



4th EUROPEAN COLORECTAL CANCER DAYS:
BRNO 2015 – PREVENTION AND SCREENING
29–30 May 2015, Brno, Czech Republic



CURRENT STATUS OF COLORECTAL CANCER SCREENING IN GERMANY RESULTS AND PERSPECTIVES

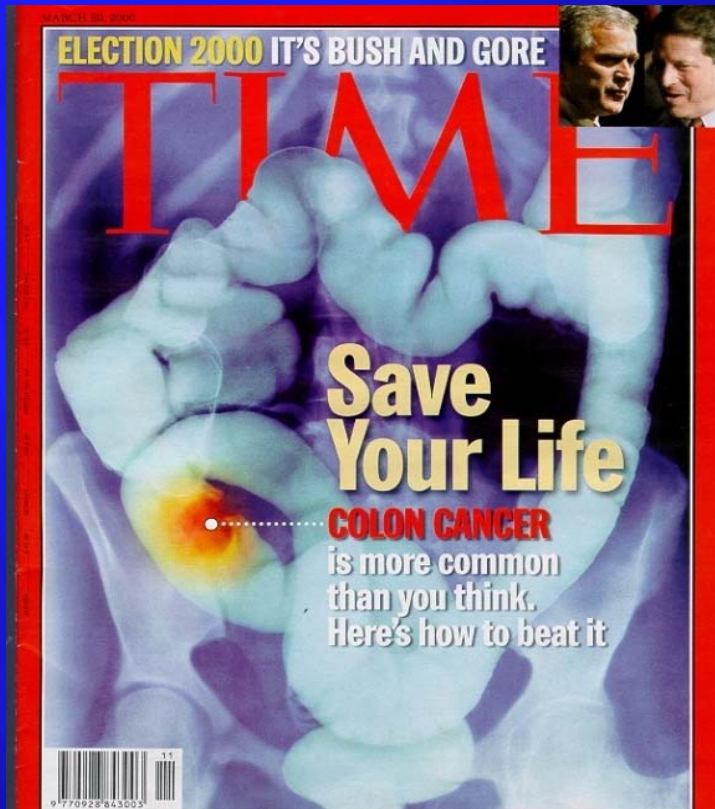
Prof. Dr. J. F. Riemann

Director em., Dept. of Med. C, Klinikum Ludwigshafen
Chairman LebensBlicke Foundation



COLON CANCER AWARENESS MONTH IN GERMANY

2000 INTRODUCED IN THE US BY PRESIDENT BILL CLINTON



Gastroenterology

www.gastrojournal.org

Volume 146 Number 3 March 2014

Colorectal Cancer Awareness Month

IN THIS MONTH'S ISSUE

- *MLH1* and *MSH2* Somatic Mutations in Lynch-like Tumors 643
- Fiber Intake and Risk of Adenoma 689
- Aspirin Intake After Diagnosis of CRC 700
- Risk of CRC After Colonoscopy for Any Indication 709
- Risk of CRC in Older Individuals After Lower Endoscopy 718



DOUBLE TRACKED OPPORTUNISTIC COLON CANCER SCREENING IN GERMANY SINCE 2002

- **FOBT** yearly (**g-FOBT**) from 50, every 2 y from 55)
(Evidence / Recommendation: 1a / A)
- **Screening – colonoscopy with 55,**
(if inconspicuous) **Repetition after 10 years**
(Evidence / Recommendation: 3b / A)

