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# Post-colonoscopy colorectal cancers in the Dutch FIT-based CRC screening program

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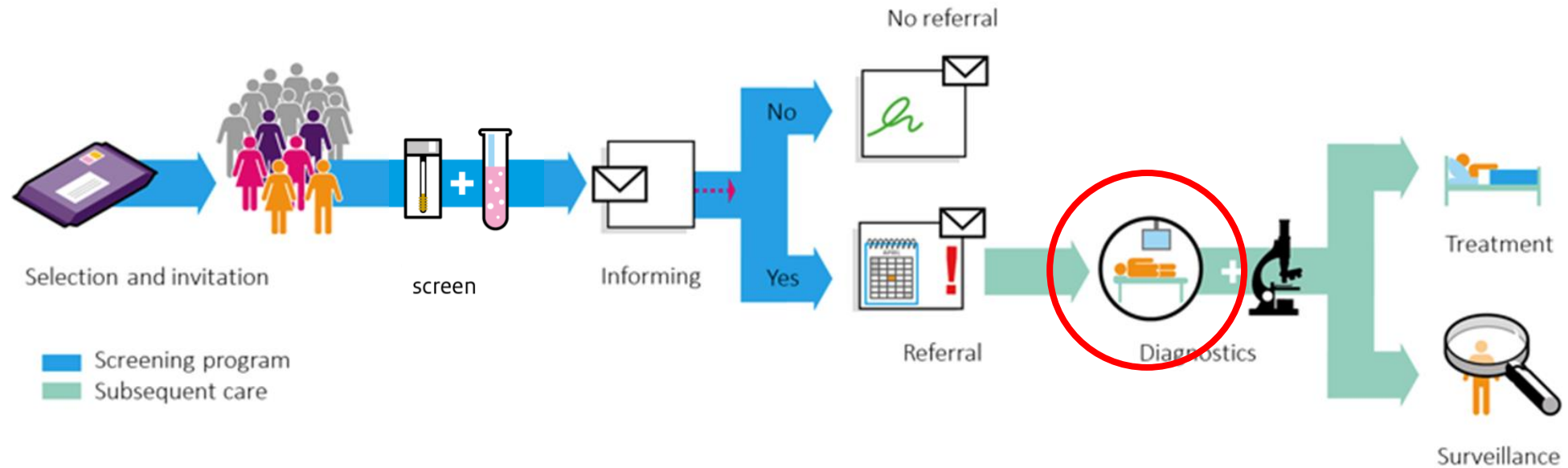


# Disclosures

No conflicts of interest to disclose



# FIT-based CRC screening<sup>1</sup>



- Occurrence of post-colonoscopy colorectal cancers (PCCRCs) may negatively impact screening
- Classifying PCCRCs may contribute in PCCRC prevention<sup>2</sup>



# Aim

To **classify PCCRCs** diagnosed after colonoscopies performed for positive FIT in the Dutch CRC screening program **into interval and non-interval type** and evaluate:

- Stage distribution
- Etiology



# Data collection

Initial colonoscopy after positive FIT in the Dutch CRC screening program:

- Colonoscopy performed in 2014-2016
- Follow-up in Netherlands Cancer Registry until 01-01-2020



# Interval versus non-interval



6 months

Surveillance

time

**Screen detected  
CRC**

**Interval  
PCCRC**

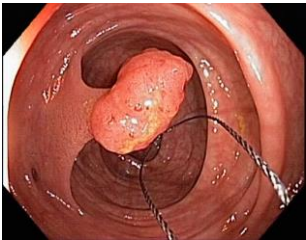
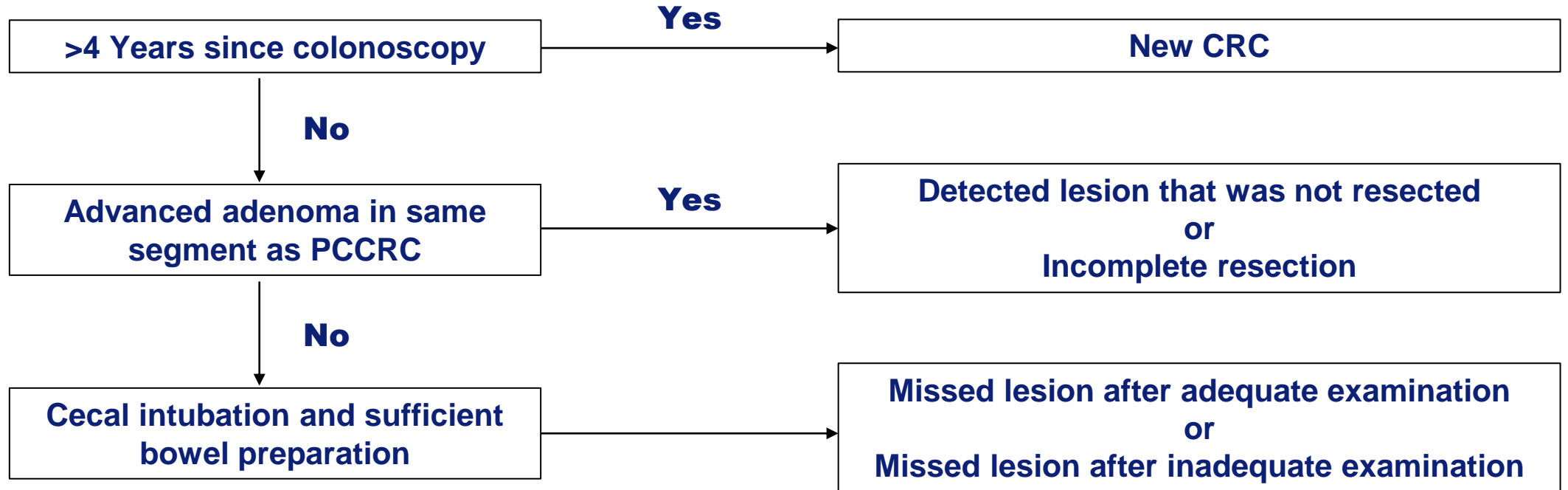
**Non-interval  
type A PCCRC**

