

PRECISION CRC SCREENING – STATE OF THE ART SUMMARY



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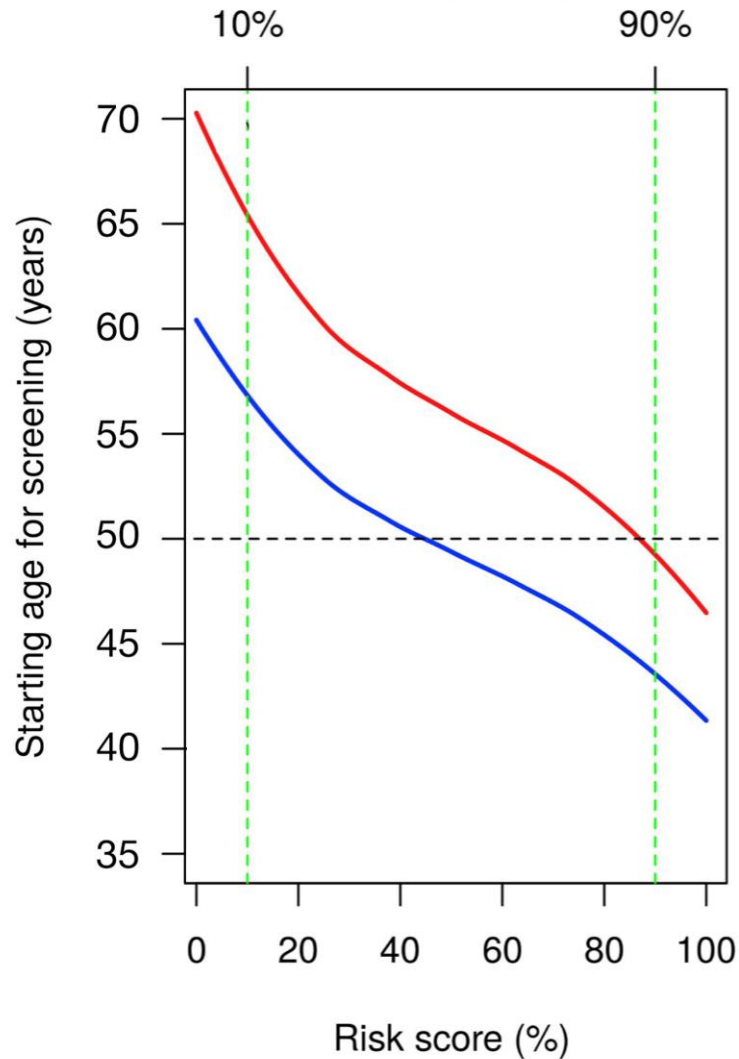
June 5, 2026



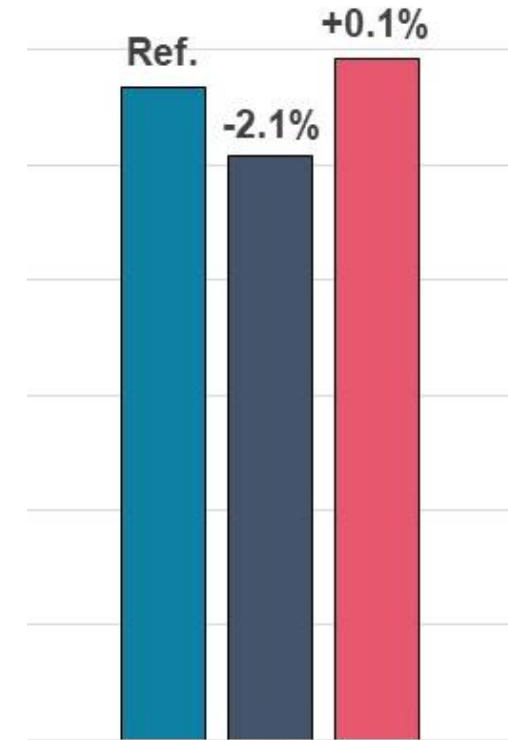
PRECISION SCREENING BASED ON RISK PREDICTION MODELS



Jeon et al., Gastro 2018



Van den Puttelaar et al., Gastro 2023



Risk-stratified screening, constrained costs

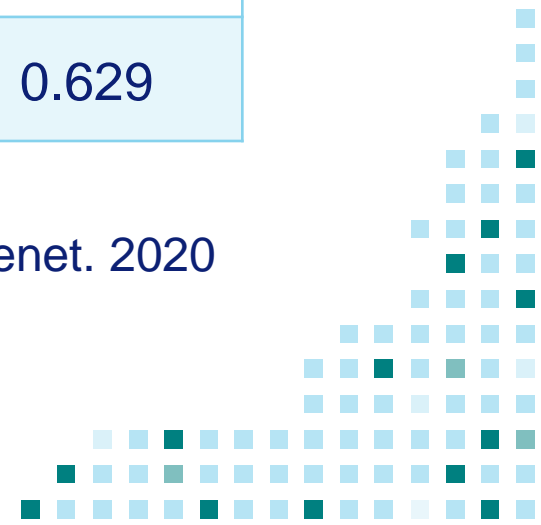
■ Costs ■ Colonoscopies ■ QALYG

PREDICTIVE PERFORMANCE NOT INCREASING ENOUGH



Approaches	# Variants	AUC	AUC validation
Known variants	140	0.629	0.591
Selection + Machine Learning	10,000	0.633	
LDpred (Machine Learning)	1,180,765	0.654	0.629

