

National Colonoscopy Study (NCS)
Screening Colonoscopy versus
Annual Fecal Occult Blood Test
NCT 00102011

Ann Zauber

Sidney Winawer, Michael O'Brien, John Allen,
Andrew Feld, Glenn Mills, Robin Mendelsohn,
Reinier Meester, Iris Lansdorf-Vogelaar,
Timothy Church

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WEO Colorectal Cancer Screening Committee

Major Outcomes for NCS

- Adherence for one time colonoscopy versus adherence for annual FOBT
 - All eligible accrued for at least 4 rounds of FOBT
 - Subset (early registrants) eligible for up to 7 rounds
- Clinical findings for Colonoscopy vs program of annual FOBT
 - Percent with adenomas and with advanced neoplasia
- Third aim- microsimulation modeling of long term incidence and mortality reduction
(Reinier Meester)

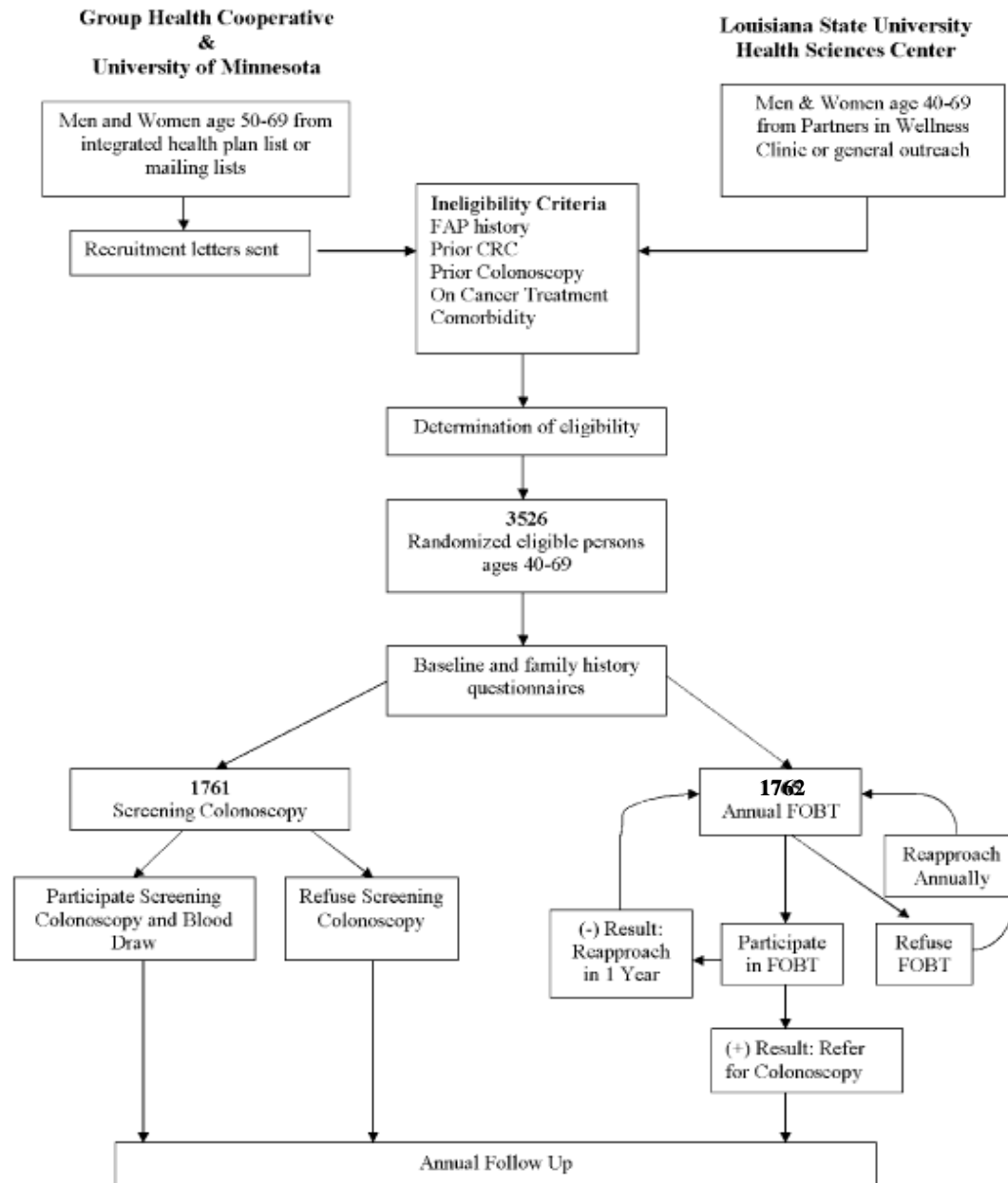
Study Population and Recruitment

- Ages 50-75 (40-75 at LSUHS)
- Recruitment at three clinical sites
 - Un of Minnesota and Minnesota Gastroenterology
 - General population registered to be in RCT
 - Kaiser-Washington (formerly Group Health Cooperative)
 - Age and screening eligible from GHC electronic records
 - Louisiana University Health Sciences (Shreveport, LA) (health wellness clinic)
 - Clinic records
- Exclusions
 - Recent screenings or high comorbidity levels
 - Ascertained by patient report or electronic records

Strengths

- Representative of different health care delivery practices in the United States
- Designed with best clinical practices to optimize CRC screening (*non-pragmatic*)
 - Patient navigator to facilitate scheduling of colonoscopy, prep for colonoscopy, and to encourage FOBT compliance
- Informed consent prior to randomization
- Representative of US population with 56% unscreened
- Included serrated polyp pathway

