



IMPROVEMENT OF QUALITY OF THE NATIONAL CANCER SCREENING PROGRAMMES IMPLEMENTATION (CRO SCREENING)



MINISTRY OF HEALTH
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CROATIAN PERSPECTIVE OF EFFICIENT COLORECTAL CANCER (AND PRECANCEROUS LESIONS) SCREENING

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Incidence and mortality rate

INCIDENCE:

1990.g.- 1648 (34,5/100.000)

2014.g.- 3127 (72/100.000)-change 89%

1884 M i 1243 F

MORTALITY:

1990.g.- 1049 (21,9/100.000)

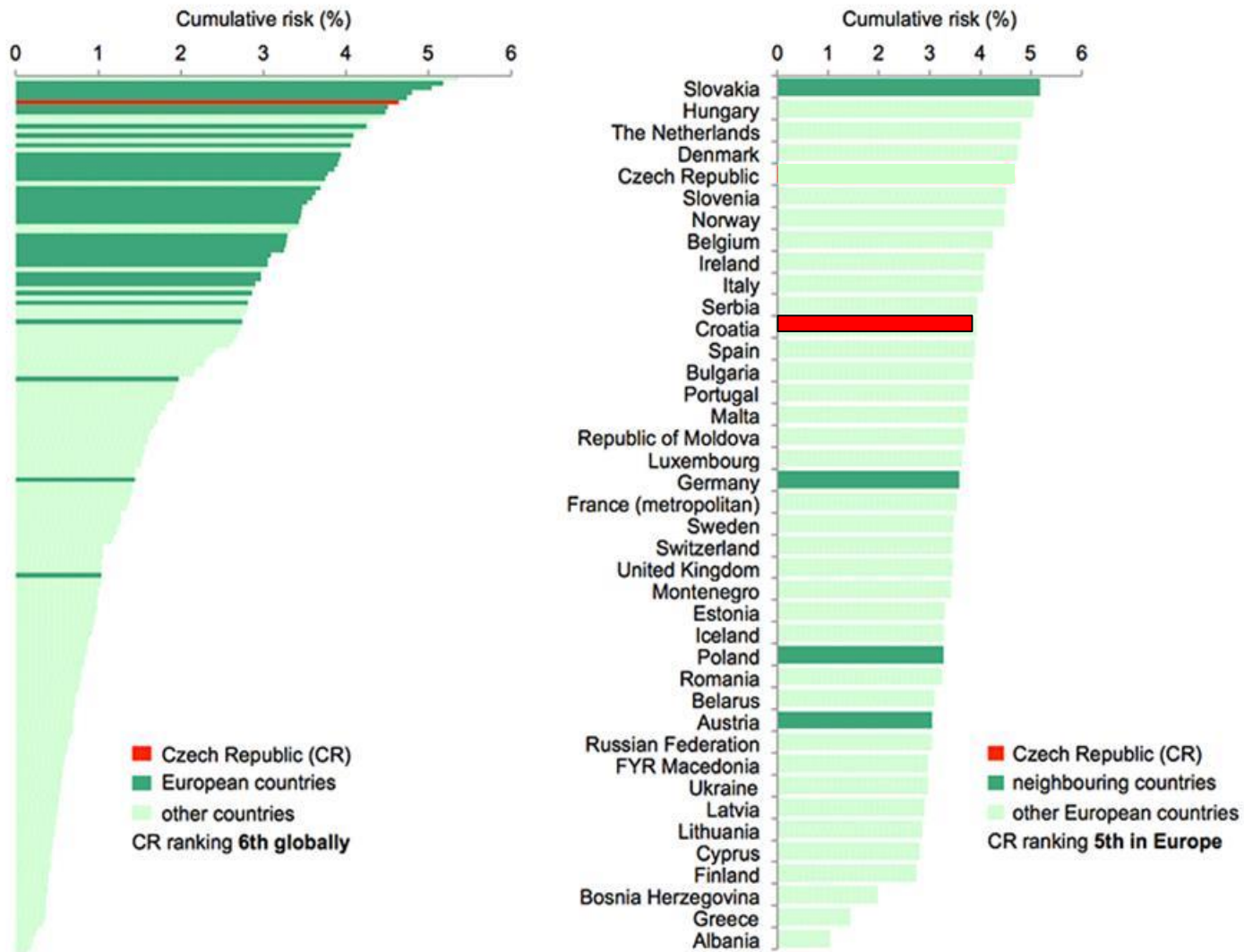
2014.g.- 2094 (48/100.000)-change 99,6%

1237 M i 857 F

Standardized mortality rate 1990.=20,5/100000

2014.=29,9/100000 (change 45%)