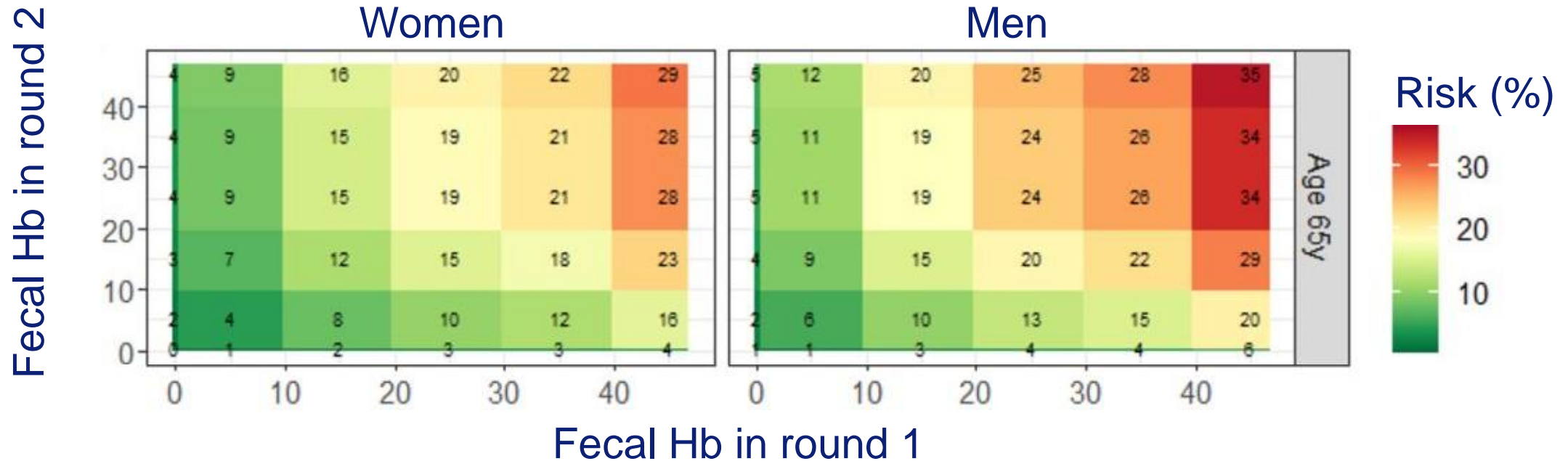
Thomas, Am J Hum Genet. 2020



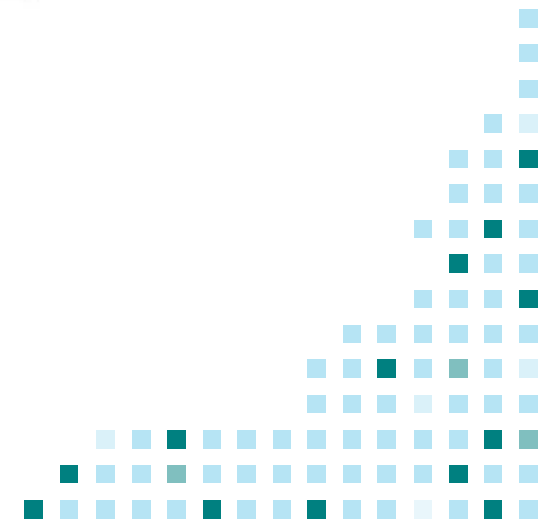
PROMISING ALTERNATIVE: PRIOR FECAL HB CONCENTRATION