ACQUISITION OF DATA

MAINTENANCE RESEARCH



**CENTRAL RESEARCH INSTITUTE OF
AMBULATORY HEALTH CARE
IN GERMANY**

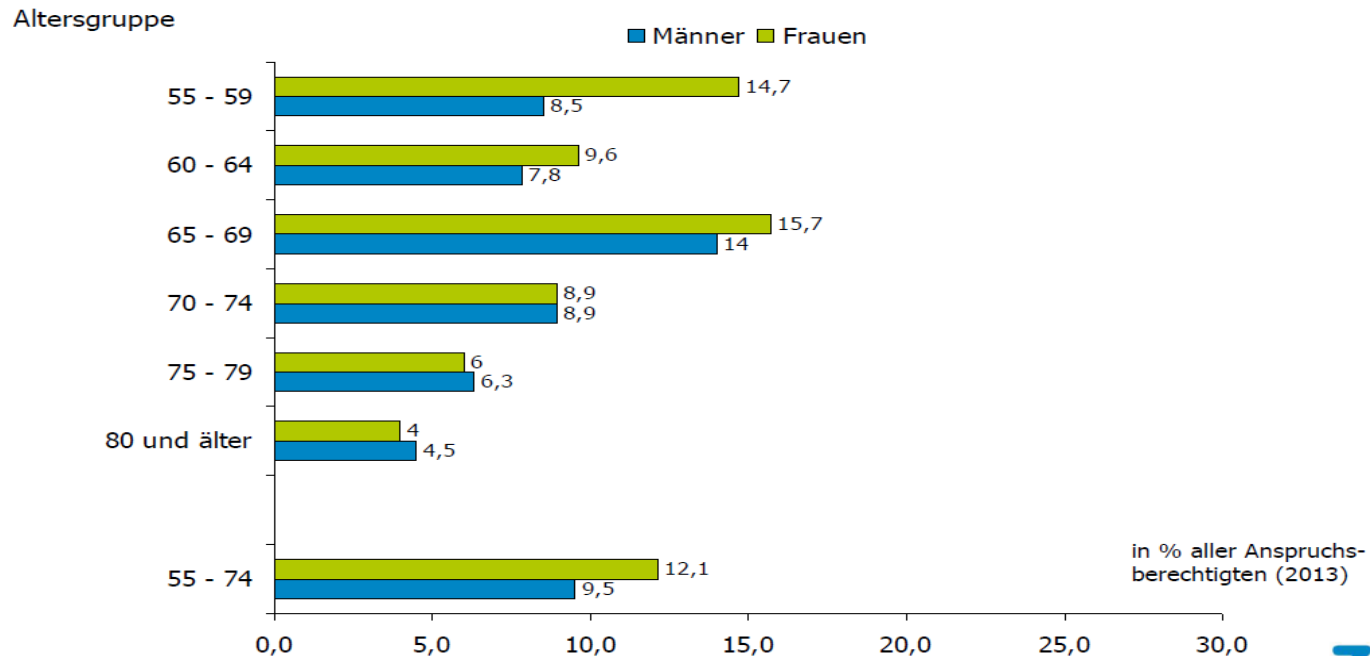


**MANDATED BY THE INSURANCE
COMPANIES AND
THE MEDICAL PROFESSION**



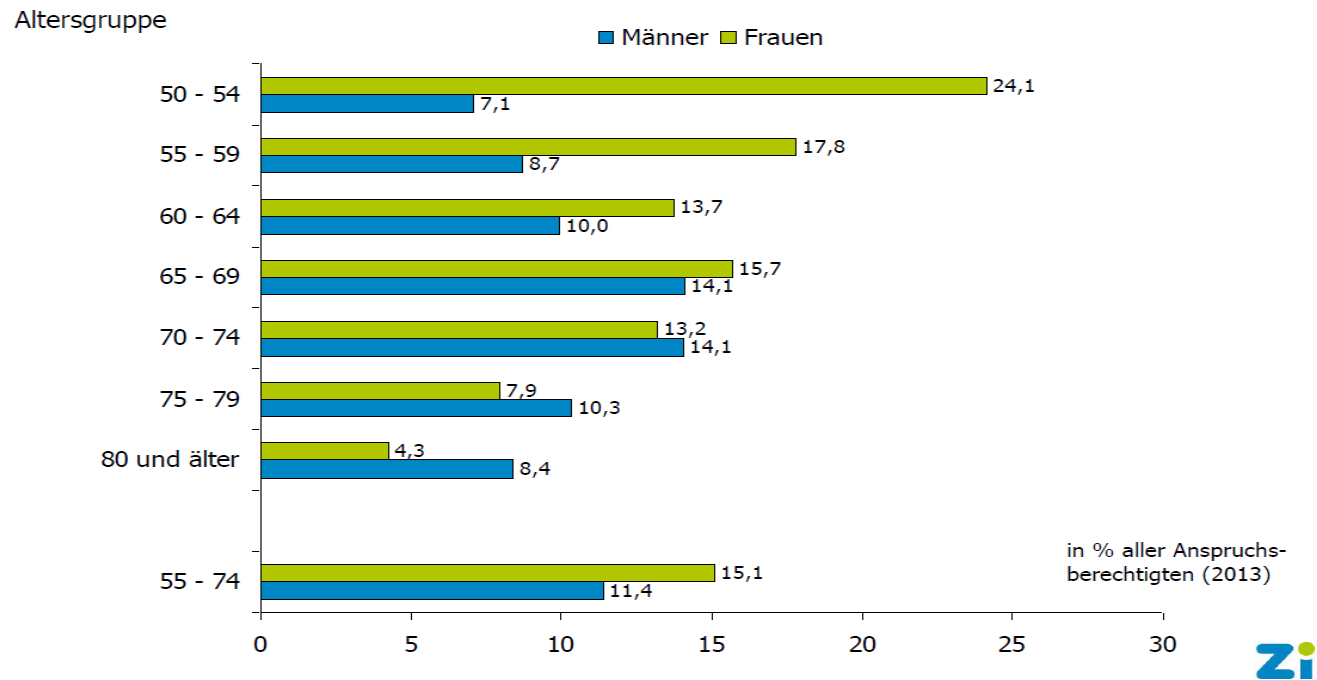
COUNSELING INTERVIEWS IN 2013

Teilnahme an Beratungen zur Darmkrebs-Früherkennung in berechtigten Altersgruppen (2013) in Deutschland

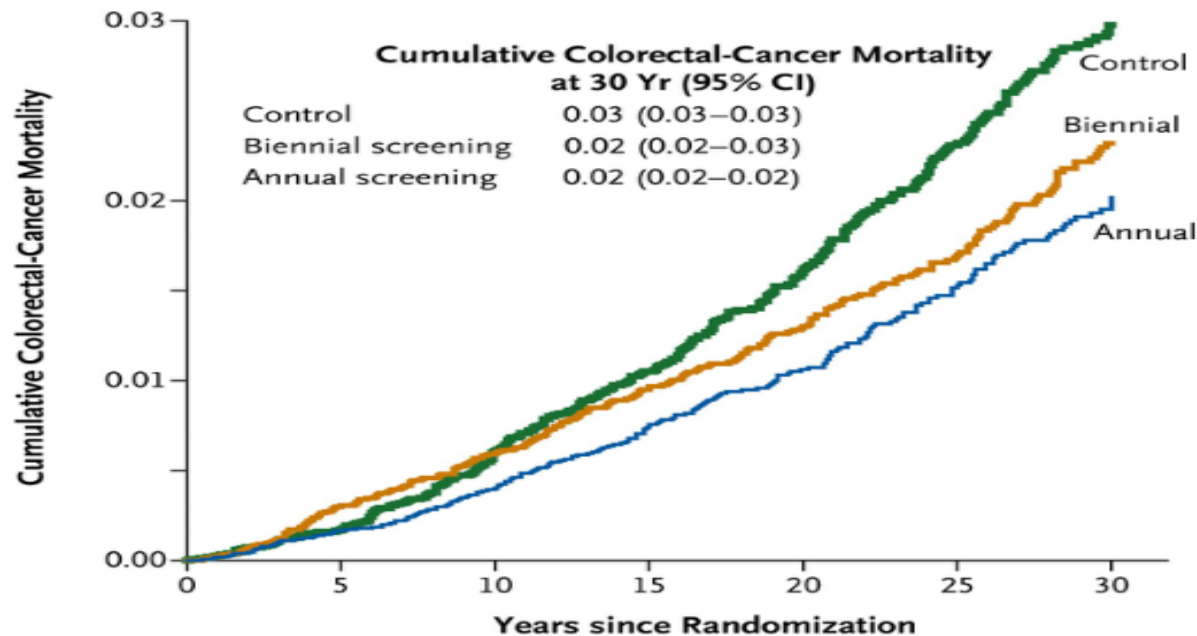


FOBT-SCREENING IN GERMANY IN 2013

Teilnahme an Okkultbluttests in berechtigten Altersgruppen (2013) in Deutschland



LONGTERM REDUCTION OF MORTALITY FOLLOWING CRC- SCREENING WITH FOBT



32% per annual g-FOBT

22% per g-FOBT every 2 years

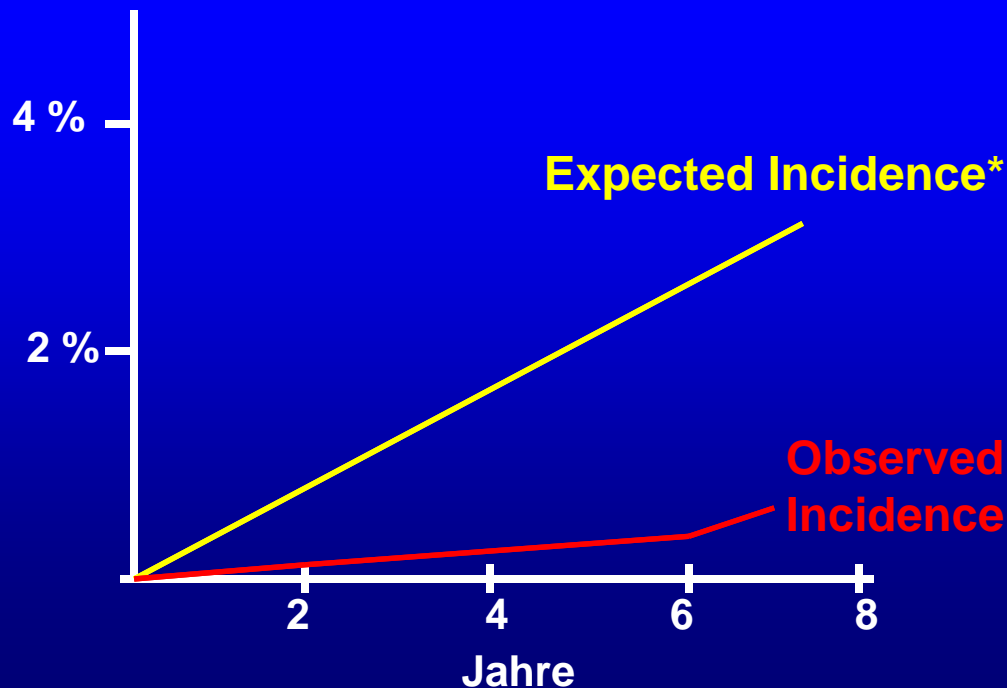
No. at Risk

Control	14,497	13,103	11,320	9157	6741	4450
Biennial screening	14,635	13,243	11,445	9323	6802	4583
Annual screening	14,658	13,294	11,437	9219	6802	4498

