ 23 to < 25; 0.442: ≥ 25] Hypertension [0: No; 0.456: Yes] Alcohol [0: Ex-drinkers/nondrinkers; 0.386: Current drinkers > 2 drinks/week]	APCS score was derived from Yeoh 2011 (1).
Cai 2012 (24) (Chinese)	Age [0: 40 - 49; 1: 50 - 59; 2: 60 - 69; 3: > 69] Sex [0: Female; 2: Male] Smoking, pack-years [0: 0 - 20; 2: > 20] Diabetes [0: No; 1: Yes] Green vegetables [1: Occasional; 0: Regular] White meat [2: Occasional; 0: Regular] Pickled food [0: Occasional; 2: Regular] Fried food [0: Occasional; 1: Regular]	"Ocassional" and "Regular" were defined as "<3" and "≥ 3 times/week". In BliTz and KolosSal, they were measured them as "≤ 1" and ">1 time/day" for "Green vegSupplementary Tables" and "White meat". "Pickled food" and "Fried food" were not available and therefore were excluded.
Yeoh 2011 (25) (Asian)	Age [0: < 50; 2: 50 - 69; 3: ≥ 70] Sex [0: Female; 1: Male] Family history of CRC in FDR [0: No; 2: Yes] Smoking [0: No; 1: Current/past]	This score was denoted as the APCS score (Asia-Pacific Colorectal Screening score)
Lin 2006 (26) (American)	Age [0: < 55; 1: 55 - 59; 2: 60 - 64; 3: > 64] Sex [0: Female; 1: Male] Family history [0: No; 1: only SDR; 2: FDR]	SDR was not recorded, then the category [1: only SDR] was excluded.
Betés 2003 (27) (Spanish)	Age [0: ≤ 50; 1: 51 - 60; 2: 61 - 70; 3: 71 - 80; 4: > 80] Sex [0: Female; 2: Male] BMI [0: ≤ 25; 1: 25-35; 2: > 35]	

Supplementary Table 1 continued. Algorithms of pre-identified risk scores		
Risk scores (Original population)	Variables, score points, and categories	Notes regarding application in KolosSal and BliTz (Age range was limited to [≥ 50 and < 75]).
Excluded risk scores		
Jung 2017 (28) (Korean, < 50 years)	Score = -8.755 + 0.080 × Age - 0.055 × Male + 0.041 × BMI + 0.200 × Family history of CRC in FDR + 0.218 × Former smoker + 0.644 × Current smoker	Age in this score did not meet the age structure in our cohorts, so this risk score was excluded.
Park 2017 (29) (Korean)	Age [0: 40 - 44; 1: 45 - 49] × 1 Sex [0: Female; 1: Male] × 2 Serology of H. pylori [0: Negative; 1: Positive] × 2 High triglyceride level [0: Normal range; 1: High] × 2 Low HDL level [0: Normal range; 1: Low] × 2	"Serology of H. pylori", "High triglyceride level" and "Low HDL level" were not available, so this risk score was excluded.
Chen 2014 (30) (Chinese)	Age [0: 40 - 49; 1: 50 - 59; 2: 60 - 69; 3: > 69] Sex [0: Female; 2: Male] Coronary heart disease [0: Yes; 3: No] Egg intake [0: Frequently; 1: Occasionally] Defecation frequency [0: ≥ 1/day; 1: Once every 2 or more days]	"Egg intake", "Defecation frequency" and "Coronary heart disease" were not available, so this risk score was excluded.
Abbreviations: APCS=Asia-Pacific Colorectal Screening, BA=Black Africa American, BC=Black Caribbean, BMI=Body mass index, CEA=Carcinoembryonic antigen, CRC=Colorectal cancer, FDR=First-degree relative, FIT=Fecal immunochemical test, H=Hispanic, HDL=High-density lipoprotein, LDL=low-density lipoprotein, NSAID=Nonsteroidal anti-inflammatory drugs, O=Other, SDR=Second-degree relative, W=White.		