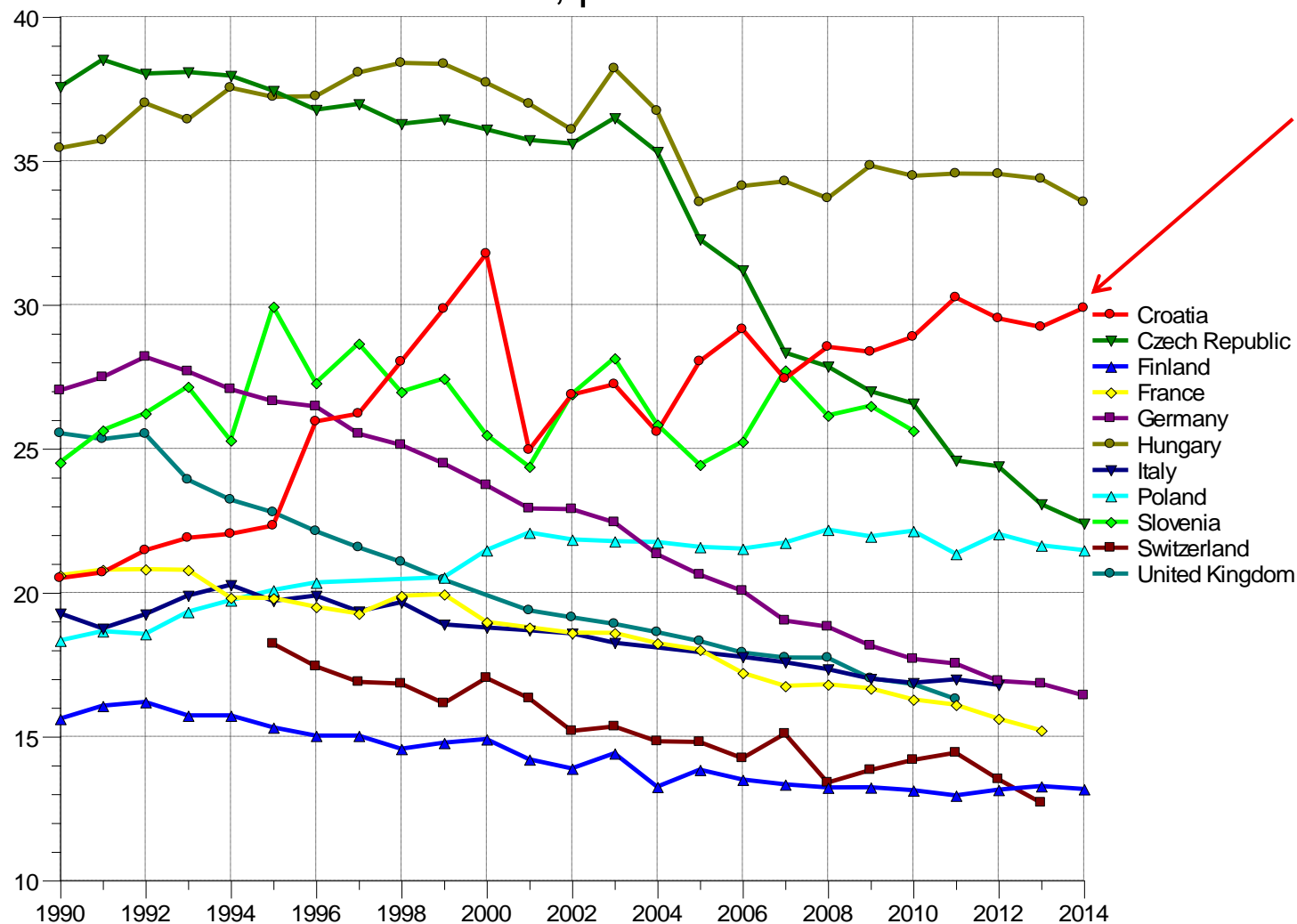
International comparison of cumulative risk of colorectal cancer (C18–C21) from birth to 75 years of age. both sexes.



Source: Ferlay, J., Soerjomataram, I., Ervik, M., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., Parkin, D.M., Forman, D., Bray, F.: GLOBOCAN 2012 v1.0. Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [online]. International Agency for Research on Cancer. Lyon (France) 2013. Available from: <http://globocan.iarc.fr>.

