



Colorectal cancer screening in Hungary: have we made any progress in the last 2 years?

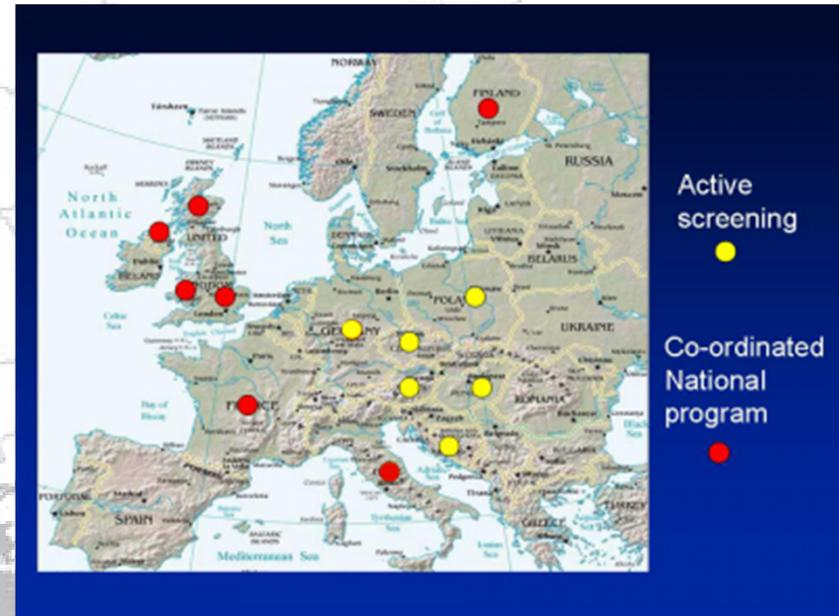
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What is the Size of the Problem?

Why should the screening for CRC be a prominent issue in Hungary?





HUNGARY (2012)
ESTIMATED CANCER INCIDENCE, ALL AGES: BOTH SEXES

N.2. →

Cancer	Numbers	Crude Rate	ASR (W)	Cumulative Risk
All cancers excl. non-melanoma skin cancer	50475	507.3	285.4	28.25
Bladder	2689	27.0	14.1	1.74
Brain, nervous system	595	6.0	4.1	0.40
Breast	5094	97.5	54.5	5.91
Cervix uteri	1178	22.5	18.0	1.62
Colorectum	8442	84.8	42.3	5.04
Corpus uteri	788	15.1	7.5	0.94
Gallbladder	646	6.5	2.9	0.32
Hodgkin lymphoma	154	1.5	1.4	0.11
Kaposi sarcoma	8	0.1	0.0	0.00
Kidney	1554	15.6	9.1	1.03
Larynx	986	9.9	6.3	0.74
Leukaemia	1111	11.2	6.8	0.68
Lip, oral cavity	1524	15.3	9.7	1.12
Liver	630	6.3	3.3	0.40
Lung	9288	93.4	51.6	6.26
Melanoma of skin	1117	11.2	7.1	0.73
Multiple myeloma	257	2.6	1.2	0.16
Nasopharynx	115	1.2	0.8	0.08
Non-Hodgkin lymphoma	987	9.9	5.9	0.64
Oesophagus	603	6.1	3.6	0.44
Other pharynx	1057	10.6	7.0	0.81
Ovary	999	19.1	10.6	1.17
Pancreas	1856	18.7	9.3	1.10
Prostate	3167	67.0	37.5	4.82
Stomach	1951	19.6	9.5	1.10
Testis	566	12.0	10.9	0.82
Thyroid	686	6.9	5.0	0.50