Supplementary Table 2. Absolute risk of presence of at least one advanced neoplasm by quintiles/quartiles of risk scores in KolosSal

Risk scores	Absolute risk (%, 95% CI)				
	Q1	Q2	Q3	Q4	Q5
Sekiguchi 2018 (2)	6.2 (5.4-7.1)	9.7 (8.8-10.5)	11.4 (9.6-13.5)	14.7 (13.5-15.9)	18.4 (16.9-20.1)
Hong 2017 (3)	6.2 (5.4-7.2)	8.9 (7.8-10.1)	10.9 (9.7-12.1)	14.6 (13.3-16.0)	18.5 (17.1-20.0)
Murchie 2017 (4)	6.9 (6.0-7.9)	8.2 (7.2-9.2)	12.1 (10.9-13.3)	13.7 (12.5-15.0)	17.7 (16.4-19.1)
Sung 2017 (5)*	6.1 (5.3-6.9)	10.6 (9.8-11.5)	13.4 (12.5-14.4)	18.5 (16.9-20.2)	-
Yang 2017 (6)	6.2 (5.4-7.1)	10.9 (9.9-11.9)	10.1 (9.0-11.4)	15.3 (14.1-16.5)	16.9 (15.4-18.6)
Cao (Female) 2015 (7)^	4.8 (3.7-6.0)	7.3 (6.0-8.8)	8.2 (6.8-9.7)	9.4 (8.0-11.1)	10.8 (9.2-12.5)
Cao (Male) 2015 (7)^	10.8 (9.2-12.5)	13.2 (11.5-15.0)	13.5 (11.8-15.4)	17.5 (15.6-19.6)	20.8 (18.7-23.0)
Imperiale 2015 (8)	5.4 (4.5-6.4)	9.7 (8.9-10.6)	12.6 (11.4-13.9)	13.4 (12.0-15.0)	17.5 (16.2-19.0)
Kim 2015 (9)	6.3 (5.0-7.8)	7.6 (6.7-8.4)	11.6 (10.7-12.6)	14.7 (13.6-15.8)	17.7 (15.9-19.7)
Schroy III 2015 (10)	6.5 (5.6-7.5)	8.4 (7.4-9.4)	11.2 (10.0-12.4)	14.5 (13.3-15.9)	17.6 (16.2-19.0)
Kaminski 2014 (11)	5.2 (4.1-6.4)	8.0 (7.1-9.0)	10.2 (9.2-11.2)	14.2 (13.1-15.4)	17.9 (16.5-19.4)
Tao 2014 (12) ƚ	6.3 (4.8-8.2)	9.3 (7.4-11.4)	11.0 (9.0-13.4)	16.3 (13.9-19.0)	23.7 (20.9-26.8)
Wong 2014 (13)	8.2 (7.2-9.2)	9.9 (8.6-11.2)	10.1 (9.1-11.2)	15.3 (14.0-16.7)	15.1 (13.8-16.5)
Cai 2012 (14)	5.3 (4.4-6.4)	8.3 (7.5-9.3)	11.7 (10.7-12.7)	13.9 (12.6-15.3)	17.9 (16.5-19.4)
Yeoh 2011 (1)	6.4 (5.6-7.3)	10.8 (10.0-11.7)	14.2 (13.2-15.2)	15.0 (13.2-16.9)	18.4 (15.6-21.4)
Lin 2006 (15)	6.4 (5.6-7.4)	11.1 (10.1-12.0)	11.4 (10.5-12.4)	16.5 (15.2-17.8)	16.4 (14.2-18.8)
Betés 2003 (16)	6.9 (5.7-8.2)	7.4 (6.6-8.4)	9.9 (8.9-10.9)	13.6 (12.5-14.7)	17.5 (16.3-18.8)

Notes: * Quintiles could not be generated due to skewed distribution and integer-based nature of this risk score, so the full participants were classified into 4 risk groups;

^ The outcome of the original model was high-risk colorectal adenoma (advanced adenoma or ≥ 3 adenomas). In order to be comparable with other models, the outcome was changed to advanced neoplasm (advanced adenoma or CRC) in our analyses.

ƚ The score by Tao et al. was originally developed in participants of KolosSal recruited up to June 2009; therefore only participants recruited from June 2009 on were included in the validation for this score in KolosSal.

Abbreviations: CI=Confidence interval, Q1-Q5=Quintiles/Quartiles of risk scores.