Aasma Shaukat et al. N EJ M 2013

COLONOSCOPY OF ASYMPTOMATIC PERSONS

Cumulative Incidence



**Reduction of
colon-cancer
incidence about
76-90 % !**

Incidence of **colorectal cancer** following polypectomy in the cohort of the National Polyp Study (NPS)

*Mayo Clinic cohort (US)
St. Mark's cohort (UK)
SEER program (US)

Winawer SJ et al., New Engl J Med 1993

QUALITY AGREEMENTS FOR COLONOSCOPY (Stand: June 15, 2012)

- ★ Medical specialist
- ★ 200 colonoscopies and 50 polypectomies under supervision within 2 years (independent indication, performance and validation)
- ★ technical preconditions (HD-Endoscopes)
- ★ 200 total colonoscopies and 10 polypectomies (no failings / year)
- ★ Documentation (Foto or Video)
- ★ regular hygienic- microbiological control



DOCUMENTATION OF IMPORTANT FINDINGS

> 291.200 ADVANCED NEOPLASIAS

Summe	2003 - 2012	
	n	%
Patienten	4.409.030	100
mit Polypektomien	1.402.581	31,8

Diagnosen	2012		2003 - 2012	
	n	%	n	%
Männer	170.209	100	1.990.175	100
Polypen	17.453	10,3	292.061	14,7
Adenom(e)	52.340	30,8	537.430	27,0
darunter fortgeschrittene Adenome	13.174	7,7	172.021	8,6
Frauen	197.132	100	2.418.673	100
Polypen	19.111	9,7	287.114	11,9
Adenom(e)	38.805	19,7	403.960	16,7
darunter fortgeschrittene Adenome	8.976	4,6	119.239	4,9



Mehr als 291.200 fortgeschrittene Adenome wurden diagnostiziert



CANCER DIAGNOSIS (GENDER AND LOCALIZATION)

ca. 42.263 CRC`s DETECTED

Karzinomdiagnosen	2012		2003 - 2012	
	n	%	n	%
Männer	170.209	100	1.990.175	
Kolon-Ca.	1.432	0,8	15.479	0,8
Rektum-Ca.	769	0,5	9.887	0,5
Frauen	197.132	100	2.418.673	
Kolon-Ca.	962	0,5	11.255	0,5
Rektum-Ca.	428	0,2	5.642	0,2

* Hinweis: die Fälle mit rektosigmoidalen Übergang als Ca-Lokalisation wurden hier den Colon-Ca-Fällen zugeordnet

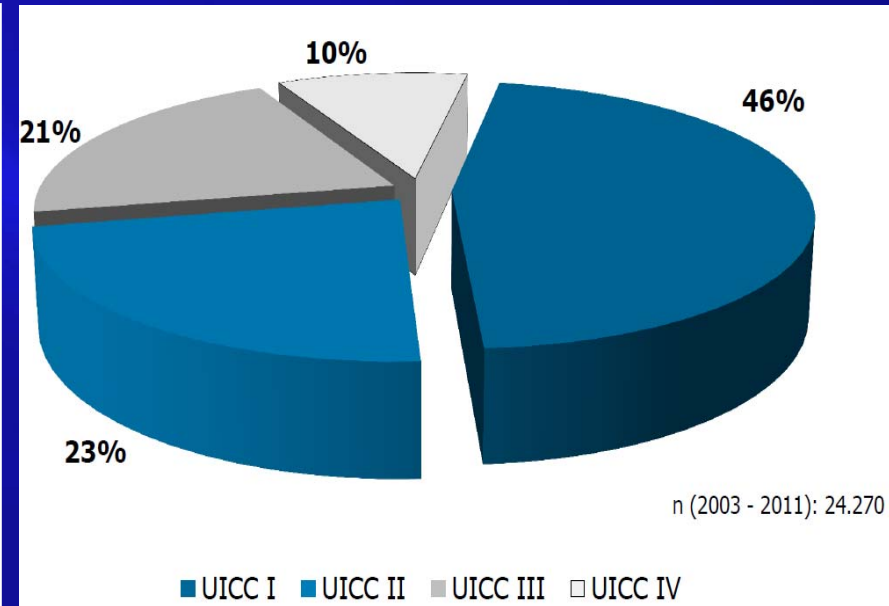


Ca. 42.263 kolorektale Karzinome
wurden entdeckt

Zi

UICC-STAGE-SHIFT WITH CRC SCREENING -COLONOSCOPY

Stadium	< 60 J	60- 74 J	> 75 J
UICC I	14%	18%	19%
UICC II	19%	25%	32%
UICC III	44%	32%	29%
UICC IV	23%	25%	20%



Fietkau et al., Strahlenther Onkol 2004

Altenhofen et al., 2013



NUMBER NEEDED TO SCREEN (NNS) TO DETECT ONE ADVANCED NEOPLASIA

Efficacy of a Nationwide Screening Colonoscopy Program for Colorectal Cancer

CHRISTIAN P. POX,* LUTZ ALTENHOFEN,† HERMANN BRENNER,§ ARNO THEILMEIER,|| DOMINIK VON STILLFRIED,‡ and WOLFF SCHMIEGEL*,||