World Health Organization

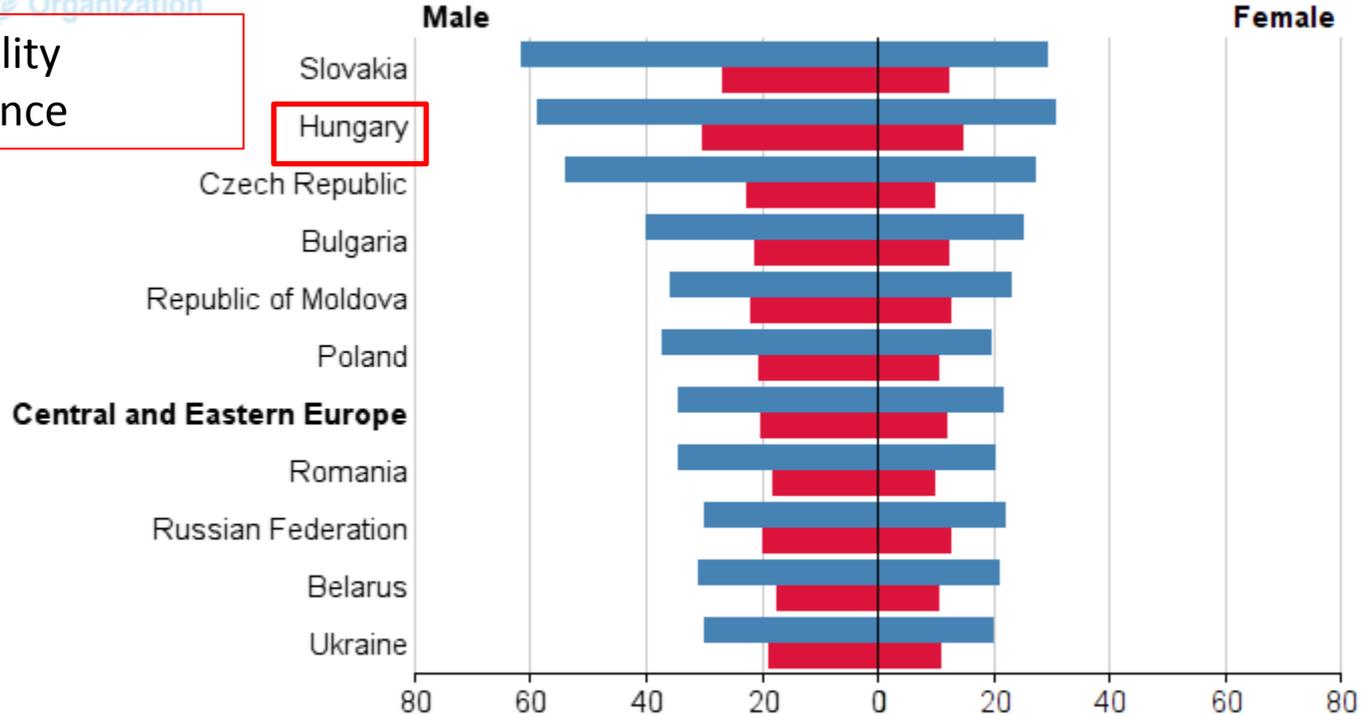
Semmelweis University Hungary

Incidence and mortality of colorectal cancer in Central and Eastern Europe 2012

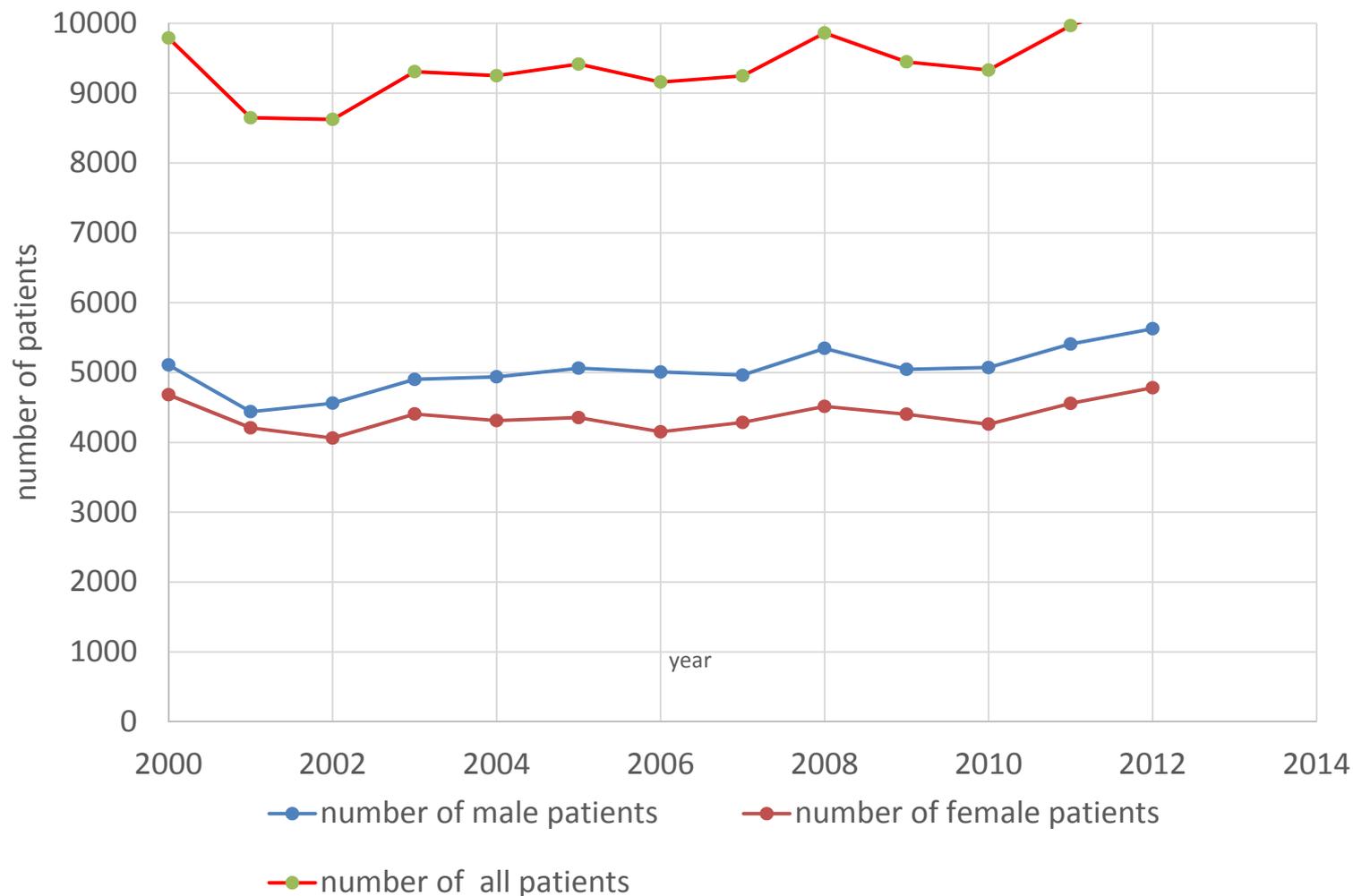
International Agency for Research on Cancer Colorectum
ASR (W) per 100,000, all ages