Supplementary Table 3. Absolute risk of presence of at least one advanced neoplasm by quintiles/quartiles of risk scores in BliTz

Risk scores	Absolute risk (%, 95% CI)				
	Q1	Q2	Q3	Q4	Q5
Sekiguchi 2018 (12)	6.3 (5.1-7.7)	8.0 (5.1-11.9)	10.5 (9.3-11.8)	13.3 (11.8-14.8)	17.4 (15.0-20.0)
Hong 2017 (13)	6.3 (5.0-7.7)	9.6 (8.1-11.3)	10.3 (8.7-12.0)	14.0 (12.2-16.0)	17.1 (15.2-19.3)
Murchie 2017 (14)	6.6 (5.4-8.0)	9.3 (7.8 -10.9)	11.5 (9.9-13.3)	14.0 (12.2-15.9)	16.0 (14.2-18.0)
Sung 2017 (15)	7.1 (5.9-8.4)	9.9 (8.7-11.1)	13.8 (12.4-15.3)	17.4 (14.9-20.0)	-
Yang 2017 (16)	6.7 (5.5-8.2)	10.3 (9.0-11.7)	11.9 (10.1-13.9)	13.1 (11.5-14.8)	16.4 (14.2-18.8)
Cao (Female) 2015 (17)^	6.0 (4.4-8.0)	6.4 (4.6-8.6)	7.9 (6.0-10.2)	10.6 (8.4-13.2)	11.0 (8.8-13.6)
Cao (Male) 2015 (17)^	10.2 (8.1-12.8)	11.0 (8.8-13.6)	15.9 (13.3-18.9)	14.0 (11.5-16.8)	19.3 (16.4-22.5)
Imperiale 2015 (18)	5.6 (4.3-7.1)	10.3 (8.6-12.1)	8.6 (7.1-10.2)	13.4 (12.0-14.8)	17.5 (15.4-19.9)
Kim 2015 (19)	5.4 (3.7-7.5)	8.4 (7.2-9.8)	11.5 (10.2-12.9)	13.4 (11.9-15.1)	18.3 (15.5-21.4)
Schroy III 2015 (20)	7.3 (5.9-8.8)	8.4 (7.0-10.0)	11.7 (9.9-13.6)	13.1 (11.4-14.9)	16.6 (14.6-18.8)
Kaminski 2014 (21)	4.8 (3.5-6.4)	8.8 (7.4-10.3)	10.8 (9.3-12.4)	13.8 (12.3-15.4)	16.8 (14.9-19.1)
Tao 2014 (9)	5.2 (4.0-6.5)	9.0 (7.5-10.7)	11.7 (10.0-13.6)	13.7 (11.9-15.7)	17.3 (15.3-19.5)
Wong 2014 (23)	8.1 (6.8-9.5)	9.0 (7.3-11.0)	10.3 (8.8-12.0)	14.5 (12.5-16.6)	15.8 (13.9-17.9)
Cai 2012 (24)	7.5 (5.9-9.3)	8.0 (6.8-9.4)	10.9 (9.5-12.3)	15.2 (13.2-17.3)	16.7 (14.6-19.0)
Yeoh 2011 (25)	6.7 (5.5-8.0)	10.1 (8.9-11.3)	13.9 (12.5-15.4)	15.3 (12.6-18.3)	17.7 (13.7-22.3)
Lin 2006 (26)	7.4 (6.2-8.8)	11.2 (9.9-12.7)	11.2 (9.8-12.7)	15.1 (13.5-16.9)	-
Betés 2003 (27)	7.7 (6.0-9.6)	8.6 (7.2-10.1)	9.6 (8.1-11.2)	12.8 (11.4-14.4)	16.2 (14.4-18.1)

Note: * Quintiles could not be generated due to skewed distribution and integer-based nature of this risk score, so the full participants were classified into 4 risk groups.
^ The outcome of the original model was high-risk colorectal adenoma (advanced adenoma or ≥ 3 adenomas). In order to be comparable with other models, the outcome was changed to advanced neoplasm (advanced adenoma or CRC) in our analyses.
Abbreviations: CI=Confidence interval, FIT=Fecal immunochemical test, Q1-Q5=Quintiles/Quartiles of risk scores.