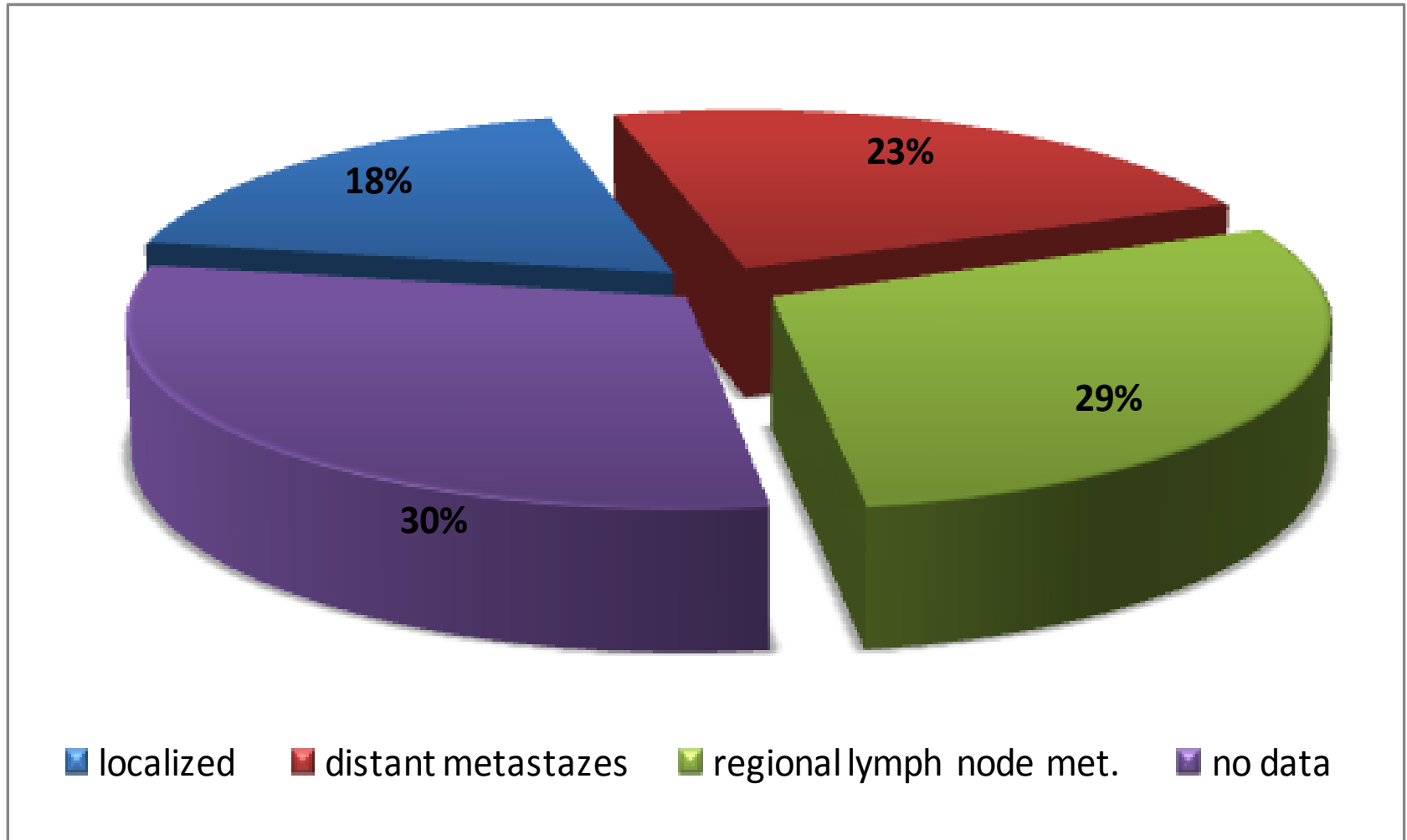
cummulative risk 0-75 g.=percentage of persons who will get cancer till 75 birthday

SDR, Malignant neoplasm of colon, rectum and anus, per 100000



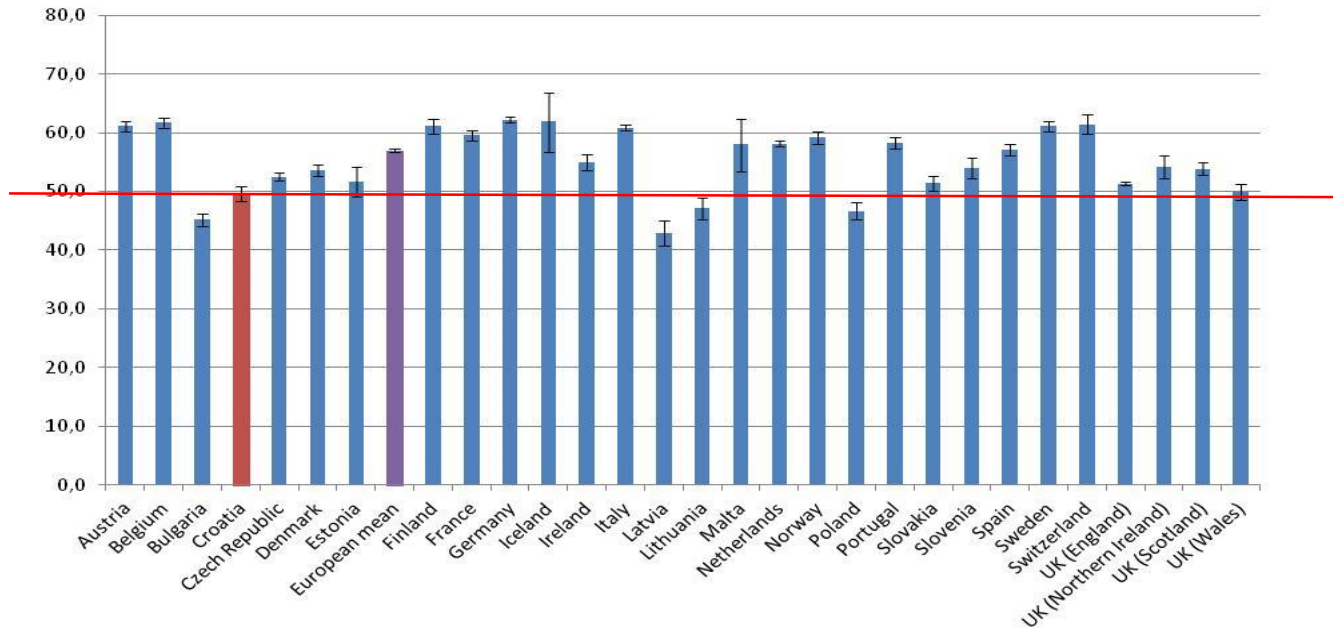
Data source: WHO Europa, mortality database, July 2016