**National Colonoscopy Study
Flow Chart of Colonoscopy versus Annual FOBT**

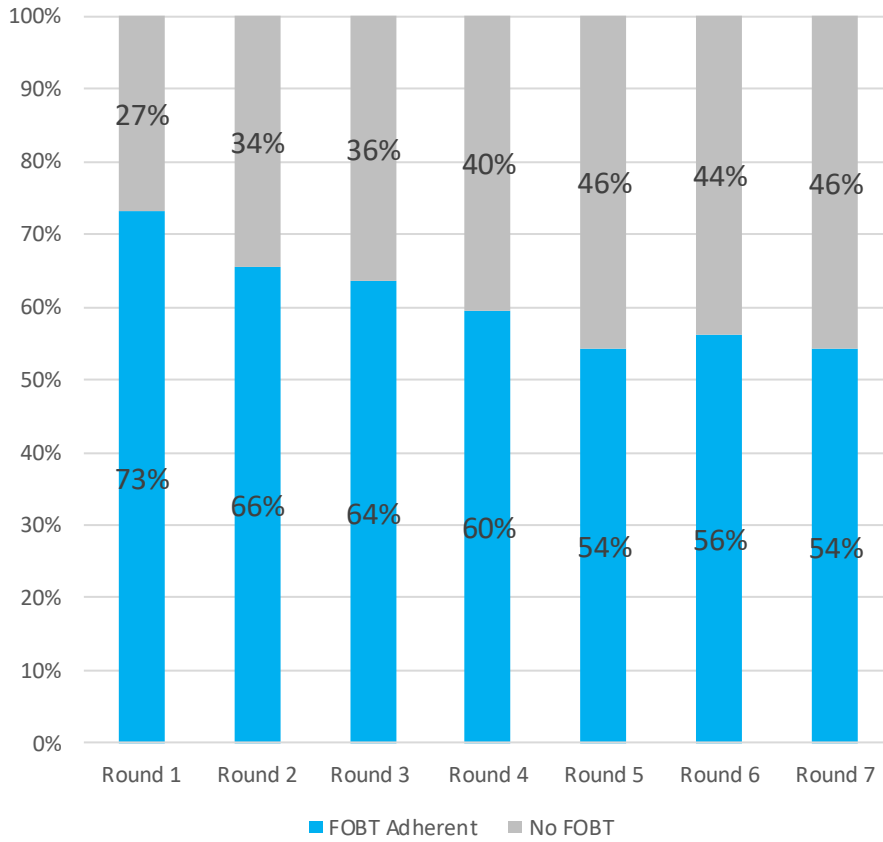


Interventions

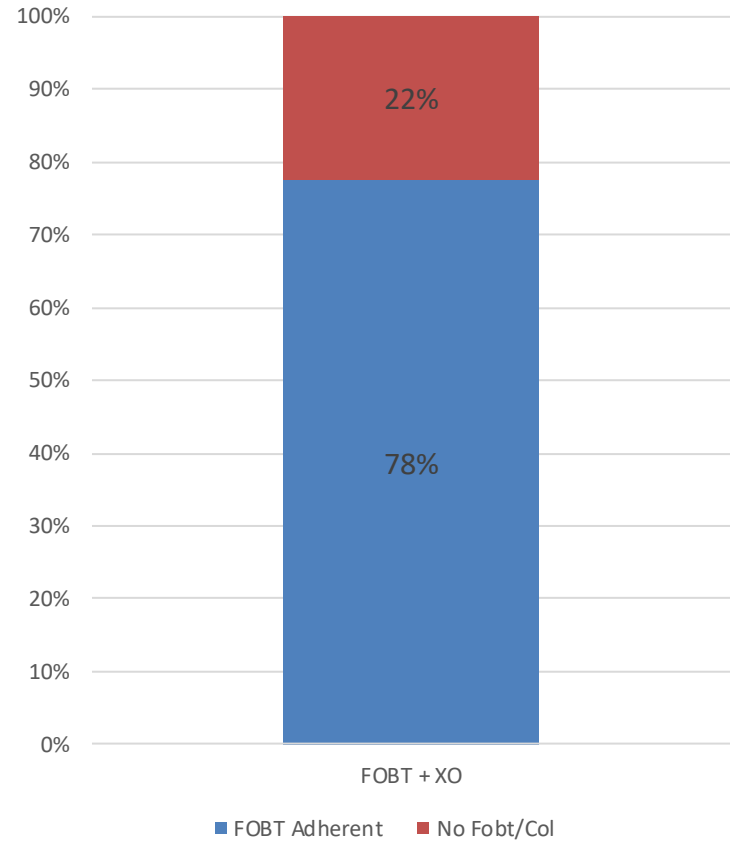
- Screening Colonoscopy (n=1761)
 - With appropriate surveillance for those with adenomas
- Program of annual FOBT (n=1762)
 - Screening exposure
 - 100% adherence to multiple FOBTs (per protocol)
 - Positive FOBT referred to colonoscopy
 - Any FOBT (intention to screen)
 - Positive FOBT referred to colonoscopy
 - Cross over from FOBT to colonoscopy (intention to screen)
 - Negative FOBT or no FOBT
- Randomized by permuted block design at coordinating center (MSK)

FOBT Adherence

FOBT Adherence by Round (R1-R7)

