

## **Supplementary Table 1.** Quality criteria rated for RCTs and observational studies

### RCTs

- Clear description and adequacy of recruitment process
- Clear description and adequacy of follow-up process
- Adherence in intervention group reported and high (>50%)
- Contamination in control group reported and low (<20%)
- Adequate length of follow-up (median: 10 or more years)
- Follow-up with respect to colorectal cancer incidence
- Follow-up with respect to colorectal cancer mortality
- Follow-up with respect to subsite specific incidence and/or mortality
- Report of intention-to-screen analysis
- Report of per-protocol analyses / adjustment for nonadherence
- Adjustment for contamination

### Observational studies

- Clear description and adequacy of participants' recruitment and follow-up
- Internal comparison of participants with and without endoscopy (rather than comparison with general population)
- Adequate length (10 years or more) of exposure time window (case-control studies) or follow-up (cohort studies)
- Data on endoscopy taken from or validated by medical records
- Control for relevant potential confounders: socioeconomic and lifestyle factors
- Control for relevant potential confounders: family history, morbidity, medication
- Results on colorectal cancer incidence
- Results on colorectal cancer mortality
- Results by colorectal subsite

**Supplementary Table 2.** Fulfilment of quality criteria of randomized trial reports

First author, year (reference)	Criterion											Sum
	DRE	DFU	ADH	CON	LFU	INC	MOR	SIT	ITS	PP	CCN	
Hoff, 2009 (12)	+	+	+	-	-	+	+	+	+	+	-	8
Atkin, 2010 (13)	+	+	+	-	+	+	+	+	+	+	-	9
Segnan, 2011 (14)	+	+	+	-	+	+	+	+	+	+	-	9
Schoen, 2012 (15)	+	+	+	-	+	+	+	+	+	-	-	8
<i>Sum</i>	4	4	4	0	3	4	4	4	4	3	0	

+ indicates that criterion is reported and fulfilled

- indicates that criterion is not reported or not fulfilled

DRE = clear description and adequacy of recruitment process

DFU = clear description and adequacy of follow-up process

ADH = adherence in intervention group reported and high (>50%)

CON = contamination in control group reported and low (<20%)

LFU = adequate length of follow-up (median: 10 or more years)