N.1. in CRC mortality
N.2. in CRC incidence



Patients number of colorectal cancer in Hungary between 2000-2012



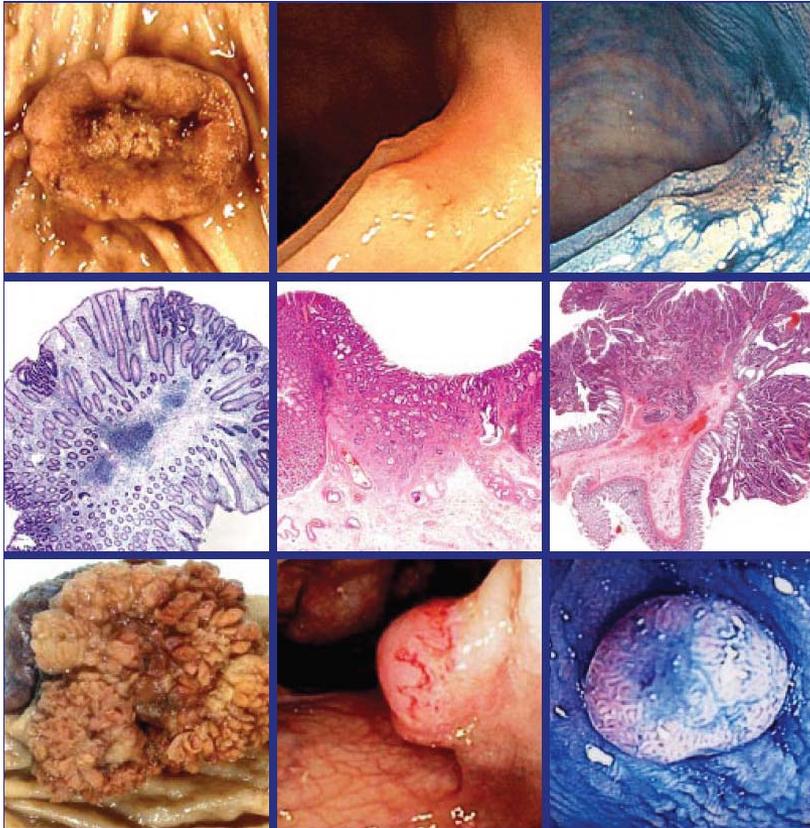
Mortality by sex and selected causes of death (deaths per hundred thousand population)*