**Non-interval  
type B PCCRC**

1. Rutter et al, Gastroenterology 2018;



# Etiology



# CRC screening program

**n=116,362 colonoscopies** performed after positive FIT:

- n=9,978 screen-detected cancers
- **n=432** PCCRCs diagnosed
- 3-year PCCRC rate 2.7%

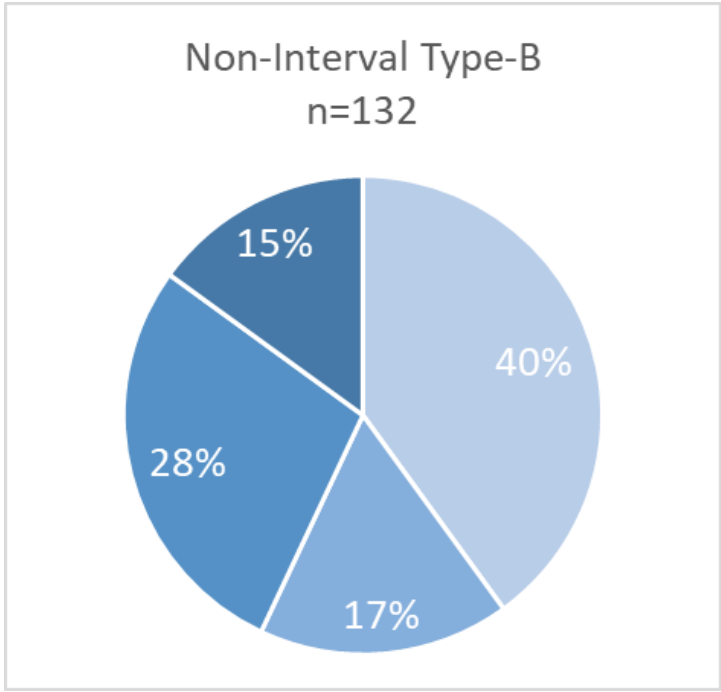
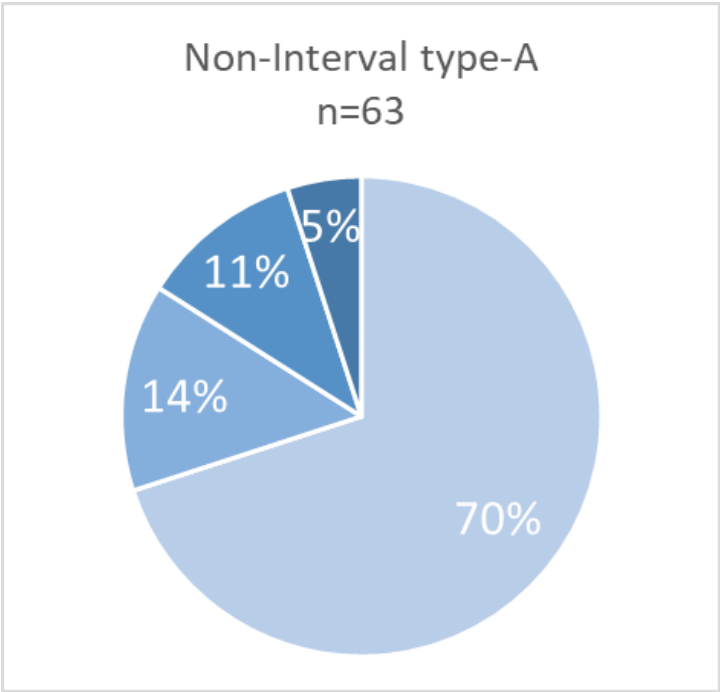
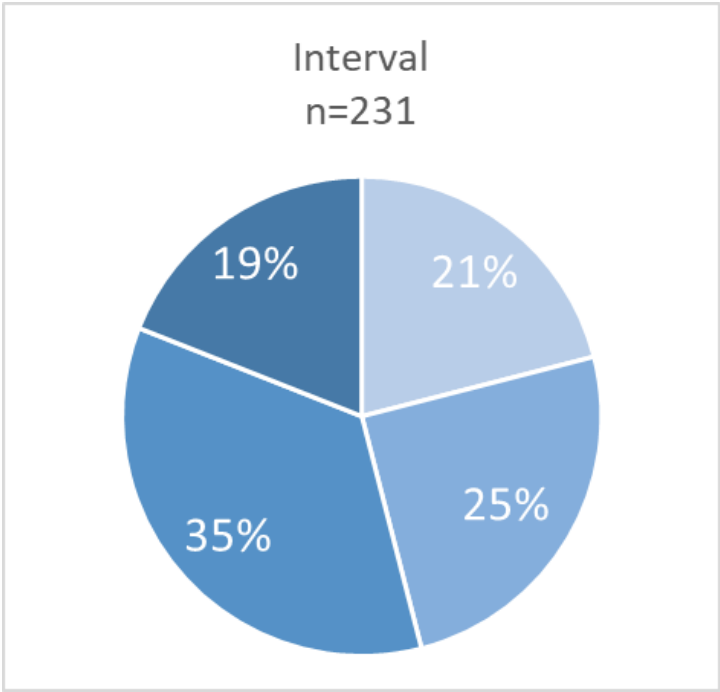
**Interval vs non-interval PCCRC:**