CRC localization in time of diagnose

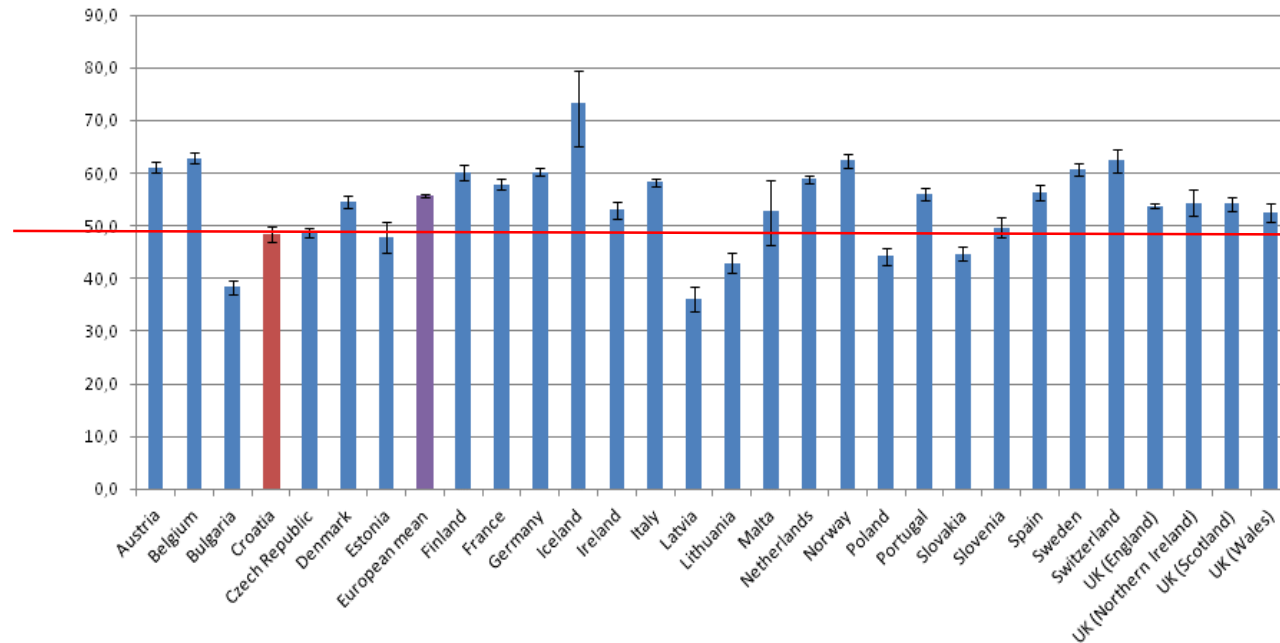


Data source: Cancer registry, Croatian Institute of Public Health

Colon cancer- 5 year survival



Rectal cancer 5-year survival



Postulates of screening

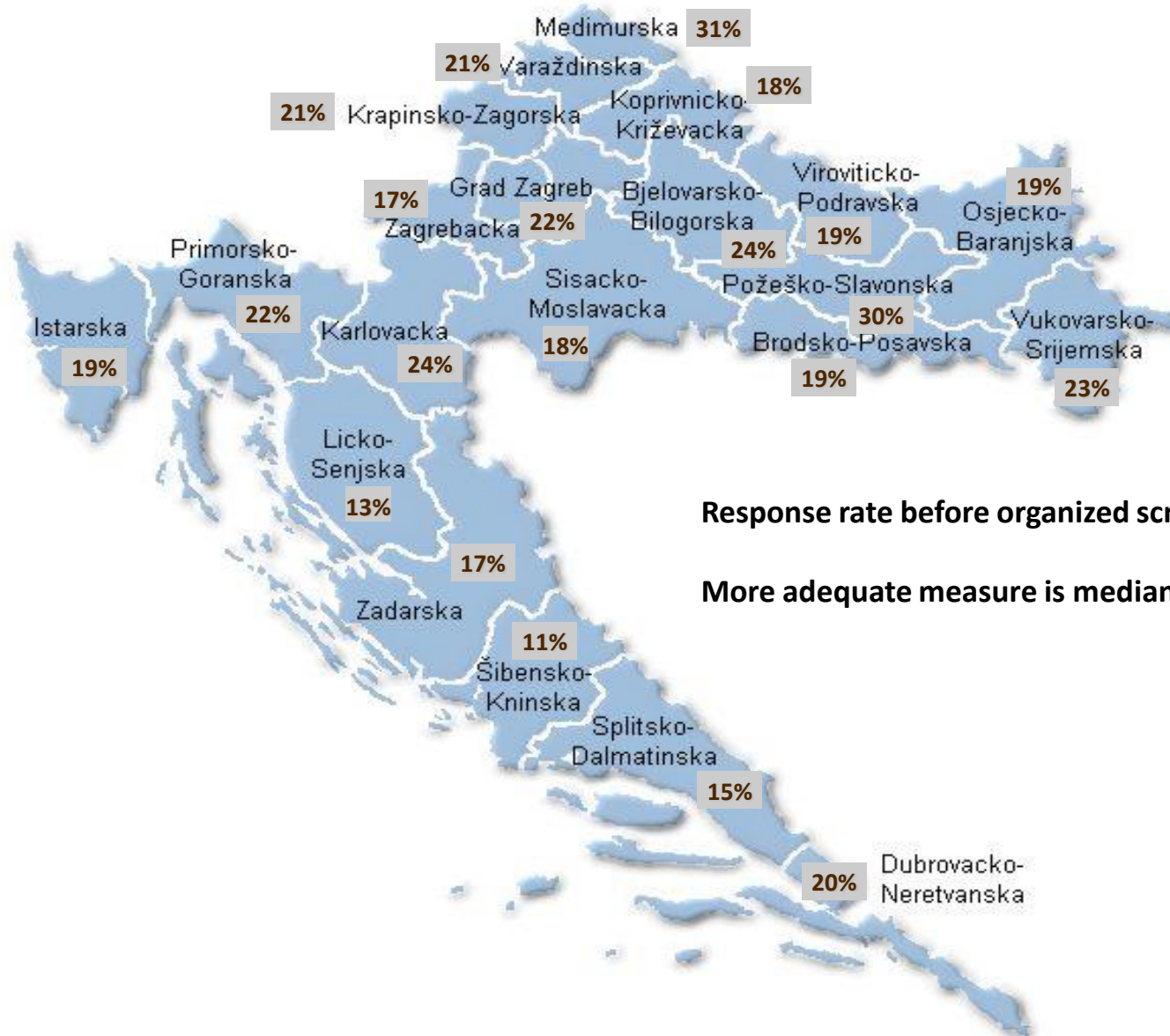
As it is recommended by the European Commission and the profession, screening should be organized, which means:

- defined legal framework including screening registry
- defined legal framework for population database and updating
- authorised institution dedicated to success in short time
- committee with true ability to make decisions
- annual financing with all components needed for good quality
- enough people at national level
- robust IT web based solution (financing for personel and continous upgrade and development)
- monitoring indicators of quality and the implementation of control of all the participants and improving the quality of each person indicators through specific education
- evaluation of screening and it's effects on share of localised CRC, number of people with polyps an finnaly on mortality rates

First cycle results

- lasted almost 5 years (instead 2), not to be real cycle
- began without necessary preconditions and preparations
- directed by MOH, started without IT support
- included 1.414.466 (99%) persons who were sent test-package
- 288.935 envelopes were returned (with or without specimens)-21% (according to EU guidelines in 1. cycle, expected values for national program: 17.2-70.8%)
- analysed 247.520 persons (3 test cards for each)
- FOBT positive persons: 15.578 (6,3%) → better compliance in already symptomatic people, hypersensitive test (EU guidelines expected values: 1.5-8.5%)
- colonoscopy done in 10439 people (80%)
- persons diagnosed with carcinoma: 564-2.3/1000 of tested (EU guidelines: 1.2-2.3/1000)
- persons diagnosed with polyp(s): 4117-39% of colonoscoped persons (EU guidelines: to 36,3%)
- 939 persons-negative (false positive-9%)
- persons diagnosed with haemorrhoids: 2983
- persons diagnosed with diverticula or other diseases: 1728

Geographical features, resources and population diversity-organizational challenge



Response rate before organized screening-6%!

More adequate measure is median, not average!

Primary care physicians, patronage nurses-informing eligible population before invitations,

eligible population M and F 50-74 yrs.

no response or dislike testing, second invitation, PCP, patronage

Letter-invitation for testing, brochure, addressed envelop to local public health institute

returned with information: dead, temporary absent, unknown (noncompliance)

person already have crc or done testing or colonoscopy in ast 2 years

returned answer, signed informed conset that like testing

send envelop with 3 card tests, prescription, questionnaire, pvc sealed package-patient returne specimens to institute

non-compliancecauses

correctly placed specimens on all 3 cards and fulfilled questionnaire

NEGATIVE- invitation after 2-3 years in next cycle

returned empty or fulfilled questionnaire or incorrectly placed specimens or cards without specimen-about 3% (in most cases tel. number and name of PCP, about 1/3 never send another specimen)

POZITIVE-invitation to colonoscopy+purisan+instructions

INFORMATION to primary care physician

within 6 weeks

consultation and additional advices at primary care physician

POZITIVE- Cancer-phd and final diagnose at colonoscopy unit NOT TO BE INVITED IN NEXT CYCLE! (STILL NOT APPLICABLE)

POZITIVE, OTHER DISEASES OF COLON OR RECTUM-instructions for management at colonoscopy unit

POZITIVE, POLYP-POLIPECTOMY at same, eventually next colonoscopy (regular procedure), waiting for phd and final diagnose at colonoscopy unit NOT TO BE INVITED IN NEXT CYCLE! (STILL NOT APPLICABLE)

NEGATIVE- INVITATION IN NEXT CYCLE AFTER 2 YEARS

INFORMATION to primary care physician

additional exams and staging of disease
THERAPY, TREATMENT

OUT OF PROGRAME

What have we done since 2012?