Meester, Gut 2023



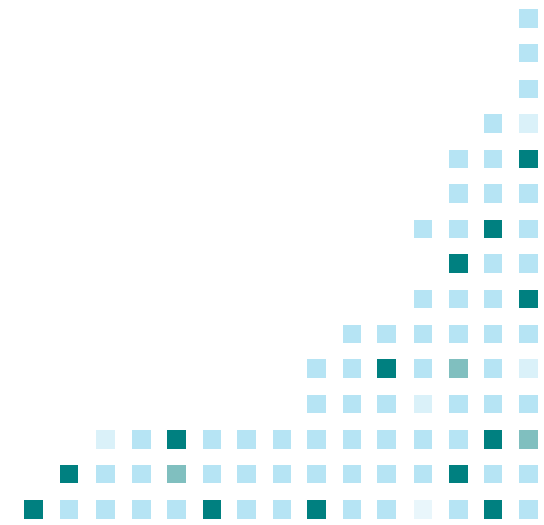
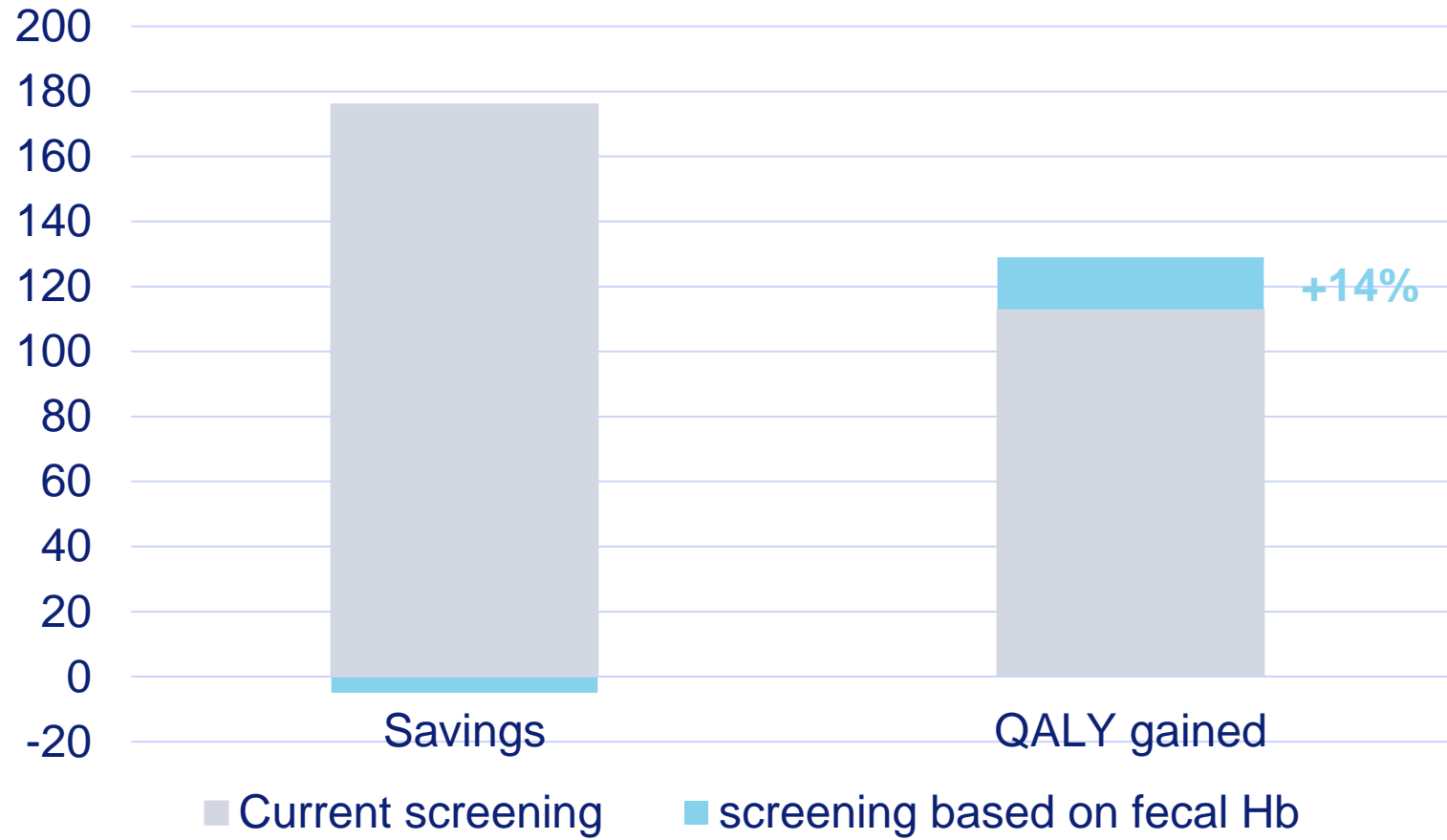
AUC of 0.78 for AN and 0.73 for CRC