Gastroenterology 2012;142:1460-67

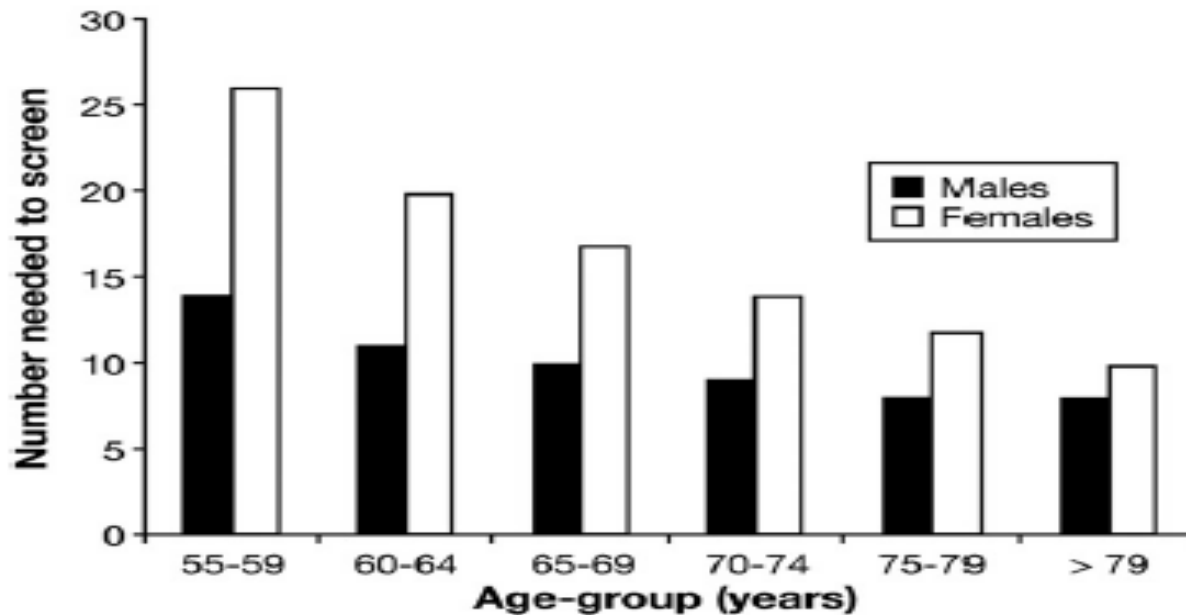
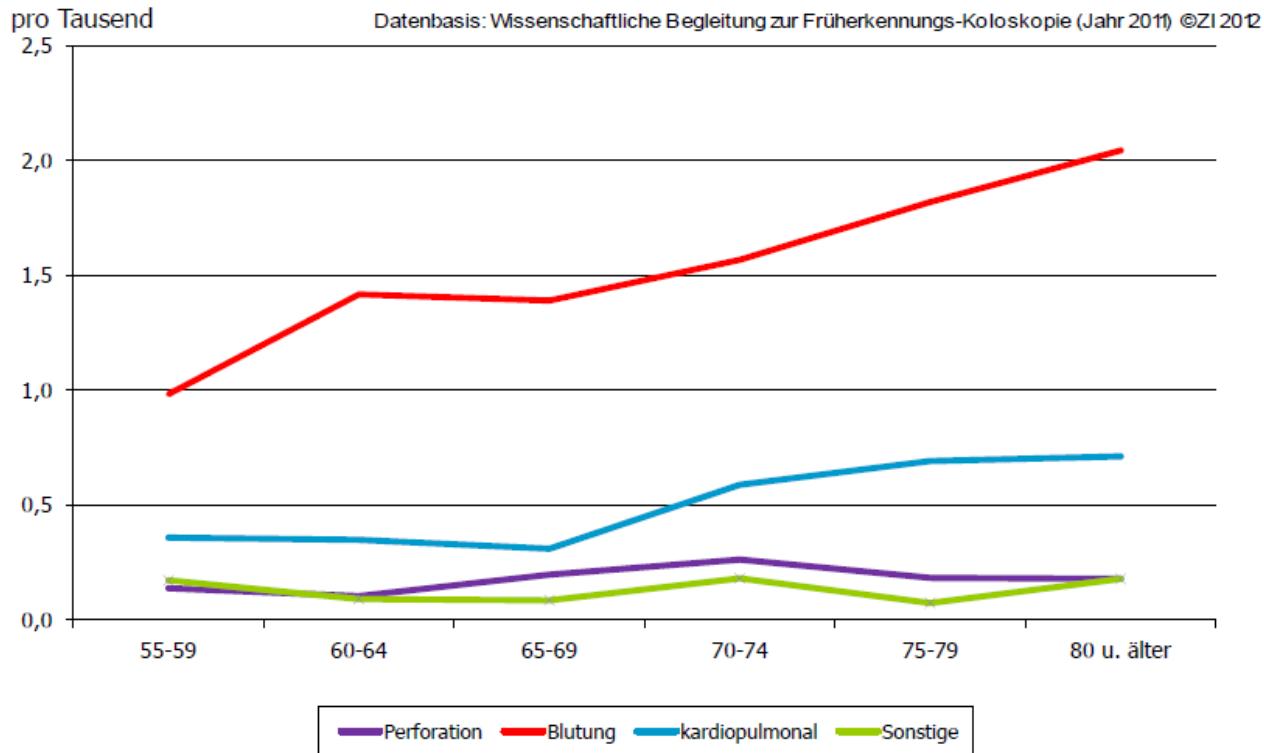


Figure 1. Age-dependent number needed to screen to detect one advanced neoplasia.

2,821,392
Screening-
Colonoscopies

COMPLICATIONS / 1000 SCREENED PERSONS



international

Perforation

0.01 – 1.0%

Bleeding

0.1 – 0.6%

Pox et al. 2012

2.821.392

Colonoscopies

Perforation

0.22%

Bleeding

0.29%

total

0.58%

SEITE 28

Altenhofen Rückblick zur Früherkennungs-Koloskopie (bng-Jahrestagung 2013) / www.zi.de

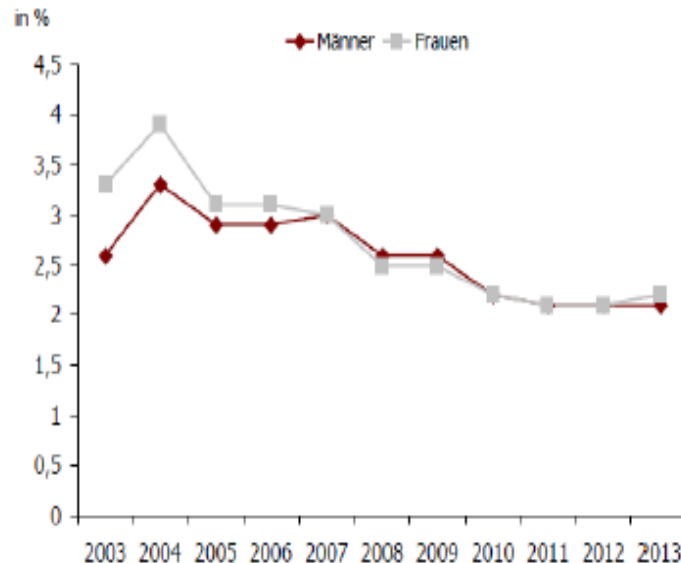
Altenhofen et al. 2013

Fatalities

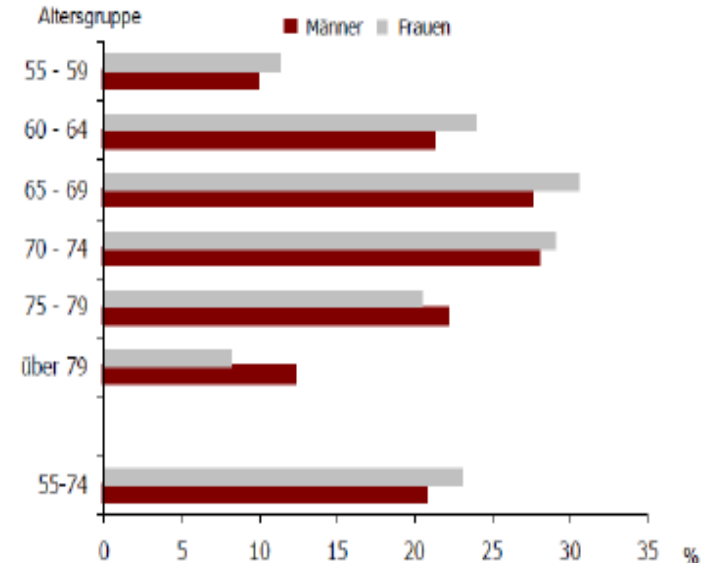
0.245/100.000

PARTICIPATION RATES ON SCREENING-COLONOSCOPY 2003 – 2013

a. Teilnahmeraten Altersgruppe 55 – 74 Jahre



b. Kumulierte Teilnahmeraten (2003 – 2013)