Év Year	Daganatok Neoplasms (C00–D48)	Ebből: Of which:				Keringési rendszer	Légző- rendszer	Emésztő rendszer	Ebből: máj- betegség	A morbi- ditás és mortalitás külső okai External causes of morbidity and mortality (V01– Y98)	Összesen Total
		vastagbél és végbél rossz- indulatú daganata malignant neoplasm of colon and rectum (C18– C21)	légcső, hörgő és tüdő rossz- indulatú daganata malignant neoplasm of trachea, bronchus and lung (C33, C34)	női emlő rossz- indulatú daganata malignant neoplasm of breast (C50) ^{a)}	méhnyak rossz- indulatú daganata malignant neoplasm of cervix uteri (C53) ^{a)}						
						of the circulatory system (I00–I99)	of the respi- ratory system (J00– J99)	of the digestive system (K00– K93)	of which: diseases of liver (K70– K76)		
		Együtt – Total									
1980	260,8	33,0	48,2	x	x	718,0	93,7	65,7	28,4	114,7	1 357,0
1990	301,0	40,8	66,6	x	x	734,9	64,0	86,9	53,7	128,0	1 404,1
2000	329,8	47,9	76,6	x	x	674,5	50,6	98,4	67,4	93,4	1 328,0
2005	317,8	45,2	75,1	x	x	703,3	64,5	84,3	54,8	79,2	1 345,6
2006	321,7	46,6	76,7	x	x	660,9	62,4	85,8	54,4	75,4	1 306,7
2007	325,7	47,5	81,1	x	x	661,8	67,3	87,7	55,7	74,0	1 322,0
2008	326,5	47,3	83,0	x	x	645,0	62,1	84,4	52,5	73,3	1 295,3
2009	331,0	49,4	84,3	x	x	647,7	64,5	82,0	50,7	71,6	1 301,2
2010	330,8	49,6	86,5	x	x	658,2	62,5	77,4	46,2	70,7	1 304,6
2011	333,7	50,7	85,6	x	x	644,3	66,1	73,3	41,9	67,4	1 291,6
2012	340,6	51,2	89,7	x	x	646,9	68,4	68,7	37,3	65,7	1 304,8
2013	336,3	51,6	86,8	x	x	636,6	70,8	64,6	33,6	61,9	1 281,5

* A 2005. évtől a halálóki feldolgozásban változás történt. A kézi módszert felváltotta az automatikus halálóki feldolgozás, mely során a szöveges halálóki bejegyzések kódolása és a statisztikában közölt elsődleges halálók kiválasztása gépi úton készül. – *The method of causes-of-death data processing was changed in 2005. Manual coding has been replaced by automated processing in which the coding of diagnose texts and the selection of the underlying cause are carried out by a software.*

a) A táblázatban szereplő halálókok közül csak a nemekre meghatározóakat közöljük. – *From the causes of death only the typically relevant to sexes were published.*

PRELIMINARIES



European guidelines for quality assurance in colorectal cancer screening and diagnosis *First Edition*



European Commission

European guidelines



FOBT should be the 1st test
for screening

„Budapest-kiáltvány”

New European Initiatives in Colorectal Cancer Screening: Budapest Declaration

Official Appeal during the Hungarian Presidency of the Council of the European Union under the Auspices of the United European Gastroenterology Federation, the European Association for Gastroenterology and Endoscopy and the Hungarian Society of Gastroenterology

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Béla Molnár^{b, c} Jean-Christophe Saurinⁱ Jaroslaw Regula^j Alberto Malesci^f
Luigi Laghi^g Tamás Pintér^d Béla Teleky^k Petr Dítě^l Zsolt Tulassay^{b, c}

Appeal for politicians and decision makers to pay more attention to the importance of colorectal cancer screening

Earliest pilot CRC screening studies in Hungary

4. táblázat

	Világbanki csoport	Ajka-Lovászpataka	Budapest IX. ker	Budapest XIV. ker	Békéscsaba-2006	Balatonfüred	Kecskemét	Nagyatád
Vizsgálandó populáció	21 950	8 686	11 978	25 134	10 753	3 450	25 033	5 000
Kiküldött levelek száma			11 978	25 134	10 753	3 450	3 227	2 507
Kiadott kazetták száma					3 834	2 485	3 089	2 507
Beérkezett székletminták száma	6 805	3 996	4 013	10 216	2 763	2 010	3 089	2 507
FECA-teszt pozitív (alb+Hgb)	224	167	213	475	149	121	401	212
HGB pozitív	7	19						
Albumin pozitív	146	135						
Kolonoszkópiára javasolt	377	321	213	475	157	121	401	206
Kolonoszkópiát elutasítók	134	23			25	24	38	112
Folyamatban lévő kolonoszkópia								20
Elvégzett kolonoszkópia	243	298	56	200	108	97	197	74
Negatív kolonoszópia eredmény	35	90	5	76	31	41	124	18
Nem negatív kolonoszópia	208	208	51	124		56	38	56
Polyp	59	67	19	50	40	25	36	16
Rosszindulatú daganat	12	13	4	2	6	2	1	8
Egyéb	137	128	28	72	31	29	1	32