Supplementary Table 4. Net reclassification improvement between any two risk scores in KolosSal.

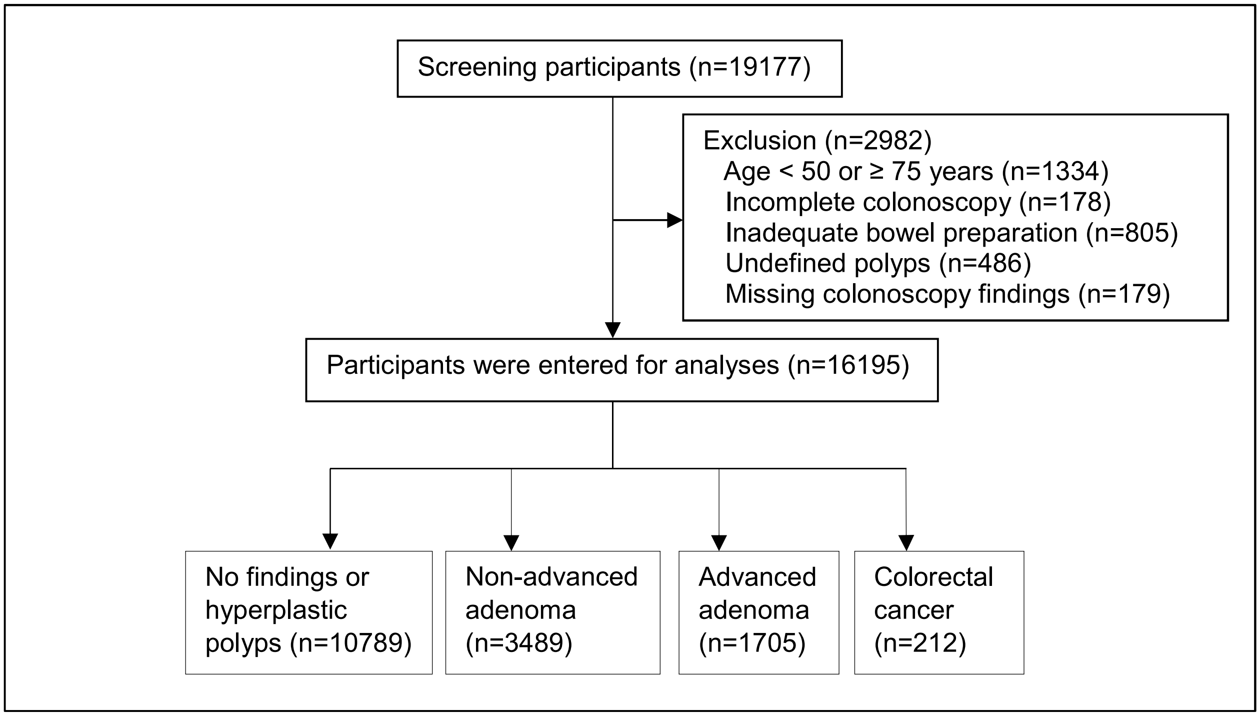
Risk score	Reference														
	Wong 2014 (13)	Lin 2006 (15)	Yeoh 2011 (1)	Kim 2015 (9)	Yang 2017 (6)	Sung 2017 (5)	Imperiale 2015 (8)	Betés 2003 (16)	Schroy III 2015 (10)	Murchie 2017 (3)	Cai 2012 (14)	Kaminski 2014 (11)	Sekiguchi 2018 (2)	Hong 2017 (3)	Tao 2014 (12)
Wong 2014 (13)	-														
Lin 2006 (15)	0.06 (0.01-0.11)	-													
Yeoh 2011 (1)	0.01 (-0.04-0.06)	-0.05 (-0.10- -0.01)	-												
Kim 2015 (9)	0.03 (-0.02-0.08)	0.05 (0-0.10)	0.10 (0.06-0.15)	-											
Yang 2017 (6)	0.09 (0.03-0.14)	0.13 (0.08-0.18)	0.13 (0.08-0.18)	0.01 (-0.03-0.06)	-										
Sung 2017 (5)	0.16 (0.11-0.22)	0.20 (0.15-0.25)	0.23 (0.18-0.28)	0.05 (0-0.09)	0.03 (-0.02-0.08)	-									
Imperiale 2015 (8)	0.11 (0.06-0.16)	0.13 (0.08-0.18)	0.17 (0.12-0.22)	0.16 (0.11-0.21)	0.12 (0.07-0.17)	0.06 (0.01-0.11)	-								
Betés 2003 (16)	0.14 (0.09-0.19)	0.10 (0.05-0.15)	0.23 (0.18-0.28)	0.09 (0.05-0.14)	0.17 (0.12-0.22)	-0.04 (-0.09-0)	-0.04 (-0.09-0.01)	-							
Schroy III 2015 (10)	0.11 (0.06-0.16)	0.21 (0.16-0.26)	0.18 (0.13-0.23)	0.03 (-0.02-0.08)	0.08 (0.02-0.13)	0.07 (0.02-0.12)	0.02 (-0.03-0.07)	0.01 (-0.04-0.06)	-						