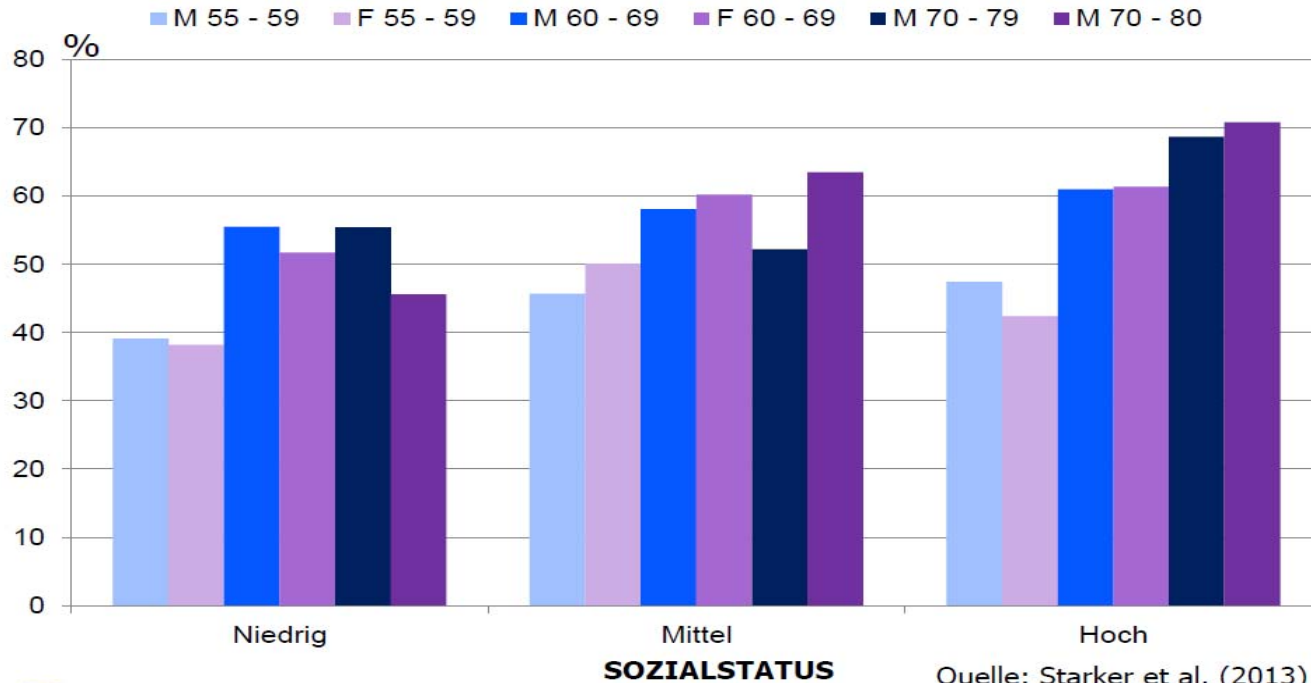
Prozentbasis: Gesetzlich Krankenversicherte (KM 6 Statistik); b: mit Berücksichtigung der erwarteten Sterbefälle

©ZI 2014

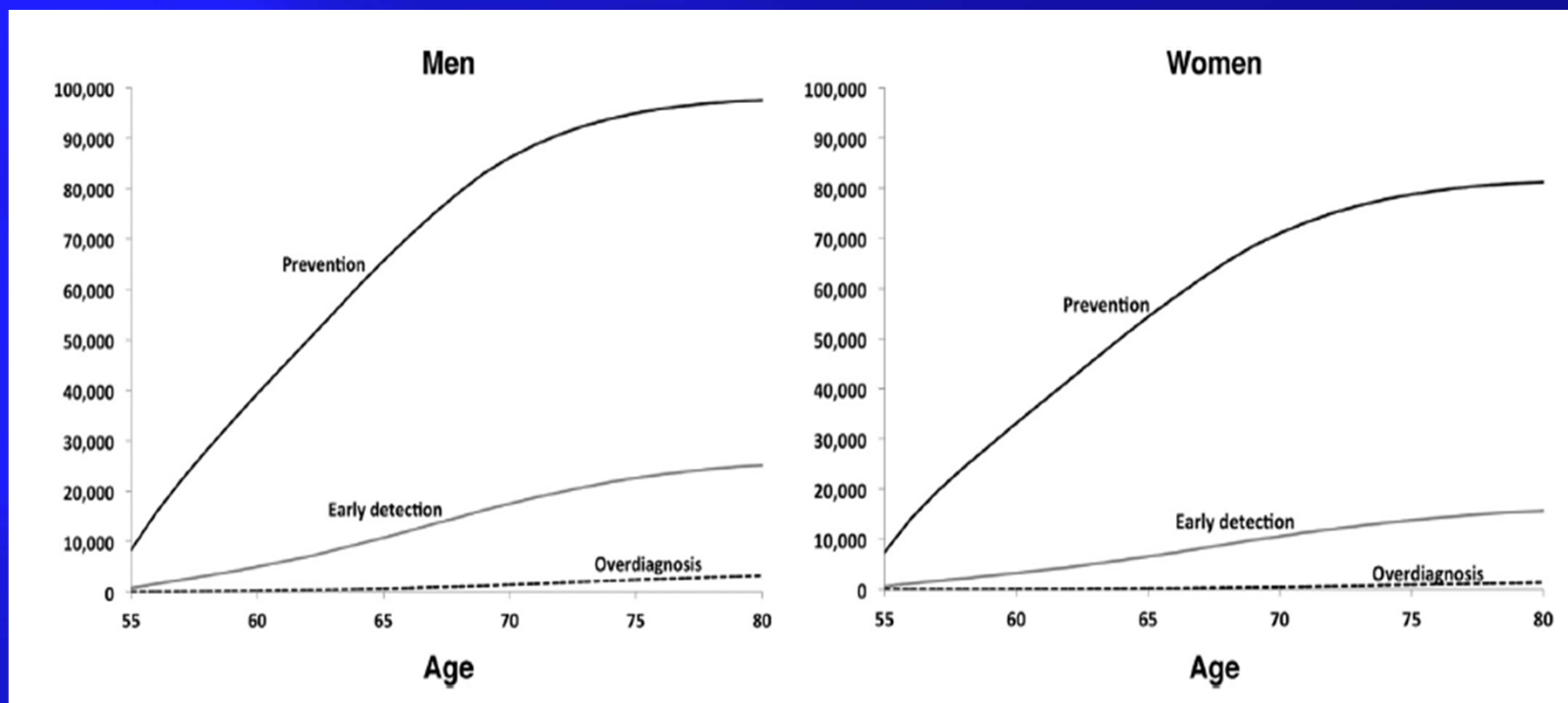


COLONOSCOPY IN THE LAST 10 YEARS

DEGS-Studie des RKI: Durchführung einer ‚Darmspiegelung‘ in den letzten 10 Jahren