- Interval = 54%
- Non-interval type-A = 15%
- Non-interval type-B = 31%





# CRC stage



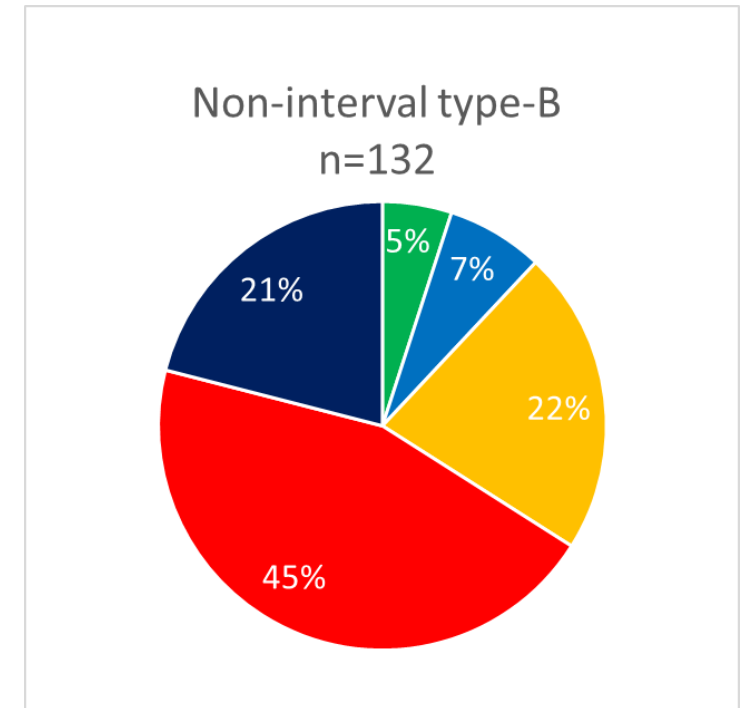
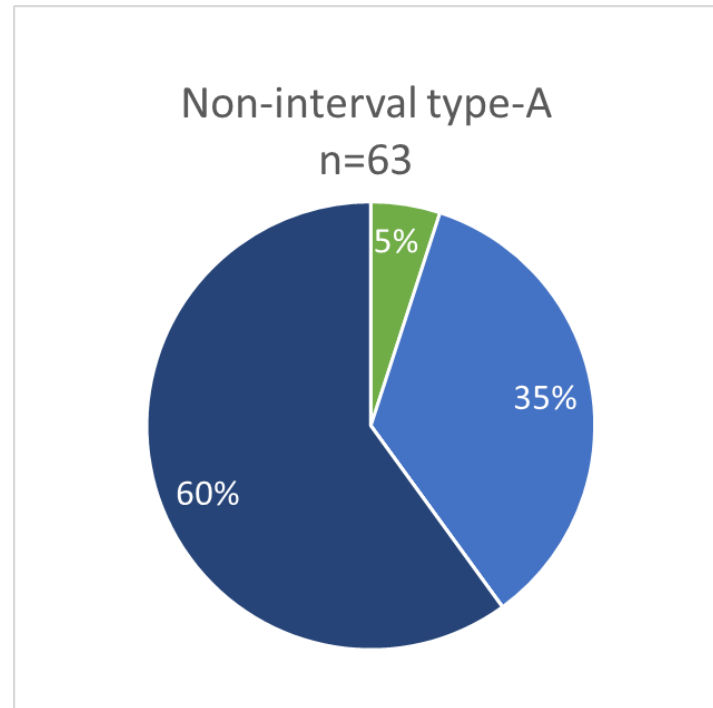
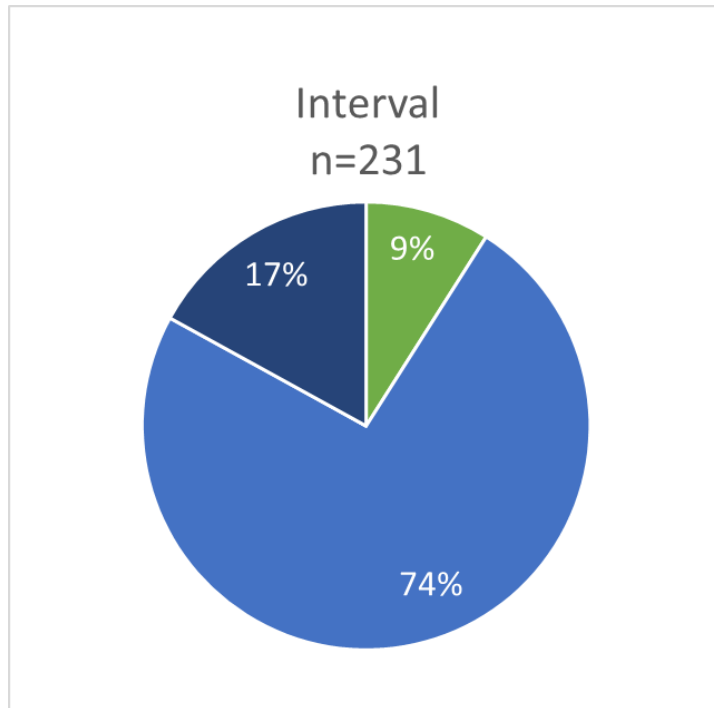
■ Stage I ■ Stage II ■ Stage III ■ Stage IV