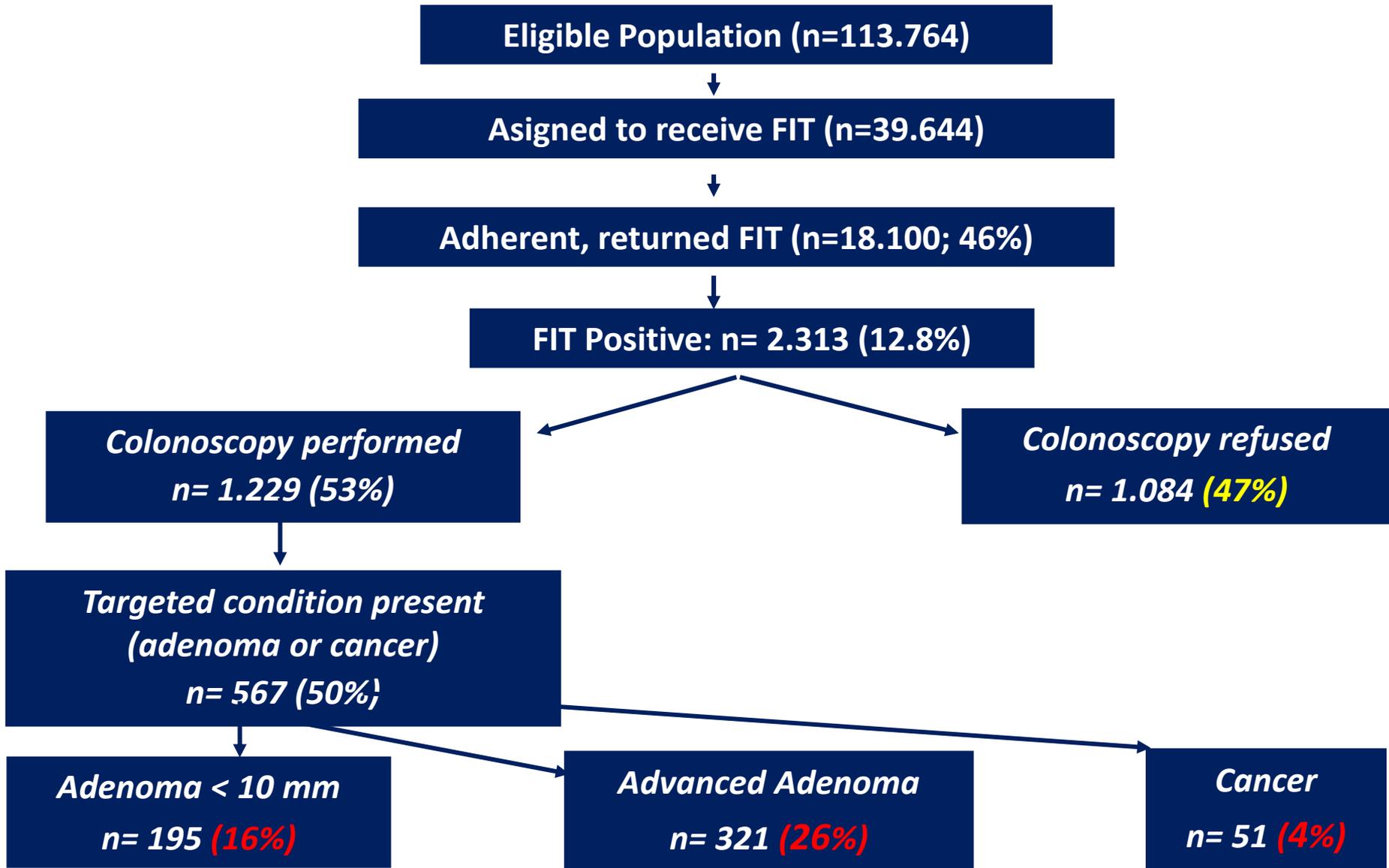
Earliest pilot CRC screening studies in Hungary

approx. 1,5 per 1.000
had colorectal cancer

Hypoth.:
In Hungary, with a population of 10.000.000,
expected No. of CRCs:
15.000

										Total	Mean
Population screened										111984	13998
Samples returned										35399	4424,875
samples / pop.											37%
Positive FOBTs	224	167	213	475	149	121	401	212	1962	245,25	
pos. FOBTs / samples											6%
Colonoscopies									1273	159,125	
Result: NOT negative									818	102,25	
Result: CRC									48	6	
CRC / samples	0,17%	0,33%	0,09%	0,02%	0,22%	0,10%	0,03%	0,32%			0,16%

Results of a Piloting Screening Programme (Budapest)



Current data



CHANGES IN THE CHARACTERISTICS OF COLORECTAL CANCER IN THE LAST 15 YEARS

Molnár S., Juhász M., Mihály E., Miheller P., Müllner K., Sipos F., Székely H., Lippai D., Kocsis D., Péter Z., Németh A., Tulassay Z., Herszényi L.

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The incidence of colorectal cancer (CRC) increased in the last years in Western-countries and Hungary, and the disease starts to develop in an earlier age group. In general 70% of CRC is localised in the left colon and rectum, but recent studies suggest an increasing trend of right-sided tumors.