Murchie 2017 (3)	0.17 (0.12-0.22)	0.15 (0.10-0.20)	0.19 (0.14-0.23)	0.11 (0.06-0.16)	0.08 (0.03-0.13)	0.07 (0.02-0.11)	0.04 (-0.01-0.09)	0.07 (0.02-0.12)	0.02 (-0.03-0.07)	-					
Cai 2012 (14)	0.13 (0.08-0.18)	0.17 (0.12-0.22)	0.14 (0.10-0.19)	0 (-0.05-0.05)	0.07 (0.02-0.12)	0.04 (-0.01-0.10)	0.05 (-0.01-0.10)	-0.02 (-0.07-0.03)	0.14 (0.09-0.19)	-0.01 (-0.06-0.05)	-				
Kaminski 2014 (11)	0.26 (0.21-0.31)	0.19 (0.15-0.24)	0.31 (0.27-0.36)	0.12 (0.07-0.17)	0.11 (0.06-0.16)	-0.05 (-0.10-0)	0.05 (0-0.10)	0.07 (0.03-0.12)	0.12 (0.07-0.17)	0.01 (-0.04-0.06)	0.09 (0.04-0.14)	-			
Sekiguchi 2018 (2)	0.25 (0.20-0.30)	0.24 (0.19-0.29)	0.21 (0.16-0.26)	0.09 (0.04-0.14)	0.21 (0.16-0.26)	0.17 (0.12-0.22)	0.10 (0.05-0.15)	0.13 (0.08-0.18)	0.12 (0.07-0.17)	0.02 (-0.03-0.07)	0.08 (0.03-0.13)	0.07 (0.03-0.12)	-		
Hong 2017 (3)	0.22 (0.17-0.27)	0.27 (0.21-0.32)	0.21 (0.16-0.26)	0.18 (0.13-0.23)	0.15 (0.10-0.20)	0.10 (0.04-0.15)	0.13 (0.08-0.18)	0.08 (0.03-0.13)	0.09 (0.04-0.15)	0.02 (-0.03-0.08)	0.04 (-0.01-0.10)	0.03 (-0.03-0.08)	0.06 (0.01-0.11)	-	
Tao 2014 (12)	0.40 (0.31-0.50)	0.41 (0.32-0.50)	0.41 (0.32-0.50)	0.33 (0.24-0.42)	0.24 (0.14-0.33)	0.22 (0.13-0.32)	0.17 (0.08-0.26)	0.14 (0.04-0.23)	0.23 (0.13-0.32)	0.15 (0.06-0.24)	0.04 (-0.05-0.14)	0.17 (0.08-0.26)	0.14 (0.04-0.23)	-0.01 (-0.10-0.08)	-