**p<0.001**

**p=0.03**



# Etiology



- New CRC
- Missed lesion after adequate examination
- Missed lesion after inadequate examination

- Detected lesion that was not resected
- Incomplete resection



# Conclusion

- 2.7% of all cancers detected in 3 years after colonoscopy are PCCRCs, which is low.<sup>1-3</sup>
- PCCRCs
  - >50% of PCCRCs are interval
    - More advanced stage
    - Main etiology is “missed lesion after adequate examination”
  - 20% of PCCRC are diagnosed after incomplete colonoscopy



*Thank you!*



**Table 1:** Characteristics of screening participants who underwent colonoscopy after a positive FIT result

Characteristic	Screening colonoscopies (n=116,362)	PCCRCs (n=432)	P-value
Age (y), median (IQR)	67 (63-70)	67 (65-75)	P=0.08
<b>Sex, n (%)</b>			P=0.98
Male	69,943 (60.1)	260 (60.2)	
Female	46,419 (40.0)	172 (39.8)	
FIT value ( microgram Hb/gram faeces), median (IQR)	135 (70-201)	135 (75-201)	P=0.11
<b>Most advanced finding at index colonoscopy, n (%)</b>			P<0.001
Colorectal cancer	9,978 (8.6)	0 (0.0)	
Advanced adenoma*	41,982 (36.1)	194 (44.9)	
Non-advanced adenoma	34,552 (29.7)	124 (28.7)	
Serrated lesion	3,869 (3.3)	15 (3.5)	
No lesion	18,101 (15.6)	59 (13.7)	
Unknown/other	7,880 (6.8)	40 (9.3)	
Time to PCCRC diagnosis (months), median (IQR)	-	31 (19-39)	
<b>Location, n (%)*</b>			
<b>Right</b>		233 (53.9)	
Cecum		68 (15.8)	
Ascending colon		89 (20.6)	
Hepatic flexure		26 (6.0)	
Transverse colon		33 (7.6)	
Splenic flexure		17 (3.9)	
<b>Left</b>		99 (22.9)	
Descending colon		18 (4.2)	
Sigmoid		71 (16.4)	
Rectosigmoid		10 (2.3)	
<b>Rectum</b>		89 (20.6)	
<b>Unknown</b>		11 (2.5)	

IQR = interquartile range

\* CRC location was only available for PCCRCs.