Aims: to investigate the prevalence of CRC, and to examine distribution of the gender, age and location over a 15-year period in our academic centre. Methods: a retrospective review of endoscopic and histologic records of patients with CRC between 1998 and 2013 every three years has been performed.



**Study periode: 15 years
(examined years were 1998, 2001, 2004, 2007, 2010 and 2013)**

Number of patients underwent colonoscopy	N=9708
Number of CRC	N=303 (3%)
Mean age of CRC patients at time of diagnosis	67,5 years
Between 1998-2001 the mean age of CRC patients	70-80 years
2013 the mean age of CRC patients	60-70 years
Overall rate of right-sided CRC	30% female-male rates: 25-19 % in 1998 29-10 % in 2001; 16-14 % in 2004 26-21 % in 2007 24-16 in 2010 9-14 % in 2013



Conclusion:

- The prevalence of CRC increased significantly over a 15-year period in our high-volume academic endoscopic centre between 1998 and 2013 (2.48 % and 3.57%, respectively $p < 0.05$), which represents an increase of 14 %.
- We confirm a significant decrease in the average age of onset.
- We demonstrate a significant increase in the prevalence of rightsided tumors, especially in female patients

Health Benefits and Cost-effectiveness of a Hybrid Screening Strategy for Colorectal Cancer

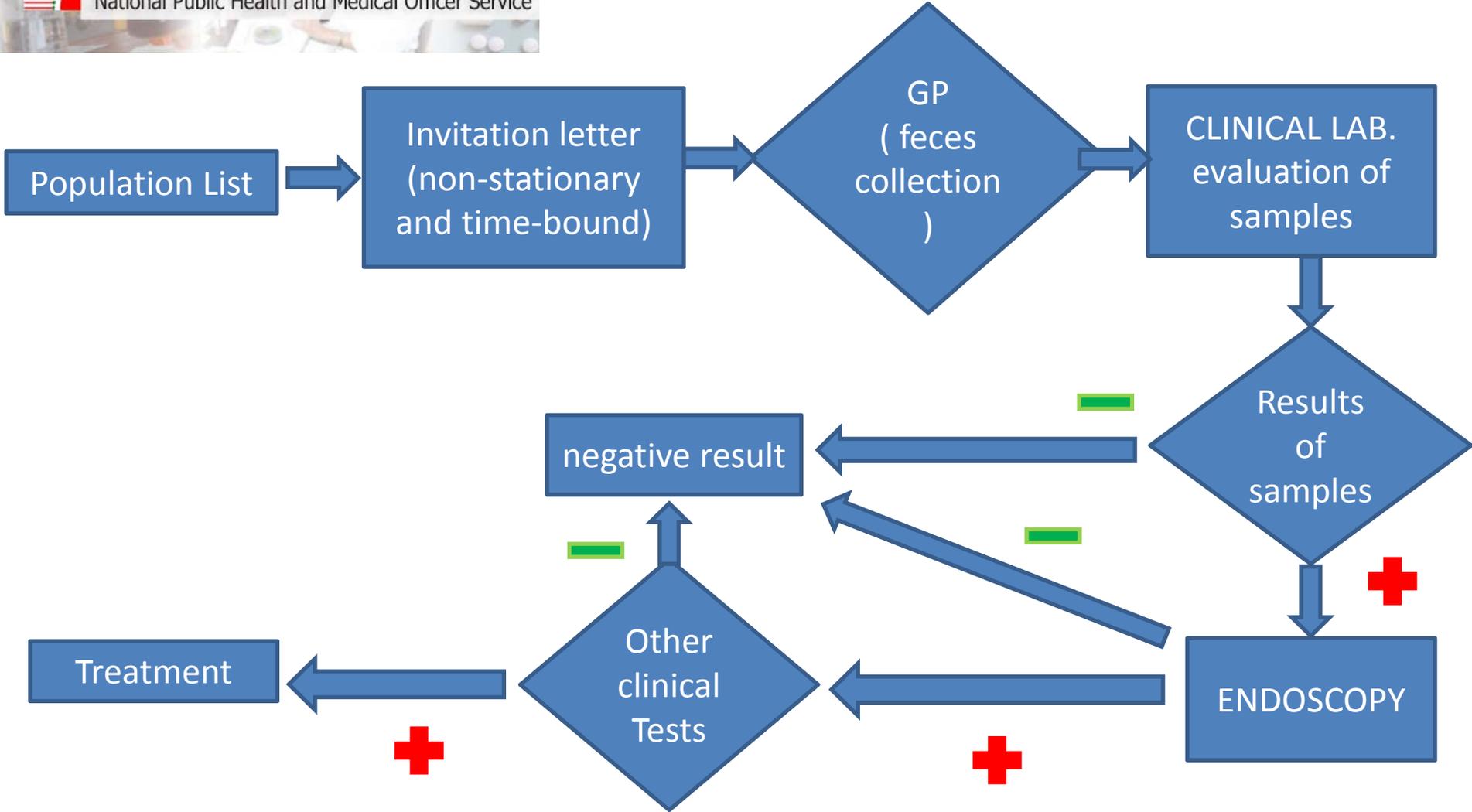
TUAN DINH,* URI LADABAUM,[‡] PETER ALPERIN,* CINDY CALDWELL,[§] ROBERT SMITH,^{||} and THEODORE R. LEVIN[§]