10 YEARS SCREENING COLONOSCOPY



prevented: **180.000** colon cancer cases (CRC) (m > w)

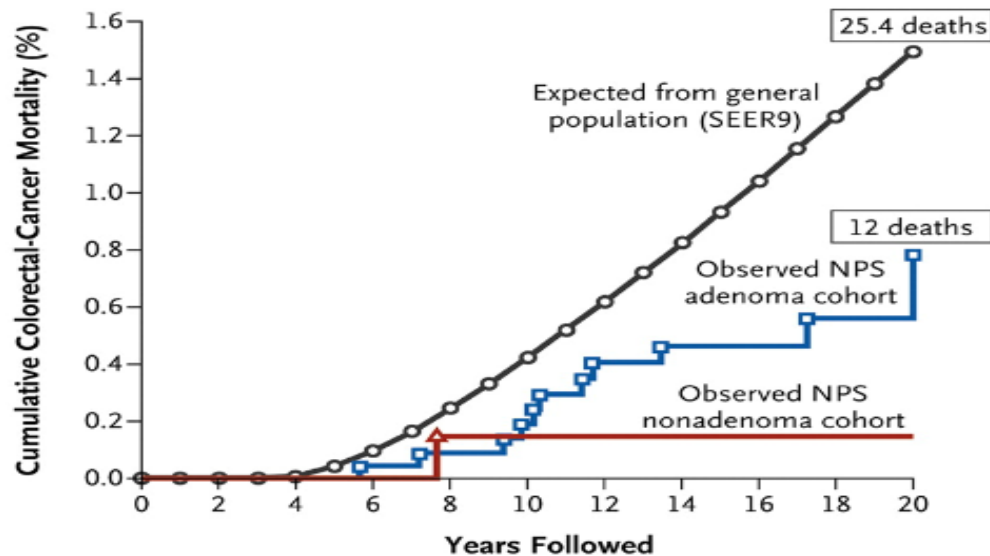
early detected: **41.000** CRC (= 1 per 121 colonoscopies(25.000 m/ 16.000 w))

overdiagnosed: **4.500** CRC 58% following colonoscopy > 70 (28% > 75 J)

Brenner et al, Clin.Gastroenterol.Hepatol. 2015

COLON CANCER - MORTALITY

NO SCREENING / ADENOMA-RESECTION / NO ADENOMA



No. at Risk

Adenoma	2602	2358	2100	1808	1246	461
Nonadenoma	773	733	678	632	420	164

ORIGINAL ARTICLE

Colonoscopic Polypectomy and Long-Term Prevention of Colorectal-Cancer Deaths

Ann G. Zauber, Ph.D., Sidney J. Winawer, M.D., Michael J. O'Brien, M.D., M.P.H., Iris Lansdorp-Vogelaar, Ph.D., Marjolein van Ballegooijen, M.D., Ph.D., Benjamin F. Hankey, Sc.D., Weiji Shi, M.S., John H. Bond, M.D., Melvin Schapiro, M.D., Joel F. Panish, M.D., Edward T. Stewart, M.D., and Jerome D. Waye, M.D.

N Engl J Med 2012; 366:687-696 | February 23, 2012

EARLY DETECTION AND REGISTRATION LAW OF CANCER (KFRG) FROM 9.4.2013

- regular personal invitation
 - Informed decision making
 - **all social strata of the population**
 - **flexible borders for entrance**
 - **nationwide clinical cancer registries**
 - **quality assurance**
-



COMPARISON BETWEEN i-FOBT v. g-FOBT

i-FOBT:



SENSITIVITY: **0,87**; 95% confidence interval: 0.73 - 0.95

SPEZIFICITY: 0.93; 95% confidence interval: 0.84 - 0.96

g-FOBT:



SENSITIVITY: **0.47**; 95% confidence interval: 0.37- 0.58

SPEZIFICITY: 0.93: 95% confidence interval: 0.91- 0.95

GERMAN S3-GUIDELINES FOR CRC

S3-Leitlinie Kolorektales Karzinom

Kurzversion 1.1 – August 2014

AWMF-Registernummer: 021/007OL

☆ SPEZIFICITY

IDENTIFICATION OF PERSONS WITHOUT DISEASE

4.10.	Immunologische FOBt (iFOBt) mit nachgewiesener hoher Spezifität >90% und Sensitivität können alternativ zum Guaiak-Test eingesetzt werden.	0	3a
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☆ SENSITIVITY

IDENTIFICATION OF PERSONS WITH DISEASE



RISK-ADAPTED EARLY CANCER DETECTION

-Relatives with CRC-

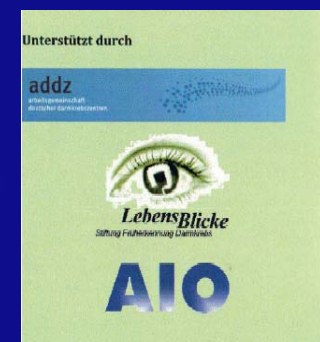
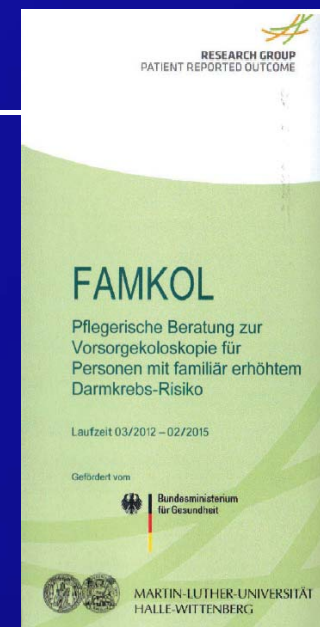
Family history : key to Diagnosis!

1. grade relatives of patients with CRC:
colonoscopy 10 years prior to beginning of the
disease of the index-patient
at the latest with **40 - 45** years.
Polyp-free colon : control every 10 years

1. grade relatives of persons with adenoma prior
to age 50_
colonoscopy 10 years before index age
(control every 10 years)

Schmiegel W et al., Z Gastroenterol 2008

S3-Leitlinien-Update 2014



STRATEGIC PERSPECTIVES

- ★ Non-invasive, cost-effective filter-technologies with high specificity and sensitivity for advanced neoplasias
- ★ i.e. molecular Fecal-/Bloodtests, Imaging (capsule)
- ★ new riskgroups (men, massive overweight)
- ★ resect and discard – strategy for polyps 5mm und <
- ★ validating of follow-up examinations

PERSONALISED PREVENTION



MEN DO HAVE AN EARLIER COLON CANCER RISK

★ **NNS for men 5,4** – for women 9,3 (Adenomata)
(Number needed to screen)

★ genderspecific age shift also in women with CRC
55-59 y men (NNS 75) get CRC as frequent as
65-69 y women (**NNS 81,8**)