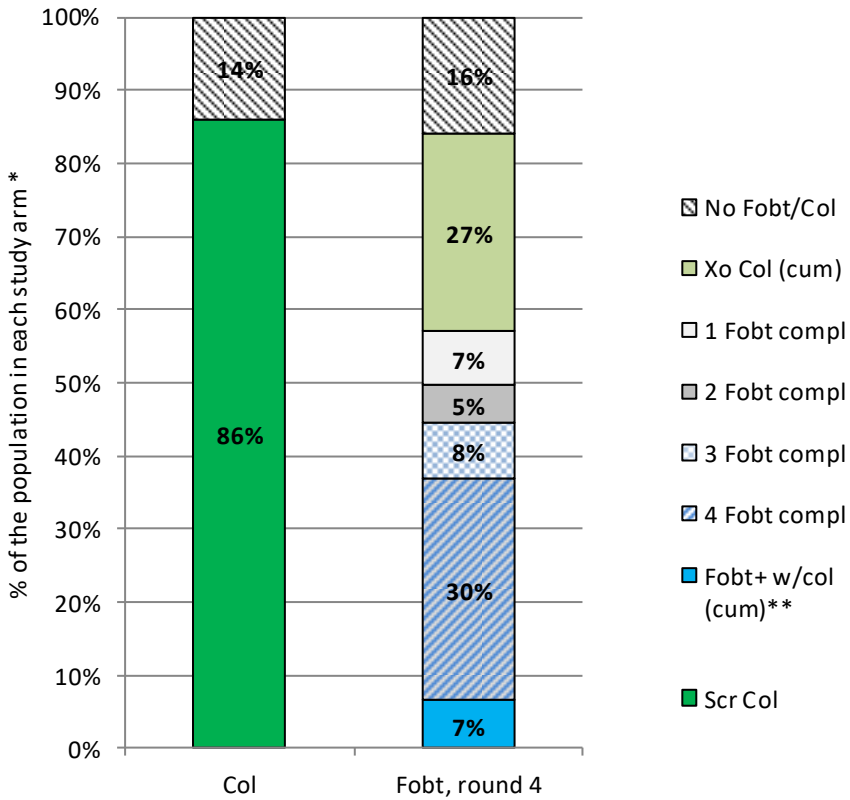


Total FOBT

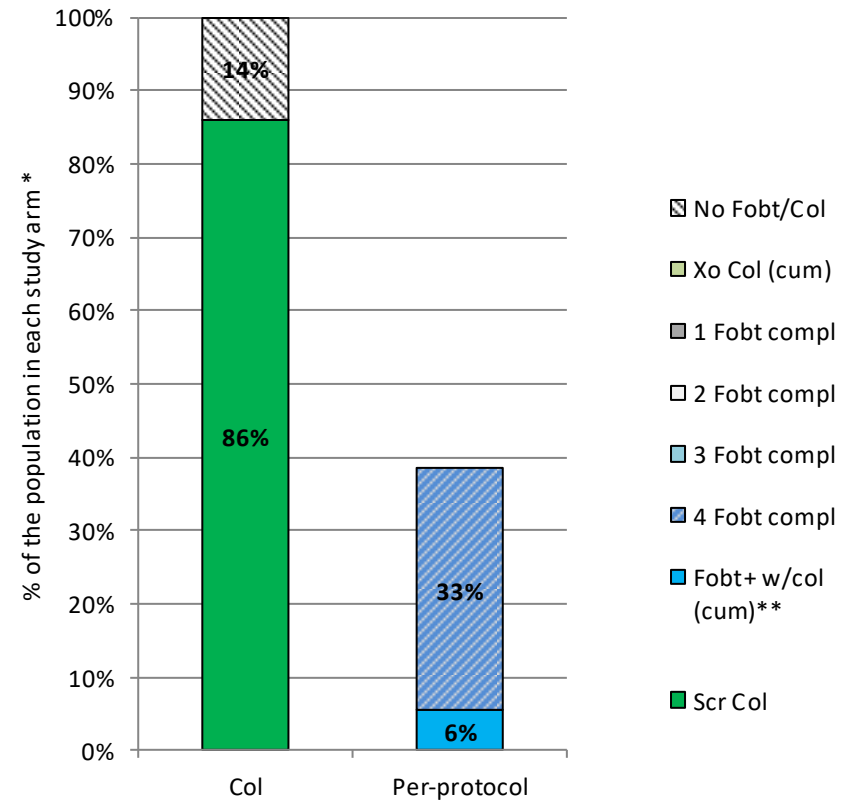


Adherence by Arm over 4 rounds

Per Intention to Screen



Per Protocol



Clinical findings

Per intention to screen up to 7 rounds

- Advanced Neoplasia
 - Colonoscopy FOBT
 - 6% 5%
- Any neoplasia*
(adenomas or CRC)
 - Colonoscopy FOBT
 - 23% 12%

*139 FOBT positive (21%) and 513 cross over colonoscopy (79%) of all those with colonoscopy

Quality Assurance and Oversight

- Patient navigator to facilitate prep and scheduling for colonoscopy and reminders for FOBT
- Endoscopist review committee to assure high quality exams with experienced physicians
- Withdrawal time and reach cecum
- Central distribution of FOBT kits (similar lots)
- Central processing (MSK) of FOBTs
- Annual meetings of sites
- Site visits by MSK IRB
- Data safety monitoring committee (annually)

Conclusions

- 100% adherence is not feasible even with those motivated to join RCT of screening with patient navigation
 - High adherence (86%) for colonoscopy screening
 - 44% adherent to 4 of 4 FOBTs, 84% with any screening exposure
 - Expect crossover to colonoscopy (~30% here)
- Advanced neoplasia comparable for two arms
Adenomas not comparable by arms
- Microsimulation modeling to assimilate adherence patterns and project long term results