The essence of „Hybrid strategy”

- 50 years and older: annual / biannual FIT
- 65 years: a single colonoscopy ("Once in a lifetime colonoscopy")
- Modeling:
 - Cost-effective
 - Hybrid screening strategy rests less on Health Care System than one method screening



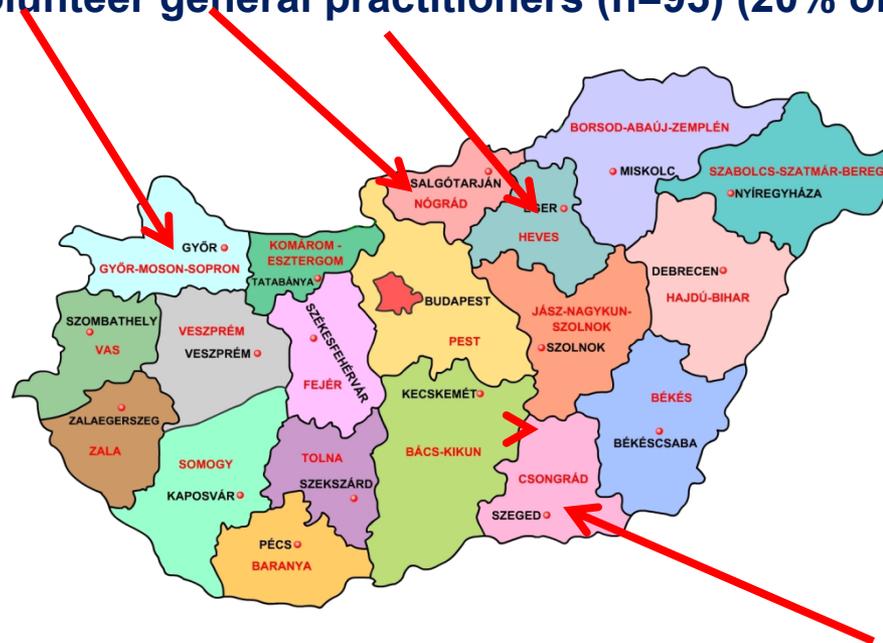
Process of colorectal screening



Pilot colorectal screening programs in Hungary

2013-2015:

- FOBT-based CRC screening for people between 50-70 years of age in 3 counties (Győr-Sopron-Moson, Nógrád, Heves)
- Number of volunteer general practitioners (n=95) (20% of total number of GP)



2014-2015:

- another FOBT-based CRC screening in the county of Csongrád (Hungary has 19 counties)

„Pilot” screening: baseline data

Year 2013 (10-01-2014)	Colorectal carcinoma screening			Total
Counties:	Győr-Moson-Sopron	Heves	Nógrád	
The number of volunteer general practitioners	52	25	18	95
The number of screening packages transferred to general practitioners	12 045	4 100	2 599	20 744
The number of addressed residents	12 601	5 343	3 751	21 695
The number of screening packages transferred residents	6 115	1 748	1 343	9 206 (42%)
The number of labor screening	4 922	1 452	1 085	7 459 (81%)
Negative	4 186	1 260	926	6 372
Positive	434	142	87	663 (7.2%)
Uninterpretable	302	50	72	424 (4.6%)
Number of colonoscopy	211	95	51	357 (54%)

Results of a Piloting Screening Programme Győr-Moson-Sopron county Mosonmagyaróvár city

Number of volunteer general practitioners (n=11/38 29%)



Assigned to receive FIT test (n=3573)

Adherent, returned FIT (n=1573; 42,9%)

FIT Positive: n= (n=158 10,2%)

Colonoscopy performed
n= 148 (93,9%)

Colonoscopy refused
n= 10 (6%)

*Targeted condition present
(adenoma or cancer)*
n= 106 (71%)

Cancer n= 9 (4%)
(Dukes A: 3, B1: 2, B2: 2, C: 2)

Polyps n=211

- 8% hyperplastics polyps
- 64% tubular adenomas
- 24% tubulovillous adenomas
- 4.3% of polyps had low-grade,
- 2% of polyps high-grade dysplasia



What have we learned during this pilot study?