INC = follow-up with respect to colorectal cancer incidence

MOR = follow-up with respect to colorectal cancer mortality

SIT = follow-up with respect to subsite specific incidence and/or mortality

ITS = report of intention-to-screen analysis

PP = report of per-protocol analyses / adjustment for nonadherence

CCN = adjustment for contamination

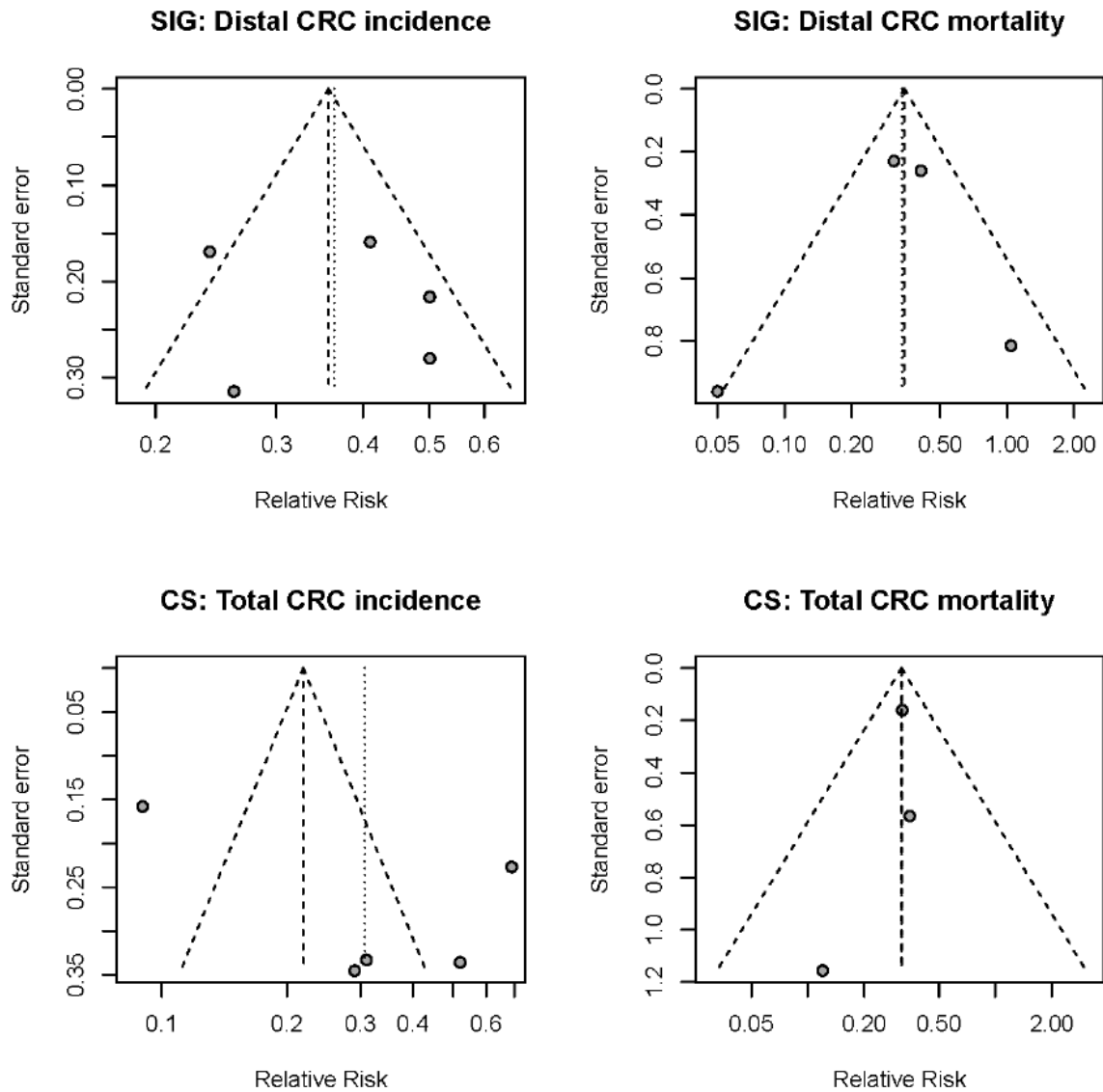
**Supplementary Table 3.** Fulfilment of quality criteria of observational study reports

First author, year (reference)	Criterion									Sum
	DRF	INT	LFU	VAL	SLS	FMM	INC	MOR	SIT	
Newcomb, 1992 (1)	+	+	+	+	-	+	-	+	+	7
Selby, 1992 (2)	+	+	+	+	-	+	-	+	+	7
Scheitel, 1999 (41)	+	+	+	+	-	+	-	+	+	7
Slattery, 2000 (42)	+	+	+	-	+	+	+	-	+	7
Newcomb, 2003 (43)	+	+	+	-	+	+	+	-	+	7
Cotterchio, 2005 (44)	-	+	+	-	+	+	+	-	+	6
Blom, 2008 (45)	+	+	-	+	-	-	+	+	-	5
Kahi, 2009 (46)	-	-	+	+	-	-	+	+	-	4
Manser, 2012 (47)	-	+	-	+	+	+	+	+	-	6
Doubeni, 2013 (48)	+	+	+	+	-	+	+	-	+	7
Brenner, 2013 (49)	+	+	+	+	+	+	+	-	+	8
Nishihara, 2013 (50)	+	+	+	+	+	+	+	+	+	9
<i>Sum</i>	9	11	10	9	6	10	9	7	9	

+ and indicates that criterion is reported and fulfilled  
 - indicates that criterion is not reported or not fulfilled

DRF = clear description and adequacy of participants' recruitment and follow-up  
 INT = internal comparison of participants with and without endoscopy (rather than comparison with general population)  
 LFU = adequate length (10 years or more) of exposure time window (case-control studies) or follow-up (cohort studies)  
 VAL = data on endoscopy taken from or validated by medical records  
 SLS = control for relevant potential confounders: socioeconomic and lifestyle factors  
 FMM = control for relevant potential confounders: family history, morbidity, medication  
 INC = results on colorectal cancer incidence  
 MOR = results on colorectal cancer mortality  
 SIT = results by colorectal subsite

**Supplementary Figure 1** Funnel plots of observational studies on the effects of sigmoidoscopy (SIG) on distal colorectal cancer (CRC) incidence and mortality and of colonoscopy (CS) on total colorectal cancer incidence and mortality



The dashed lines represent the funnel plot and the dotted lines (only partly visible due to overplotting) represent the respective pooled estimates as reported in Table 4.