Note: Scores were ordered from lowest to highest AUC in KolosSal. NRIs are reported for the score with higher AUC compared to the score with lower AUC in KolosSal. In order to avoid repetition, the upper right half of the Table was left empty.

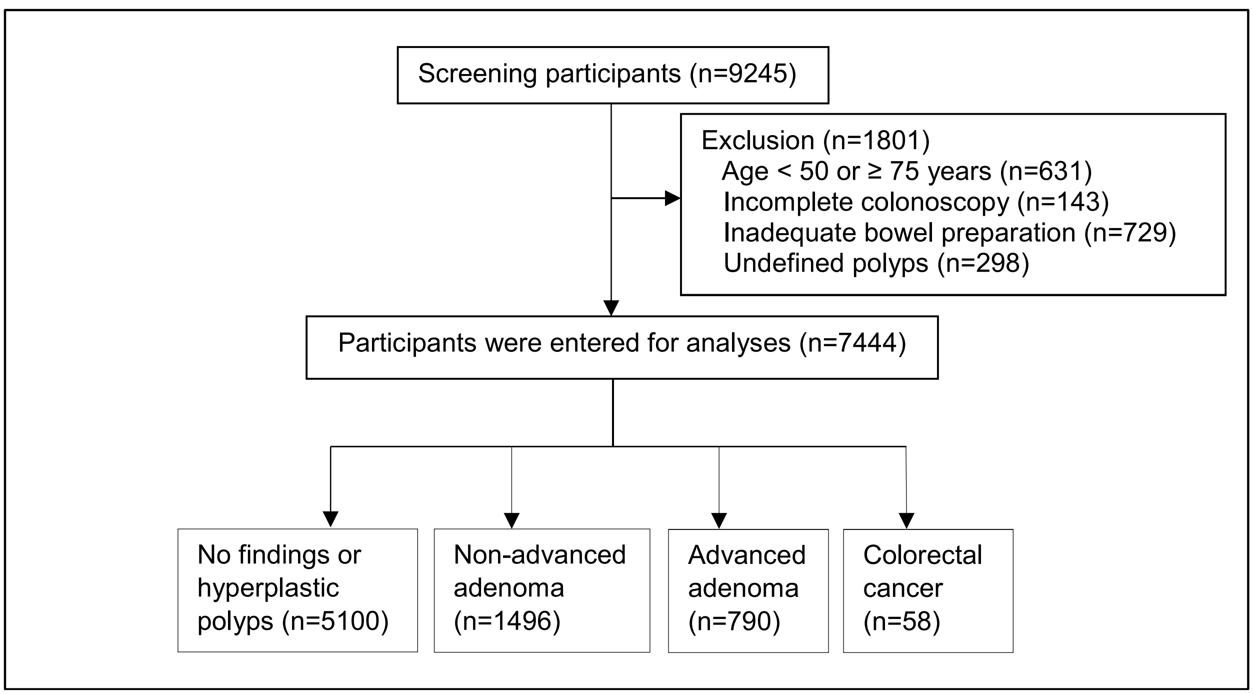
Supplementary Table 5. Net reclassification improvement between any two risk scores in BliTz.