POPULATION IMPACT OF SCREENING BASED ON FECAL HB

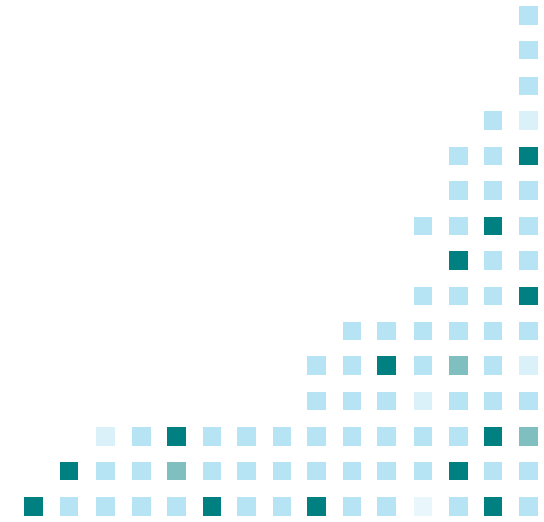
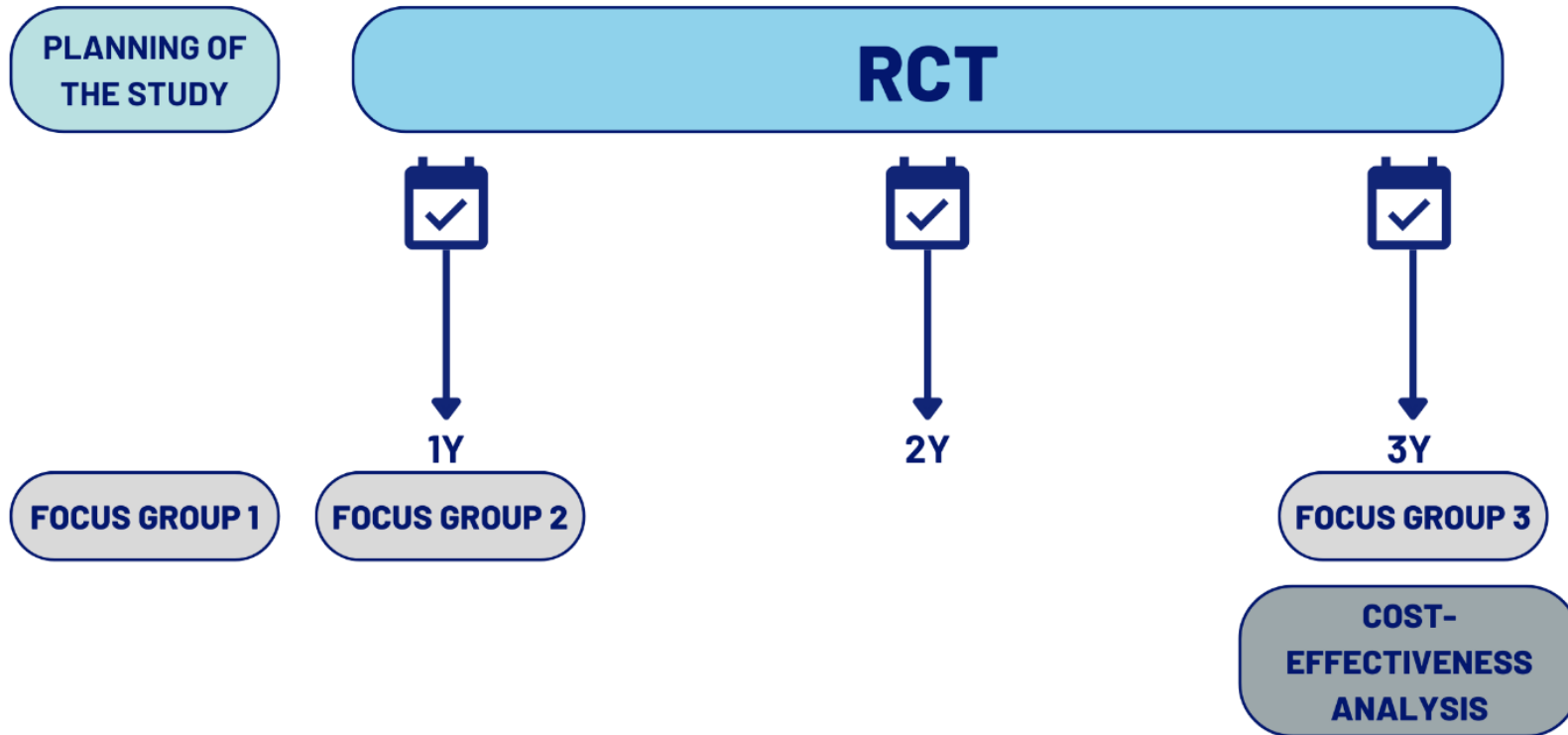
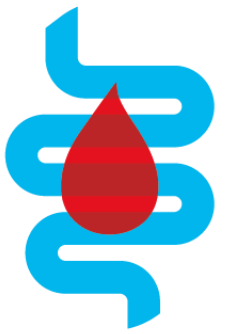