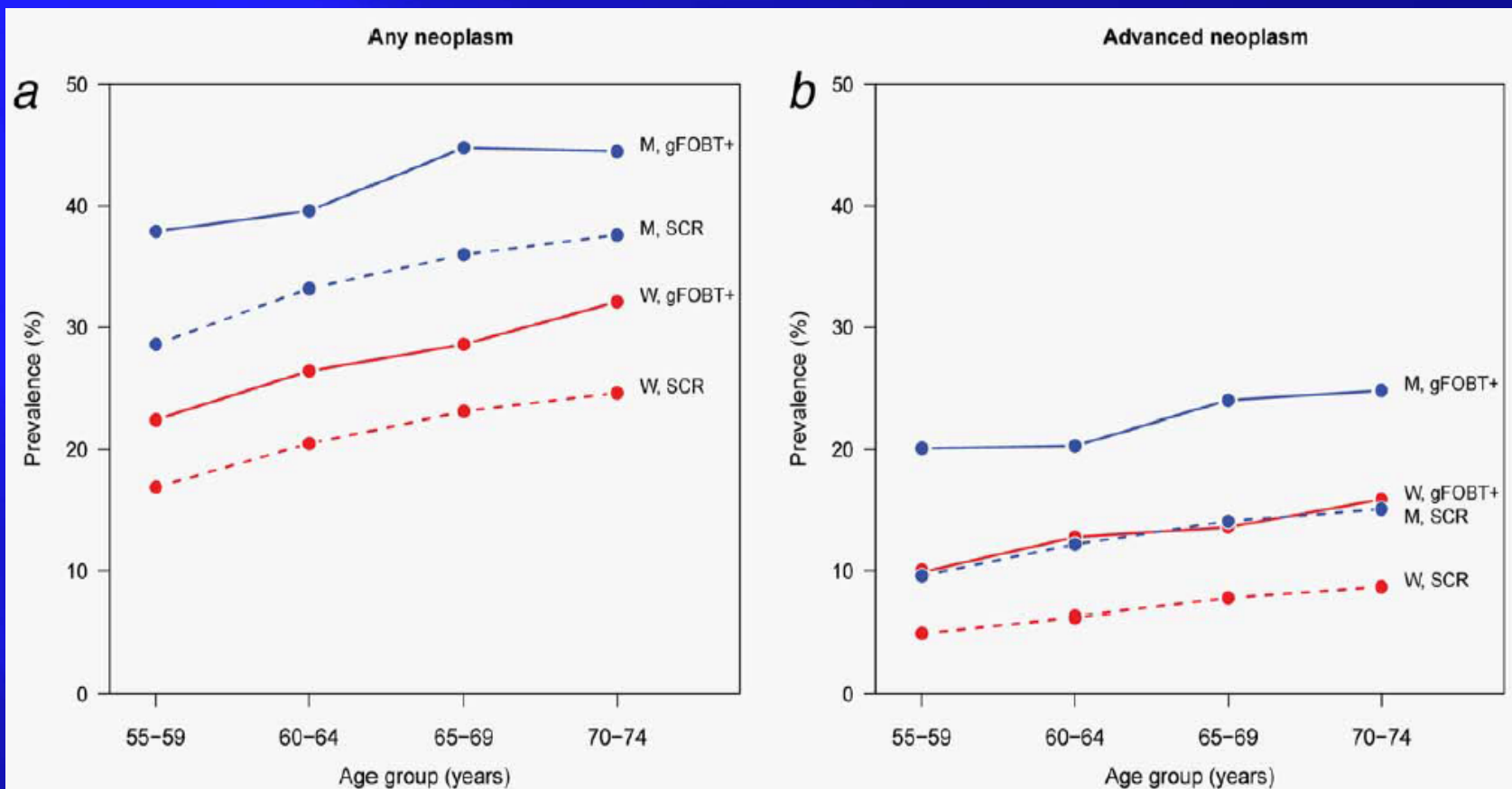
Ferlitsch, Monika et al., JAMA 2011

★ **NNS for men 13,5** – for women 24,9
(one advanced adenoma in the age of 55)