Risk score	Reference														
	Wong 2014 (13)	Lin 2006 (15)	Yeoh 2011 (1)	Kim 2015 (9)	Yang 2017 (6)	Sung 2017 (5)	Imperiale 2015 (8)	Betés 2003 (16)	Schroy III 2015 (10)	Murchie 2017 (3)	Cai 2012 (14)	Kaminski 2014 (11)	Sekiguchi 2018 (2)	Hong 2017 (3)	Tao 2014 (12)
Wong 2014 (13)	-														
Lin 2006 (15)	-0.11 (-0.18- -0.03)	-													
Yeoh 2011 (1)	-0.01 (-0.08-0.06)	0.17 (0.10-0.24)	-												
Kim 2015 (9)	-0.07 (-0.15-0)	0.17 (0.09-0.24)	0.08 (0.01-0.15)	-											
Yang 2017 (6)	0.02 (-0.06-0.09)	0.15 (0.07-0.22)	0.03 (-0.05-0.10)	-0.04 (-0.11-0.03)	-										
Sung 2017 (5)	0.06 (-0.02-0.13)	0.18 (0.11-0.25)	0.23 (0.18-0.28)	0.02 (-0.05-0.09)	0.05 (-0.03-0.12)	-									
Imperiale 2015 (8)	0.11 (0.03-0.19)	0.21 (0.14-0.28)	0.12 (0.04-0.19)	0.13 (0.06-0.21)	0.16 (0.08-0.23)	0.12 (0.04-0.19)	-								
Betés 2003 (16)	-0.02 (-0.10-0.05)	0.18 (0.10-0.25)	-0.05 (-0.13-0.02)	-0.10 (-0.17- -0.02)	0.04 (-0.03-0.11)	-0.09 (-0.17- -0.02)	-0.10 (-0.17- -0.02)	-							
Schroy III 2015 (10)	-0.03 (-0.11-0.05)	0.18 (0.11-0.26)	0.07 (-0.01-0.15)	-0.06 (-0.14-0.02)	0.01 (-0.06-0.09)	-0.05 (-0.12-0.03)	-0.17 (-0.25- -0.09)	0.01 (-0.06-0.09)	-						
Murchie 2017 (3)	0.13 (0.05-0.21))	0.20 (0.13-0.27)	0.11 (0.04-0.18)	0.04 (-0.03-0.11)	0.07 (0-0.14)	0.07 (0-0.14)	-0.15 (-0.22- -0.07)	0.14 (0.06-0.21)	0.07 (0-0.15)	-					
Cai 2012 (14)	0 (-0.08-0.07)	0.13 (0.06-0.21)	0.09 (0.01-0.16)	-0.05 (-0.12-0.03)	0.02 (-0.06-0.09)	-0.02 (-0.09-0.06)	-0.15 (-0.22- -0.07)	-0.01 (-0.09-0.06)	0.14 (0.06-0.21)	-0.07 (-0.14-0)	-				
Kaminski 2014 (11)	0.03 (-0.05-0.11)	0.17 (0.10-0.24)	0.14 (0.07-0.21)	0.07 (0-0.15)	0.11 (0.04-0.19)	0.05 (-0.02-0.12)	-0.01 (-0.08-0.06)	0.15 (0.08-0.23)	0.16 (0.09-0.24)	0.15 (0.07-0.22)	0.13 (0.05-0.20)	-			
Sekiguchi 2018 (2)	0.03 (-0.05-0.10)	0.24 (0.17-0.32)	0.13 (0.06-0.20)	-0.02 (-0.10-0.05)	0.08 (0.01-0.15)	0.08 (0.01-0.16)	-0.12 (-0.19- -0.05)	0.08 (0.01-0.15)	0.14 (0.06-0.22)	-0.03 (-0.10-0.05)	0 (-0.07-0.08)	0.03 (-0.05-0.10)	-		
Hong 2017 (3)	0.14 (0.06-0.21)	0.27 (0.19-0.34)	0.16 (0.09-0.24)	0.15 (0.07-0.22)	0.16 (0.08-0.23)	0.06 (-0.01-0.14)	-0.06 (-0.14-0.01)	0.06 (-0.02-0.13)	0.07 (-0.01-0.15)	0.15 (0.07-0.22)	0.07 (0-0.15)	0 (-0.07-0.08)	0.05 (-0.03-0.12)	-	
Tao 2014 (12)	0.15 (0.07-0.23)	0.29 (0.22-0.37)	0.16 (0.08-0.23)	0.15 (0.07-0.22)	0.17 (0.09-0.24)	0.17 (0.09-0.24)	-0.02 (-0.10-0.06)	0.18 (0.11-0.25)	0.14 (0.07-0.22)	0.15 (0.07-0.22)	0.11 (0.03-0.19)	0.11 (0.03-0.18)	0.14 (0.07-0.22)	0.06 (-0.01-0.14)	-