Numerous improvements to programs and activities related to education of the population:

- participation in meetings of associations of patients (eg. day of persons with stoma ILCO-Day of blue iris)
- purchased a colon model used in the education and promotion
- made the facebook page with a unique telephone number,
- call center for routing information
- TV spots that are broadcast on TV
- published in the widely circulated newspaper
- direct contact and training carried out by employees of Institute of Public Health
- instructions for the test on a hidden blood in the stool has been simplified, in line with recommendations from the European guidelines, accompanied by a picture representation of persons with disabilities in understanding
- easier stool sampling enabled by supplied trays for toilet

- quality control for colonoscopy examination (planned single, enabled by PC application)
- process of ensuring quality control reading test on a hidden blood in the stool for all employees of the Institute for Public Health-implementation currently ongoing in May 2015
- training of gastroenterologists in the workshop Croatian Society of Gastroenterology-endoscopic section, education coordinator
- European guidelines have been translated and published on the web CIPH and MZ web pages
- creation and implementation of the new web program with which will be able to track responses and improve the quality of the program, and a very important communication with family physicians (over CEZIH) and with the field nurses (already possible by web application, and soon over Web programs for field nurses)
- calling system and ordering connection with the system of e-orders for colonoscopy
- it takes some time to adjust all system participants to Web program achieved full functionality, and demonstrated value in the implementation and quality control of all participants

Results of National Colorectal Cancer Screening Program in Croatia (2007-2011)

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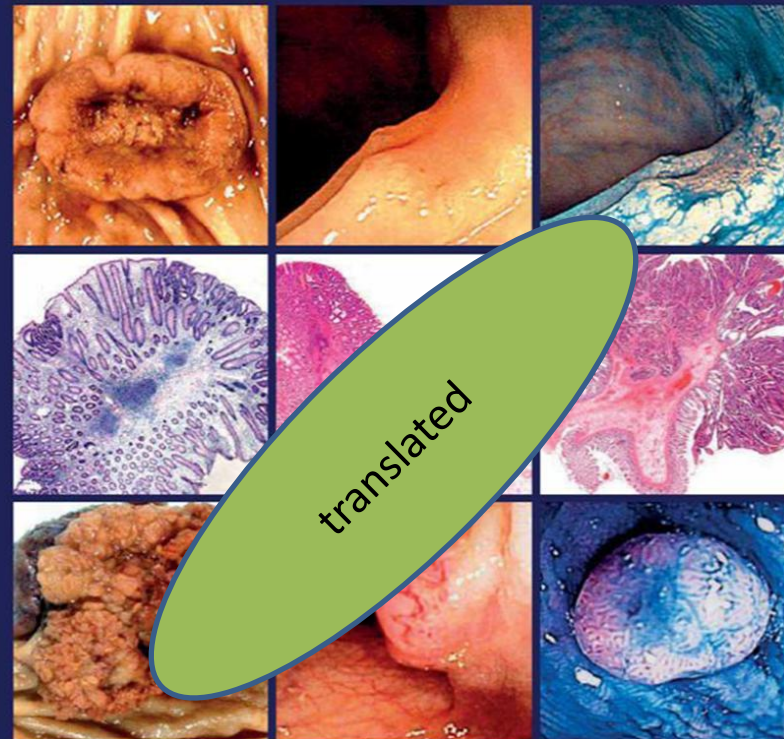
Abstract

AIM: To study the epidemiologic indicators of uptake and characteristic colonoscopic findings in the Croatian National Colorectal Cancer Screening Program.

METHODS: Colorectal cancer (CRC) was the sec-

ond leading cause of cancer mortality in men ($n = 1063$, 49.77/100 000), as well as women ($n = 803$, 34.89/100 000) in Croatia in 2009. The Croatian National CRC Screening Program was established by the Ministry of Health and Social Welfare, and its implementation started in September, 2007. The coordinators were recruited in each county institute of public health with an obligation to provide fecal occult blood testing (FOBT) to the participants, followed by colonoscopy in all positive cases. The FOBT was performed by hyper-sensitive guaiac-based Hemognost card test (Biognost, Zagreb). The test and short questionnaire were delivered to the home addresses of all citizens aged 50-74 years consecutively during a 3-year period. Each participant was required to complete the questionnaire and send it together with the stool specimen on three test cards back to the institute for further analysis. About 4% FOBT positive cases are expected in normal risk populations. A descriptive analysis was performed.

RESULTS: A total of 1 056 694 individuals (born between 1933-1945 and 1952-1957) were invited to screening by the end of September 2011. In total, 210 239 (19.9%) persons returned the envelope with a completed questionnaire, and 181 102 of them returned it with a correctly placed stool specimen on FOBT cards. Until now, 12 477 (6.9%), FOBT-positive patients have been found, which is at the upper limit of the expected values in European Guidelines for Quality Assurance in CRC Screening and Diagnosis [European Union (EU) Guidelines]. Colonoscopy was performed in 8541 cases (uptake 66%). Screening has identified CRC in 472 patients (5.5% of colonoscoped, 3.8% of FOBT-positive, and 0.26% of all screened individuals). This is also in the expected range according to EU Guidelines. Polyps were found and removed in 3329 (39% of colonoscoped) patients. The largest number of polyps were found in the left half of the colon: 64% (19%, 37% and 8% in the rectum, sigma, and descendens, respectively). The other 36% were



Prijevod europskih smjernica za osiguranje kvalitete
probira raka debelog crijeva
Prvo izdanje



European Commission

HEMOGNOST® TEST KOMPLET

UPUTA ZA PACIJENTE
POSTUPAK SAKUPLJANJA UZORAKA STOLICE

Slikovni prikaz na drugoj strani →

NAMJENA I SASTAV TESTA

HemoGnost test karton je brzi test za otkrivanje skrivenog (nevidljivog, okultnog) krvarenja u stolici.
Komplet se sastoji od tri HemoGnost test kartona, 12 kartonskih štapića, upute za korisnike i povratne kuverte s vrećicom za zaštitu uzorka. Može sadržavati i 3 sanitarna podloška.