Van den Berg, Submitted





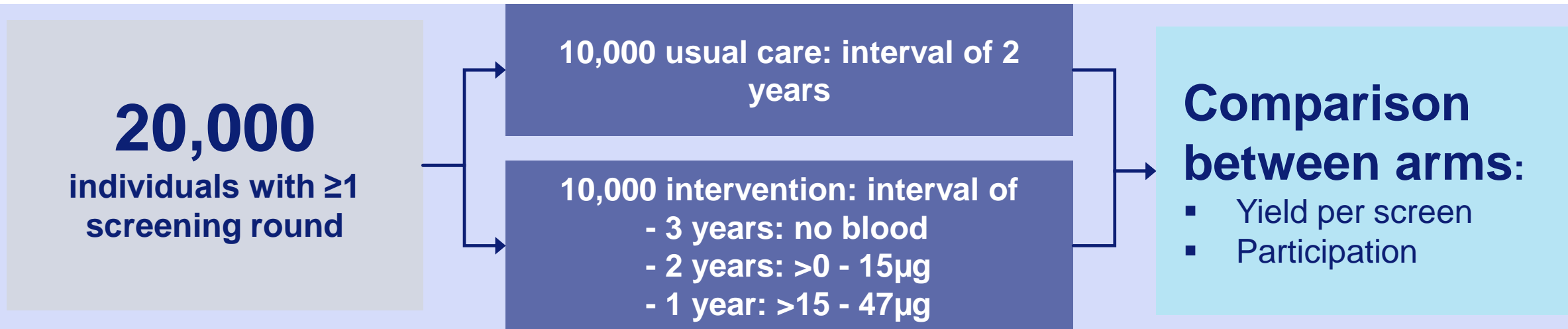
PERFECT-FIT STUDY



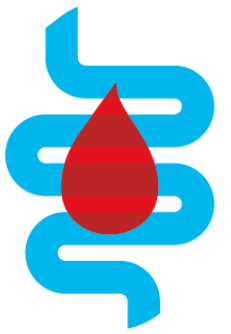
PERFECT-FIT RCT



Breekveldt et al., BMC Gastroenterol 2023



HIGHLIGHTS FOCUS GROUP 1 – INFORMATION NEEDS

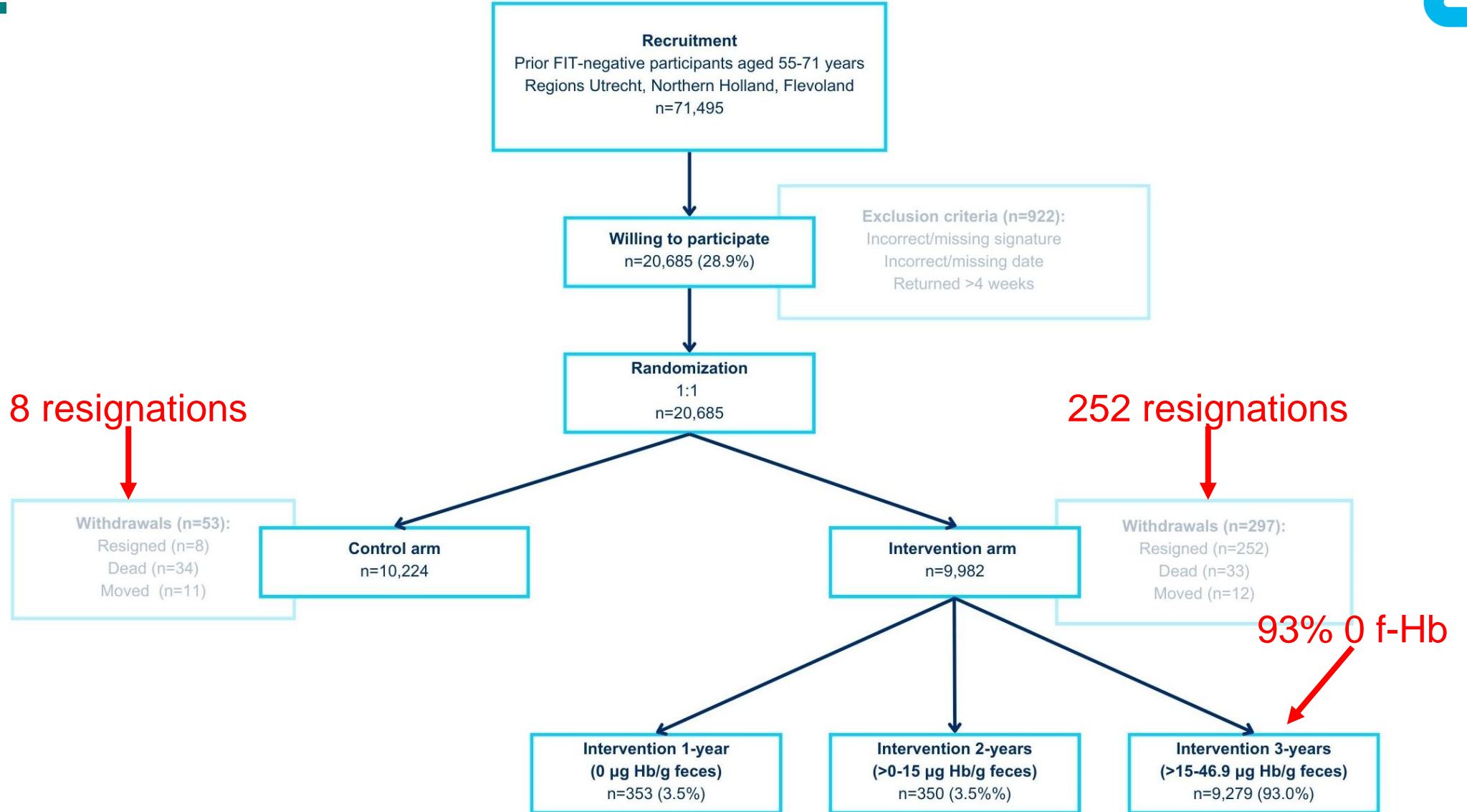


1. Information needs varied widely among the target population of screening;
2. Impossible to address everyone's need in a single approach;
3. A layered approach to deliver information on individual's CRC risk is required;
4. Risk information may have minimal impact on the decision to participate;
5. Implementing personalised screening requires careful communication about the rationale for the strategy.