- compliance of patients in first step of this voluntary screening program was average and extrem high in second step
- good communication in media has played a key role in high colonoscopy participation
- compliance of GP doctors was low
- in the screening program predominantly precancerous lesions and cancers of early stages were found
- carry out adequate follow-up those patients in the program who have undergone endoscopic polypectomy or surgery

Results of a Piloting Screening Programme Győr-Moson-Sopron county Győr city

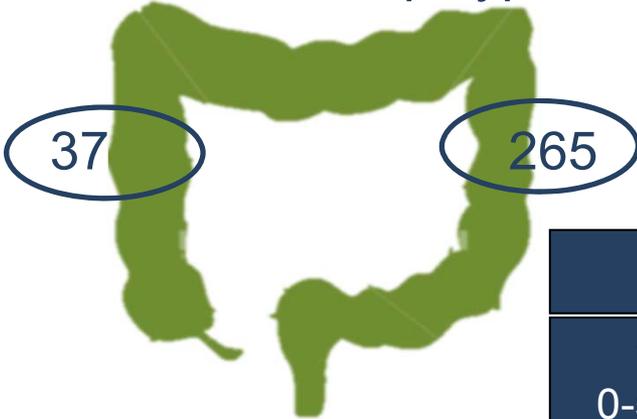


**Colonoscopy performed
n= 132 (93,9%)**

**Polyp (1 or more)
N=102 (74.4%)**

**Cancer
N=4 (2.9%)**

Total: 302 polyp



302 db polyp		
100 0-5 mm	121 5-10 mm	81 >10 mm

Colon histology:
adenoma:130 (19 HGD)
TSA:6
Hyperplastic type:58



What have we learned during this pilot study?

- **FIT: high specificity ($\cong 75\%$)**
- **no support from the National Health Insurance:**
after a certain limit, the more colonoscopies you perform the more money you lose
(performance volume limit)
- **load of colonoscopic centre increased with 20%**

Lack of motivation:

- **„Enthusiasm-based” screening (no „pay for performance”)**
- **Passivity of GP doctors (1/3 did not take part)**

Results of a Piloting Screening Programme Csongrád county

From November 2014 to May 2015



In progress....

Districts of Csongrád county	Number of Settlements in the district	Number of residents in the district	Number of volunteer general practitioners
Csongrádi járás	4	22 633	7
Hódmezővásárhelyi járás	4	56 902	13
Kisteleki járás	6	18 152	9
Makói járás	15	44 481	12
Mórahalmi járás	10	29 535	11
Szegedi járás	13	206 605	58
Szentesi járás	8	41 058	7
Total:	60	419 366	117

Experiences of pilot studies

- would be more appropriate to involve all GP doctors in a particular county, rather than "voluntary" GP doctors
- "ad hoc" ("Pilot") screenings are not suitable for
 - epidemiological comparisons
 - determine the effectiveness of screening

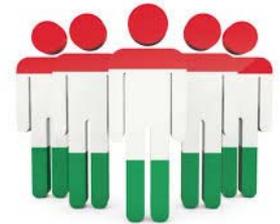
- no "breakthrough"



Finally some questions that (should) bother us in Hungary



Why do we have so many CRCs at all?



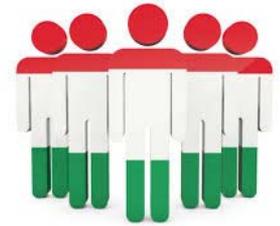
Endogenous factors:

- genetics?

Exogenous factors:

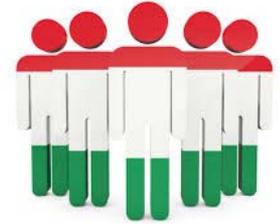
- Hungarian food, few sports > obesity
- 10-14 hours work, 6-7 days a week
- smoking
- low calcium and vitamin-D intake
- ???

Why do we have such a high CRC mortality?



- factors shown just before (high incidence)
- **failure to diagnose CRC early**
 1. low public awareness, generally negative attitude to HEALTH
 2. low media interest
 3. currently CRC is not an issue discussed in our Parliament
 4. no motivation for GPs, and GEs
 5. low screening / endoscopic capacity
 6. less and less GEs (migration to WE), ever growing work load
 7. g.i. procedures extremely under-sponsored by national health insurance
 8. only scattered pilot studies, no population based CRC screening
- effectiveness of oncoteams?

Solution? – Raising the interest



In the box:

- more celebs, or relatives of people in charge affected with CRC
- wind of change sweeping through the minds of:
 - general population
 - media workers
 - politicians
 - health care providers

Out of the box:

- any support (financial, designs, experience, etc.) is welcome