UVOD

HemoGnost test karton je jednostavan test kojim je moguće ustanoviti postoji li u stolici (izmetu) golim okom nevidljivo krvarenje, jer takvo krvarenje ima dijagnostički značaj u ranom otkrivanju zloćudnih bolesti debelog crijeva.

UPUTE ZA KORISNIKA PRIJE SAKUPLJANJA UZORKA STOLICE

Kako bi testiranje bilo pouzdano, potrebno je dobro proučiti ovu uputu jer neke bolesti i stanja mogu djelovati na rezultate testiranja. Potrebno je pridržavati se dolje navedenih preporuka:

- Test treba odgoditi krvarenje li iz hemoroida ili mokracačova, ili imate proljevi ili menstruaciju.
- Sakupite uzorke iz tri stolice tijekom tri različita dana i to po četiri uzorka s različitim mjestima iz svake stolice.
- Ne uzimajte vitamin C (askorbinska kiselina) u količini većoj od 250 mg dnevno tri dana prije testiranja. To se odnosi i na dodatke hrani koji sadrže askorbinsku kiselinu, limune i naranče, voće i sokove. Npr. prosječna naranča sadrži 70-75 mg vitamina C.

Prije početka testiranja obavezno pročitati ovu uputu za izvođenje testa i upoznati se s izgledom HemoGnost test kartona.

Test karton sastoji se od prednje strane na kojoj se nalazi veliki poklopac i naziv testa HEMOGNOST, i stražnje strane na kojoj se nalaze dva manja poklopa s naznakom da je poklopac dozvoljeno otvoriti samo u laboratoriju. **Pacijent prilikom testiranja otvara i zatvara samo veliki poklopac na prednjoj strani testa, dok se stražnju stranu testa ne smije dirati.**

VAŽNO!

- Spriječiti doticaj stolice s vodom u zahodu stavljanjem presavinutog novinskog papira na površinu vode. Nakon uzimanja uzorka, isprati zahod. Ako je priložen, na dasku postaviti sanitarni podložak.
- Zaštititi HemoGnost test karton od prekomjerne hladnoće, vlage, topline i izravnog sunčevog svjetla.
- HemoGnost test karton čuvati na sobnoj temperaturi izvan dohvata djece.
- HemoGnost test karton s nanijetim uzorcima stolice poslati u zdravstvenu ustanovu unutar 7 dana od sakupljanja prvog uzorka.

POSTUPAK TESTIRANJA (tijekom tri dana)

1. Na prednju stranu HemoGnost test kartona napisati: IME, PREZIME, ADRESU I DATUM.



2. Otvoriti prednji veliki poklopac HemoGnost test kartona. Otvara se na donjem dijelu gdje se nalazi crvena strelica i natpis "OTVORITI OVDJE".



3. Priloženim kartonskim štapićem nanijeti uzorak stolice veličine zrna pšenice i namazati ga u tanom sloju unutar kruga označenog slovom A.



4. Ponoviti isti postupak na površinama polja B, C i D uzimajući novim kartonskim štapićima uzorke s raznih dijelova stolice.



5. Zatvoriti poklopac HemoGnost testa tako da se zakači na mjestu označenom crvenom strelicom i natpisom "ZATVORITI OVDJE". Taj natpis postaje vidljiv tek nakon što se otvori prednji veliki poklopac. (Vidi slike!)



6. Spremiti karton u priloženu vrećicu za slanje u zdravstvenu ustanovu.



Ponoviti postupak na identičan način i drugi i treći dan, uz upotrebu **NOVOG HemoGnost test kartona i NOVIH, ČISTIH kartonskih štapića.**

Sva tri HemoGnost test kartona zatvoriti u vrećicu, staviti u priloženu kuvertu i ubaciti u poštanski sandučić.



Slikovni prikaz na drugoj strani →





Skinuti zaštitnu traku u posebnoj podlozku

Sanitarni podložak

Pomoćno sredstvo za uzimanje uzoraka stolice

Sanitarni podložak služi za sigurno i higijenski pouzdanih rezultata pretraga



Skinuti zaštitne trake sa sanitarnog podloška i zaljepiti ga na dasku WC školjke. Pri tome paziti da čišćenje ili osvježavanje WC školjke, sredstvom za

Uzorak stolice uzeti u skladu s uputama.

Skinuti zaštitnu traku u posebnoj podlozku



Nakon uzimanja uzorka, istovremeno odlepiti oba kraja podloška i dasku i smestiti u školjku. Kako bi se osiguralo odvod, prije ispiranja WC školjke pričekati da papir osmekša.

Preporuča se korištenje BioGrafičnog sanitarnog podloška bez obzira na vrstu WC školjke, u zdravstvenim ustanovama i za kućna testiranja.

Medigrafi d.o.o. - Medugorje 06, 10040 Zagreb
tel: +385 1 2404 997, fax: +385 1 2404 639
www.medigrafi.hr



Second cycle results

- A total of 1.329.867 individuals (100% of eligible from population database) were invited to screening by the april 2016.
- In total, 353.164 (26,5%) persons returned the envelope with a completed questionnaire, while 81.837 were in one of groups with reason for nontesting.
- According to preliminary results, 202.951 (15.3%) persons returned test cards with a correctly applied stool specimen on gFOBt cards.
- Until now, 8.112 (4%) FOBt positive patients have been found.
- Colonoscopy was performed in 6.645 patients (82%).
- We identified colorectal cancers in 328 patients (4.9% of colonoscoped, 4% of FOBt-positive, and 0.16% of all screened individuals).
- Polyps were found and removed in 2160 (32.5% of colonoscoped) patients. Part of data are still missing because findings are stil not filled in screening registry.