Toes-Zoutendijk,
Prev Med Rep 2023



RCT: ENROLLMENT



FOCUS GROUP STUDIES 2 AND 3



Individuals' acceptability and perspectives on tailored screening intervals



One-year interval (3 sessions)
Three-year interval (2 sessions)
Opt-outs three-year interval (4 interviews)

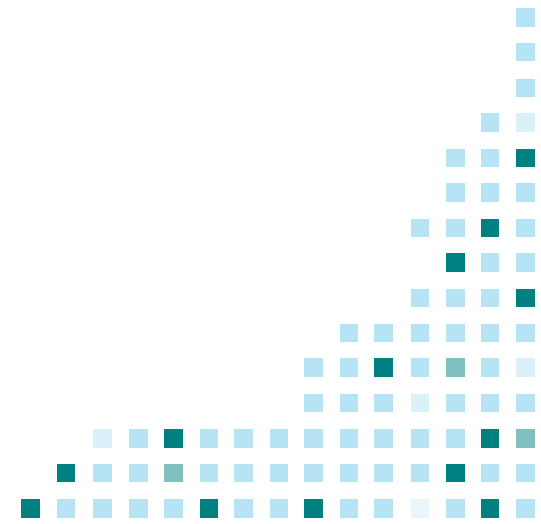
Van Stigt,
Prev Med Rep 2025



FOCUS GROUP STUDIES 2 AND 3 - CONCLUSIONS



1. Hypothetical situation versus real life results in different findings
2. General preference for more frequent screening
 - *Better safe than sorry*
 - *Screening not seen as burdensome*→ Greater emphasize on equally distributing the benefits
3. Trust in provider
Nationwide implementation acceptable