Kolligs et al., PLoS ONE 2011

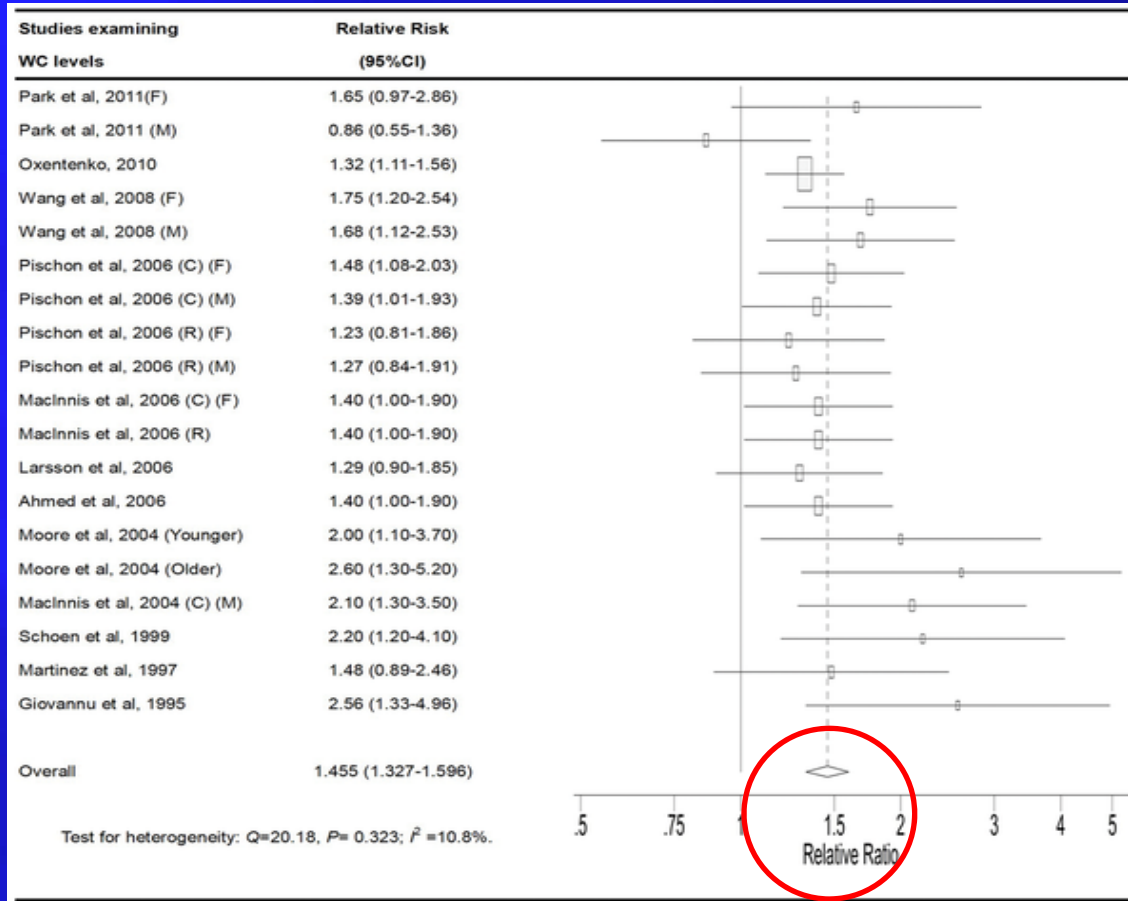


MEN (FOBT-) HAVE A HIGHER CRC-PREVALENCE COMPARED TO WOMEN FOBT+



Brenner et al. Int J Cancer 2013

RELATIVE RISK: BODY WEIGHT AND COLON CANCER



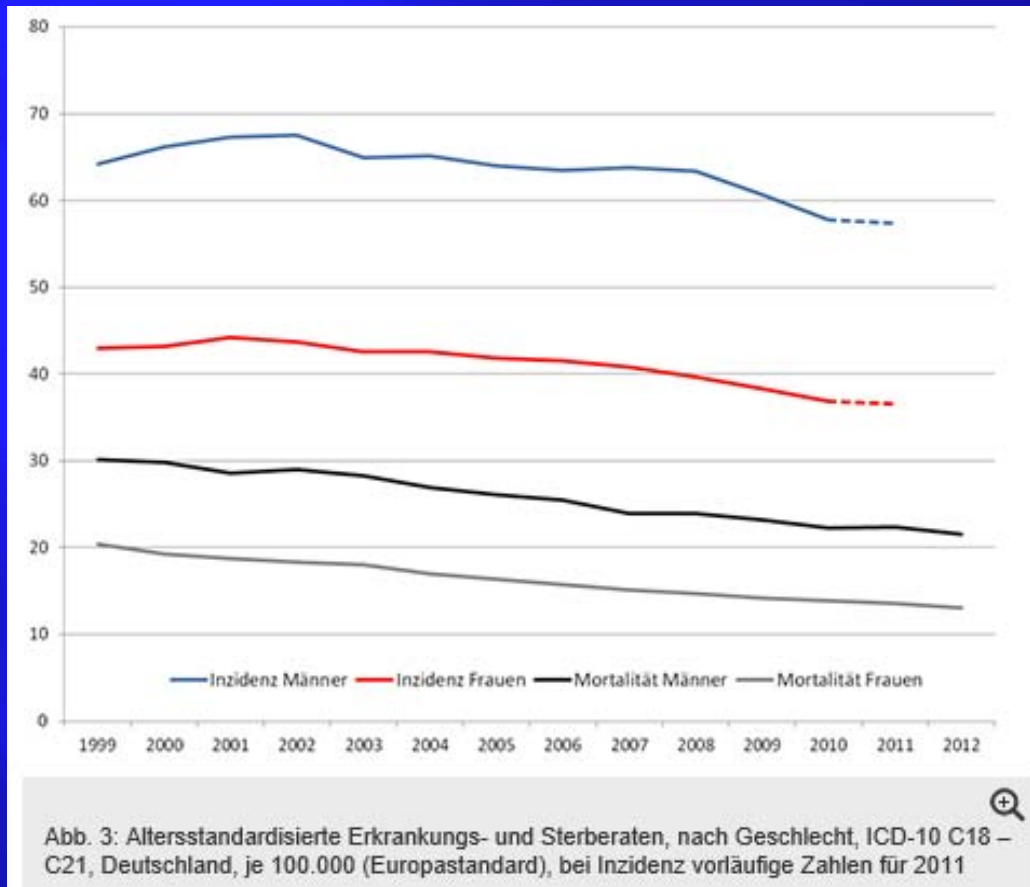
Metaanalysis:

colorectal cancer
and
abdominal measurement
women > 90
men > 100

Ma Y, Yang Y, Wang F, Zhang P, et al. 2013 PLoS ONE 8



COLON CANCER : DECLINING TRENDS ARE CONTINUING

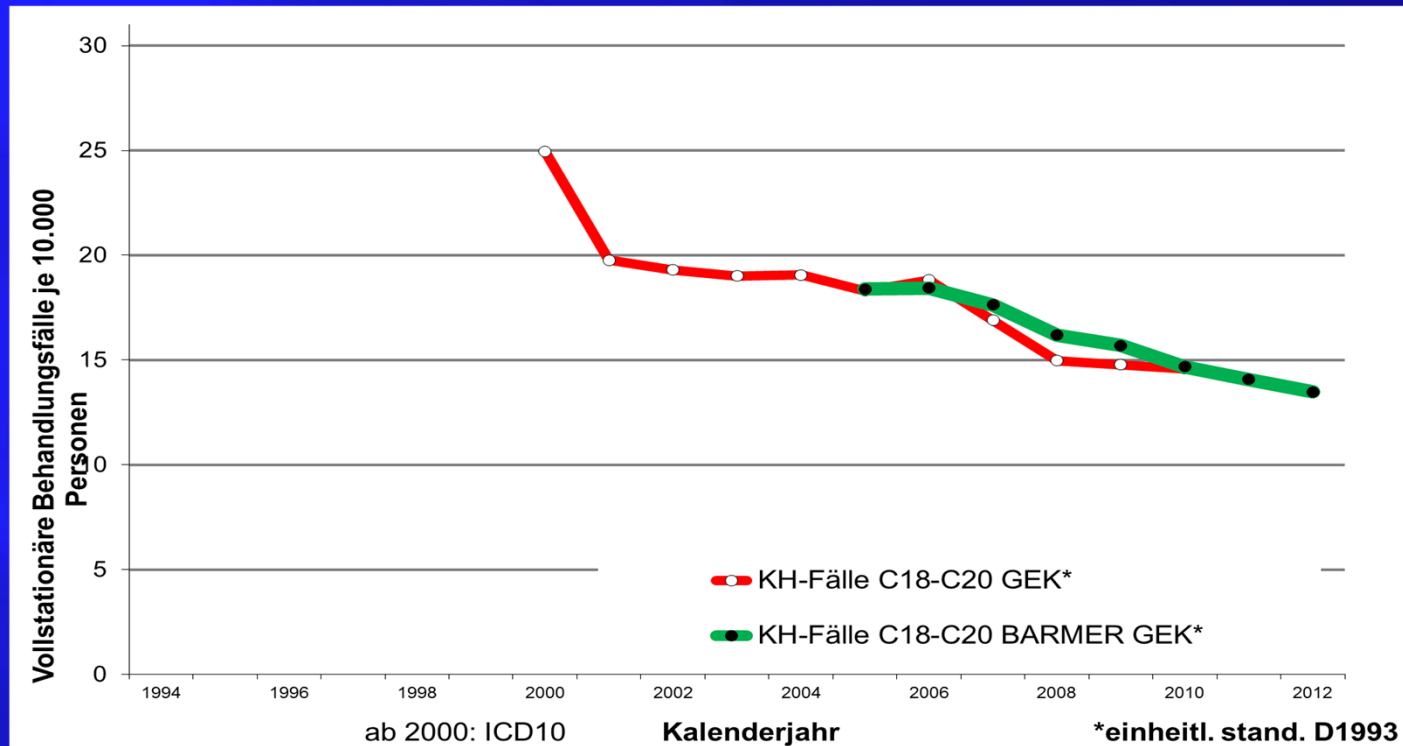


2010
62.420 new cases

2010
26.000 fatalities

ZfKD 2014

HOSPITAL COLON CANCER CASES ARE DECLINING





COLON CANCER IS PREVENTABLE!

**THANK YOU
FOR YOUR ATTENTION**