RESPONSE 0= the number of persons invited from target population/responses, the call (regardless of whether they want to be tested, have some reason for non-response or do not want to test)

RESPONSE 1= tested/invited

RESPONSE 2= number tested + processed for bowel disease + tested in the last year+colonoscoped
invited-died- already have cancer-temporarily unavailable-incorrect address

Target population

Invited

Responders to invitation (or test)

Tested

Died during the invitation cycle/already have CRC/another disease of colorectum/do not like/emigrated or temporary

out of RH

Formula depend if we removed persons at the beginning of cycle because these persons should not be invited

But what else is needed for success?

- no clear and strong **legal framework** to support CRC screening-it must be implemented in health care law
- no defined legal framework for population database and it's updating (**population database improvement**)-CIPH is strecht among MOH and health insurance institute, database must be under CIPH charge
- **very weak support** and not continous, affected by too many shallow opinions from inexperts-much grater support needed
- **financing** is not stabile, the resources from the State Budget are included in the general budget for the activities of the Croatian Public Health Institute and are not defined for specific tasks needed for the programme, not defined for **each screening program** but together for all tree cancer screening program-also must be changed and it must be **much higher**, must include not just activities but financing equipement and enough staff
- no true **authorised institution** dedicated to success in short time and consequently responsibility for program management at all levels-CIPH must be authorised to do organization
- **the committee** does not have true ability to make decissions or to act-it must be changed and give true authorisation to make changes which are needed

- **program management is fragmented** between many institutions (Ministry, Croatian Health Insurance Institute, National institute and local institutes of public health, hospitals)-it should be planned from public health, it must have influence on contracting
- upgrade and changes in **web applications** and reporting section-still no success, no financing-it must be under CIPH and clear year financing
- **complicated organization**-it must be changed to send test immediately, first letter of notification should be sent before
- **decentralised system** with some advantages but also disadvantages-in future think about centralisation, maybe in 4-5 regions
- **experts** who have mission to organize processes on county level do not always have decision position in their institutions-it must be changed and people who are educated just can do this job
- these experts are engaged in a lot of **other obligations**-it must be changed, more staff necessary at national and local level
- the **guidelines** for quality assurance of Croatian CRC screening programme and definition of roles of different institutions are not written, defined and adopted by the Ministry of Health-this is ongoing, guidelines are in phase of development, must be adopted so procedure must be assured

- no **reminder** to invite persons-it must be changed
- persons with a negative screening FOBT result are not informed about the outcome of the testing-it must be changed in spite of possibility to get result from GP
- no appropriately defined time intervals for the different steps in the algorithm of the screening
- in the screening program some still check coagulogram for each patient going to colonoscopy-must be given unique guidelines
- reassurance of people with normal results and information on the timing of the next test-it must be implemented in web application
- problems with recall of people with unsatisfactory/inadequate screening test, some still do not respond-we must reach them
- errors and complications are still not systematically monitored and recorded in the information system
- there is no appropriate monitoring system for patients with diagnosed polyps during colonoscopy

- funding system at the CHIF covers all services provided (colonoscopy, pathohistological exams, screening test reading) regardless of any information if the service is done in required quality.
- difference in achieving financial rewards GPs-in that is the concession connected and receives a very reasonable fee, and the other in health centres does not have regulated personal payment by activity-need to find a solution
- field nurse do not have additional financial motivation, but records them in the work done-should be monitored through records if insurance institute and impact on turnout
- there is no accreditation system in place, neither for institutions nor for screening programmes providers
- there are too many pathology laboratories to assure high and equal quality and that quality of pathologist work is not controlled at all
- organisational and informatitional obstacles
- and more suggestions...affecting almost whole health system

Need to change approach to people

- Do promotional events have impact on the responses?
- Do they have an effect on the knowledge of the population (or just photo for politicians)?
- Whether we use enough other tools and approaches?
- Do the partners from the media understand the problem (the idea to organize training for them? Is it interesting to their editors?)
- Can we overcome inequality in the county?
- Is the situation in the smaller counties worse than in large and larger?
- Thus is contributing of the local community satisfactory and if someone really cares about this problem?
- Do our colleagues really care and do we see that well organized program can help them to have less patients in serious condition?

Prices

- screening colonoscopy 65 E
(routine colonoscopy 284 Euro 3-6 polyp removal!!)
- 3 phase invitation+test package (for responders)+
colonoscopy invitation (for positive) 0,59 E (4,4 kn)
- bowel celansing Moviprep 14,0 E
- posting 1. phase invitation (min. 500 inv.) 0,16 E (1,17 kn)
- test package (for responders) 0,41 E (3,1 kn)
- colonoscopy invitation (for positive) 0,6 E (4,5 kn)

- national coordinator 4h/day (+other obligations)
- public health team (MD+nurse)-work on 2 or 3
programs+local activities or HE work
- GP motivation of target populatiom 7,34 E

**Too much time for efficient action!
Too much time lossed!**