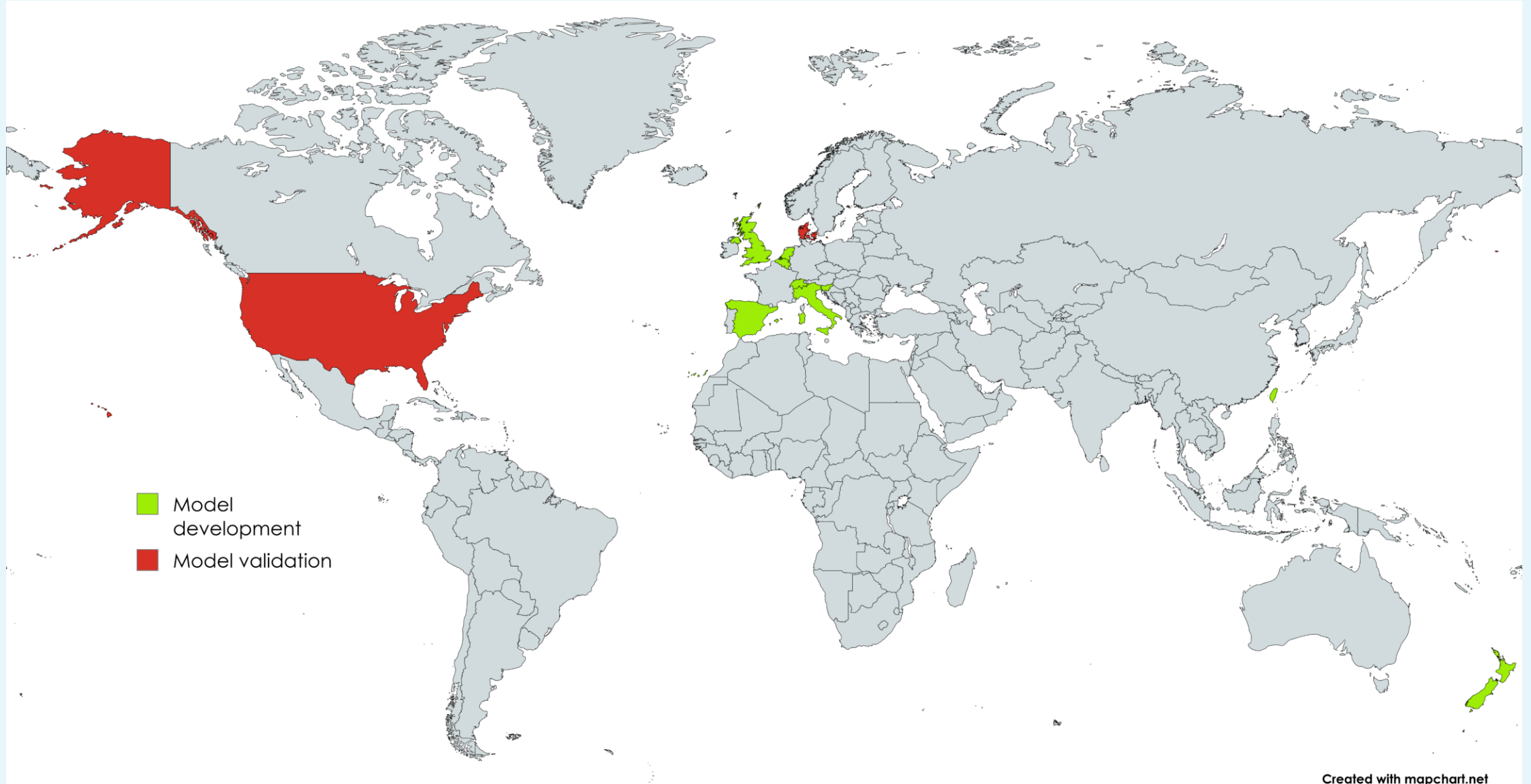
PERFECT-FIT STUDY: CURRENT STATUS



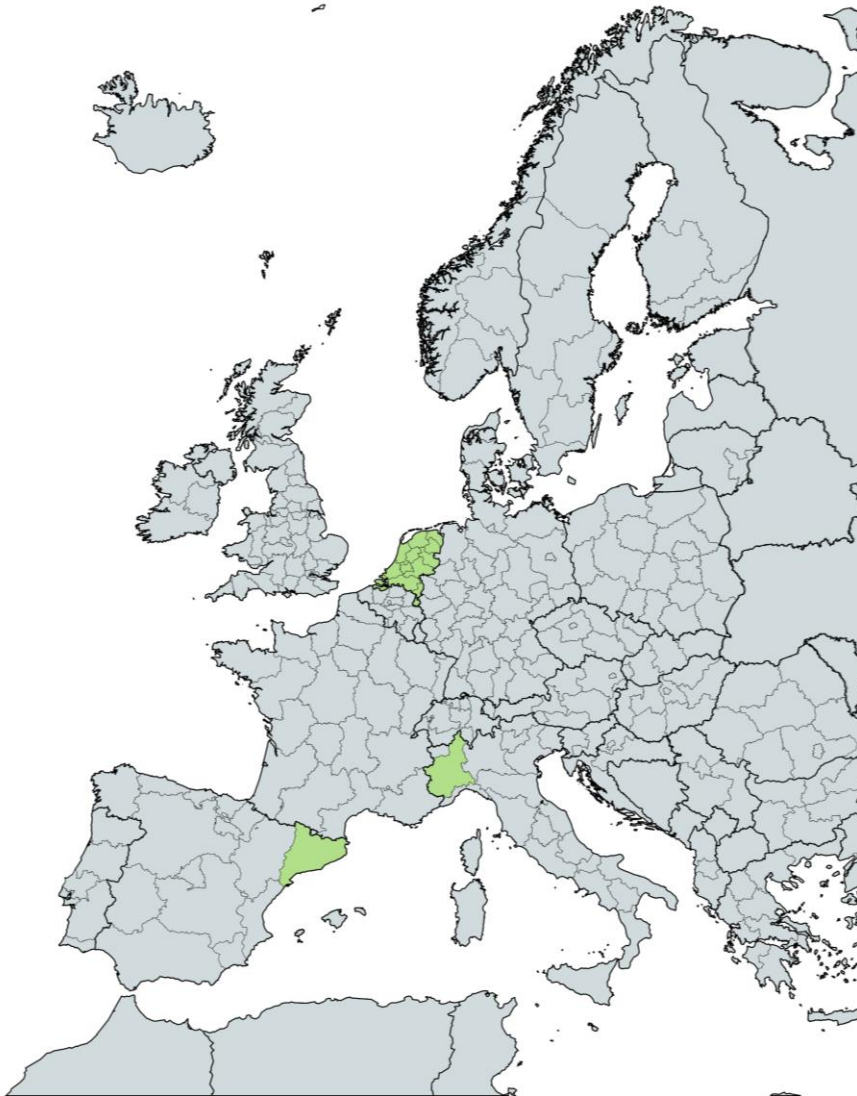
- All recruited individuals have received their subsequent screening invitation according to randomization and f-Hb concentration by December 2025
- National screening organization will share data on screening outcomes before August 2026
- Aim to present results at WEO/UEGW in Barcelona



INTERNATIONAL COLLABORATIONS – POOLED ANALYSIS OF ASSOCIATION F-HB WITH CRC



FUTURE WORK AND COLLABORATIONS



THANK YOU QUESTIONS?