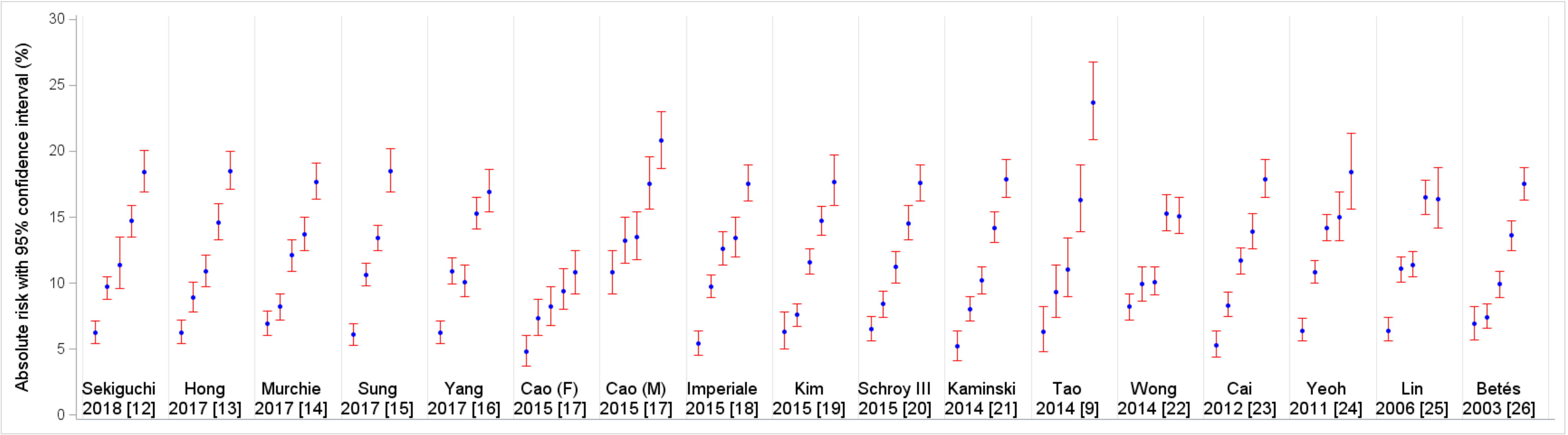
Note: Scores were ordered from lowest to highest AUC in KolosSal. NRIs are reported for the score with higher AUC compared to the score the lower AUC in KolosSal. In order to avoid repetition, the upper right half of the table was left empty.



Supplementary Figure 1a. Flow chart of participant enrollment in KolosSal

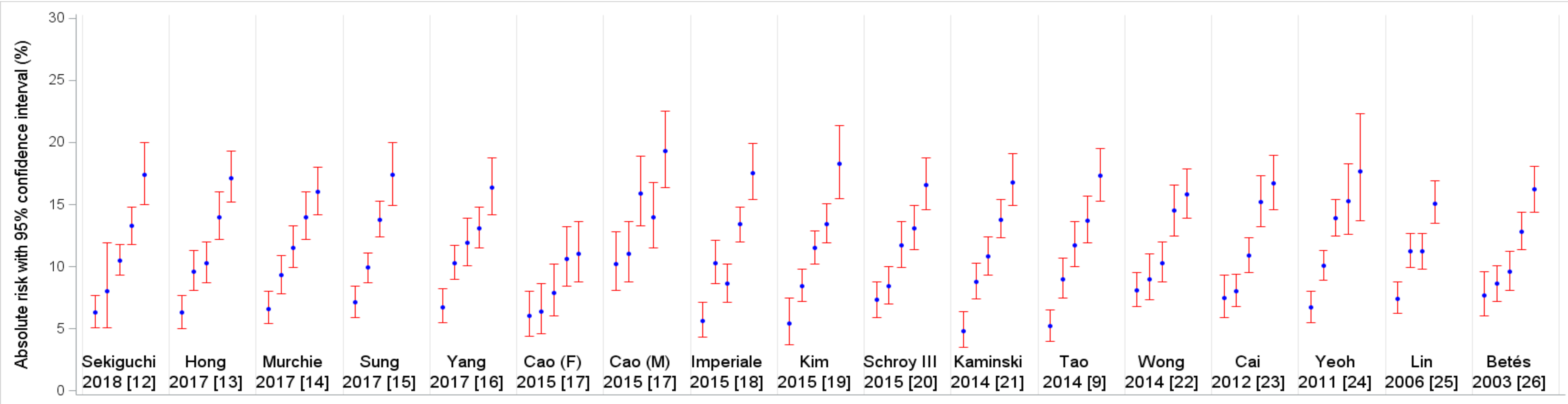


Supplementary Figure 1b. Flow chart of participant enrollment in BliTz



Supplementary Figure 2. Absolute risk of presence at least one advanced neoplasm by quintiles/quartiles of risk scores in KolosSal

Abbreviations: F=female, M=male



Supplementary Figure 3. Absolute risk of presence at least one advanced neoplasm by quintiles/quartiles of risk scores in BliTz

Abbreviations: F=female, M=male