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Public Health

June 5, 2026



FOCUS GROUP STUDIES 2 AND 3 - FINDINGS

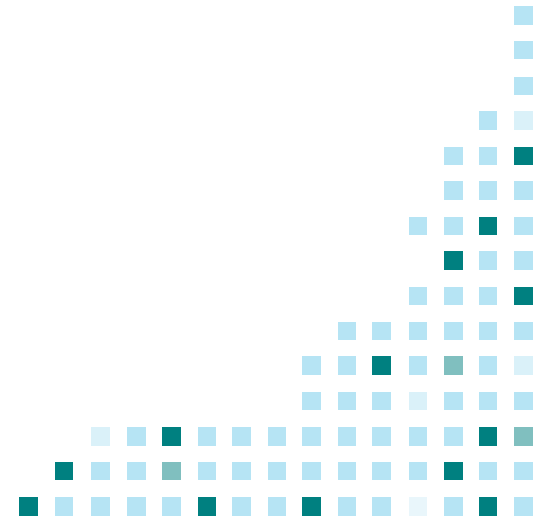


General preference for more frequent screening

Better to be safe than sorry

"I think it's a scary disease, I would prefer to be checked **as often as possible.**"

"I do think it is very important for myself that I am being screened. And yes, then **rather more than less.**"



FOCUS GROUP STUDIES 2 AND 3 - FINDINGS



General preference for more frequent screening

Screening not perceived as a burden

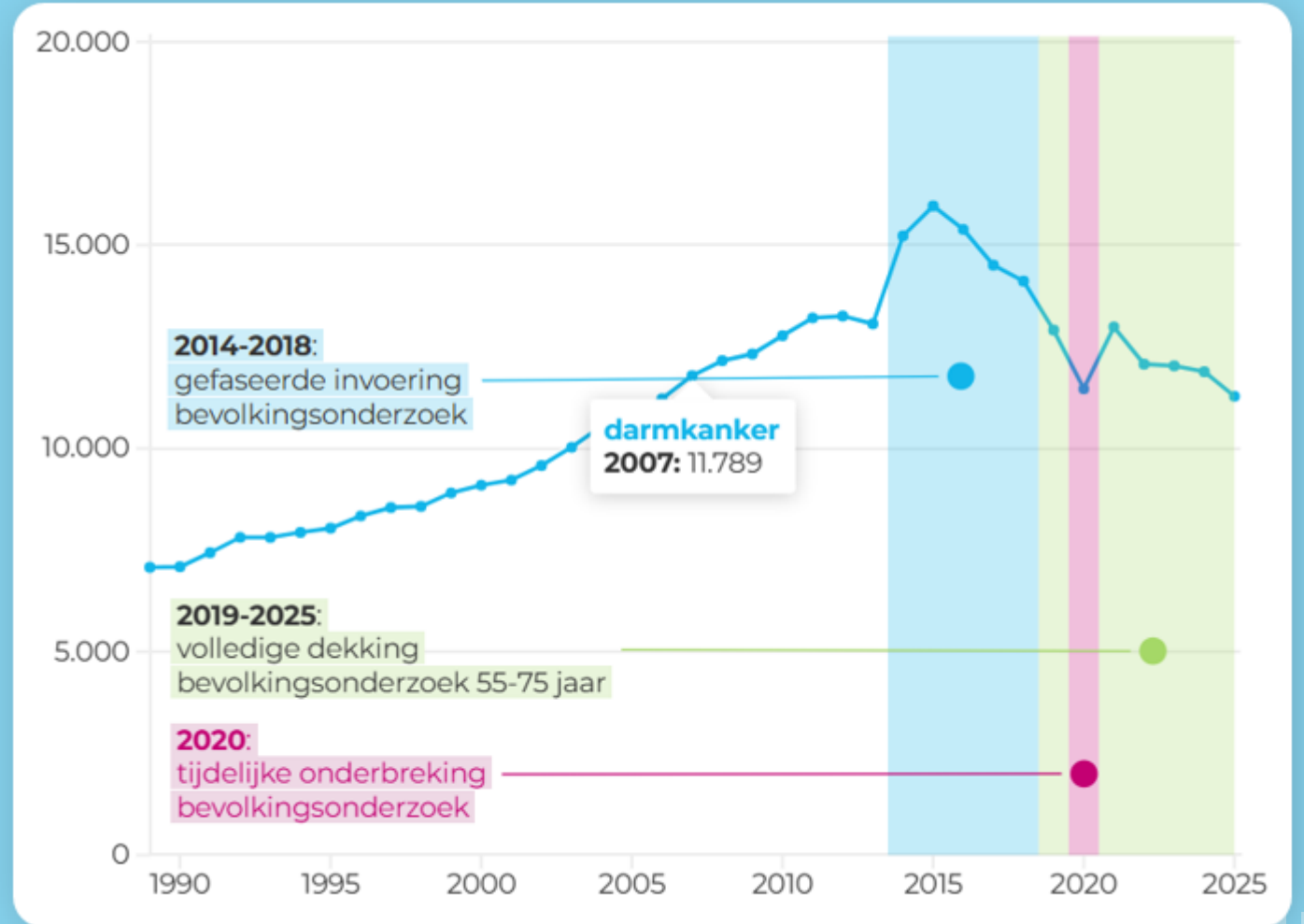
"I personally think that submitting something and dropping it in the mailbox is **not a burden.**"

"I think it is a very relevant point that the screening is a **very non-invasive straightforward test that can be performed at home.** If the question had been, would you like to participate in an annual colonoscopy, then I would have felt differently about it."



BELANGRIJKE IMPACT

- Deelnemers bijna de helft minder kans om te overlijden aan darmkanker dan niet deelnemers



Bron: IKNL