Informatisation of Croatian national colorectal screening programme as a tool in quality control

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Thanks to all participants in this programme
Objectives

MAIN:
- detect cancer in early stage, and to detect and remove polyps of the colon
- enhance the possibility of cure in patients with colorectal cancer and improve quality of life
- achieve 45% coverage
- reduce mortality from colorectal cancer by 15%, after 10-13 years of the program with a good response (references-major international research)

OTHER:
- improve quality of performance in FOBT reading and colonoscopy
- improve and organize system
- create and implement informatisation
Colorectal cancer

INCIDENCE:

- 1990.g.- 1648 (34,5/100.000)
- 2012.g.- 2820 (68,6/100.000)
  1648 M i 1172 F

MORTALITY:

- 1990.g.- 1049 (21,9/100.000)
- 2013.g.- 2004 (45,5/100.000)
  1136 M i 868 F
ASR-COLON, RECTUM, ANUS

Source: HFA database
ASR-colon, rectum, anus-moving averages 3-year

Source: HFA database
EUROCARE-5

Colon cancer - 5 year survival

Rectal cancer 5-year survival
Cancer registry data

- Localised: 30%
- Regional lymphonodes: 23%
- Distant metastases: 29%
- Unknown: 18%
Results of 1. cycle

- 1,419,639 test-packages sent (99%)
- 288,935 packages returned - 21% (according to EU guidelines expected response 17,2-70,8%).
- 247,520 persons sent correctly applied stool specimen
- 15,578 FOBT positive persons (6,3%, expected from 1.5-8.5%)
- 10,428 colonoscopies done (80%)
- 564 persons had cancer (2,3/1000 of all tested persons - EU guidelines 1,2-2,3/1000)
- 4,117 polyps detected (40% of colonoscoped persons)
- 2,983 persons had haemoroids, 1,825 divertikula and other, mainly inflammatory bowel disease
- False positive on FOBT was 939 (9%)
Program improvements

- 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
Program improvements

- performed 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
- also included 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
**HemoGnost® test komplet**

**UPUTA ZA PACIJENTE**
**POSTUPAK SAKUPLJANJA UZORKA STOLICE**

**NAMJENA I SASTAV TESTA**
HemoGnost test karton je brzi test za otkrivanje skrivnenog (revidirjvenog, okušnjeg) krvarenja u stolicima. Komplet se sastoji od tri HemoGnost test kartona, 12 kartonskih štapica, upute za korisnike i povratne kuverte s vrećicom za zaštitu uzorca. Može sadržavati i 3 sanitarni podložak.

**UVOD**
HemoGnost test karton je jednostavan test kojim je moguće ustanoviti postoji li u stolicima (iznetu) kolikom određenom krvarenje, jer takvo krvarenje ima dijagnostički značaj u ranom otkrivanju zbunljivih bolesti deblog crijena.

**UPUTE ZA KORISNIKA PRIJE SAKUPLJANJA UZORKA STOLICE**
Kako bi testiranje bilo pouzdanije, potrebno je dobro pružiti ovu uputu jer neke bolesti i stanja mogu djelovati na rezultate testiranja. Potrebno je pripaziti se za sljedeće preporuke:

- Test treba odgovarati iz hematocira ili mokraća, ili imate mineralni živčarij.
- Zakupite uzorku iz tri stolicu tijekom tri različita dana i to po četiri uzorka u različitim mestima iz svake stolice.
- Ne uzimali vitamin C (askorbinska kiselina) u količini veći od 250 mg dnevno tri dana prije testiranja. To se odnosi i na dodatke hrane koji sadrže askorbinsku kiselinu, limune i naranče, voće i sokoze. Npr. prosječna naranča sadrži 70-75 mg vitamin C.

Pripazni: izdvojeni test karton je debeš da se pridržava vrlo tamno crvene boje.

**POSTUPAK TESTIRANJA (tijekom tri dana)**
1. Na prednju stranu HemoGnost test kartona napišite: IME, PREZIME, ADRESA I DATUM.
2. Otvoriti prednji veliki poklopac HemoGnost test kartona. Otvoriti se na donjem dijelu gdje se nalazi crvena stolica i natpis "ZATVORITI OVOJE".
3. Priloženim kartonskim štapicima nanijeti uzorak stolice veličine značajne ploče i namazati ga u tankom sloju unutar kruga označenog slovom A.
4. Ponoviti isti postupak na površinama polja B, C i D uočavajući novim kartonskim štapicima uzorke s raznih dijelova stolice.
5. Zatvoriti poklopac HemoGnost testa tako da se zakači na mjestu označenom crvenom strošcima i natpisom "ZATVORITI OVOJE". Taj natpis postaje vidljiv tek nakon što se otvori prednji veliki poklopac. (Vidite sliku)

**VAŽNO**
- Spriječiti doticaj stolice s vodom u zahod u stavljanjem presačenog novinskog papira na površinu vode. Nakon uzimanja uzorka, isprati zahod. Ako je prijevoljen, na dasku postaviti sanitarni podložak.
- Zaštititi HemoGnost test karton od prekomjerne hladnoće, vlage, tepline i izraženog sunčevog svjetla.
- HemoGnost test karton čuvati na sobnoj temperaturi izvan dohvata djece.
- HemoGnost test karton s nanijetima uzoraka stolice poslati u zdravstvenu ustanovu unutar 7 dana od sakupljanja prvog uzorka.

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

Sva tri HemoGnost testa kartona zatvoriti u vrećicu, staviti u priloženu kuvertu i ubaciti u poštanski sanđuci.
II cycle-preliminary results

- invitation sent to 901.152 persons
- 686.760 of them responded and finished process till and of 2014. average response was 21% but range was between 15 - 37%
- 83.067 people were tested
- 3.104 were FOBT positive (3.7%), colonoscopy done in 2.163 persons
- confirmed data for 100 persons with colorectal cancer
- 795 persons with polyps (37%), and in 1.026 osoba other findings
CRC screening organisation

1. Invitation

2. Test

MALE FEMALE 50-74 YEARS

3 STOOL SPECIMENS

PRIMARY CARE PHYSICIANS AND FIELD NURSES

PHARMACISTS

CROATIAN INSTITUTE OF PUBLIC HEALTH

COUNTY PUBLIC HEALTH INSTITUTES

CROATIAN HEALTH INSURANCE INSTITUTE

MINISTRY OF HEALTH

PATHOLOGY (PHD)
Informatisation is supporting all processes, all 3 national programmes

Legal base, public procurement law and procedure, time, human and equipment resources
Connecting different applications

- E-ordering
- E-prescribing
- E-ordering
- E-prescribing

**CEZIH**

- CROATIAN INSTITUTE OF PUBLIC HEALTH
- COUNTY PUBLIC HEALTH INSTITUTES
- COLONOSCOPY
- PATHOLOGISTS (PHD)
- PRIMARY CARE PHYSICIANS AND FIELD NURSES

**PRIVATE SECTOR?**

- BIS

**MINISTRY OF HEALTH**

- CROATIAN HEALTH INSURANCE INSTITUTE

**CEZIH**

- FEMALEs 25-65
- E- ordering
- E-prescribing

**FEMALEs 50-69**

- PRIMARY PHARMACYSTs
- E- ordering
- E-prescribing

**MALE FEMALE 50-74 YEARS**

- GX applications
- PRIMARY PHARMACYSTs
- E- ordering
- E-prescribing

**PRIVATE SECTOR?**

- CEZIH
- E-prescr.
Epidemiologic indicators

- response to first invitation
- causes of non-response
- response to FOBT
- response to FOBT with correctly applied specimen
- response to colonoscopy
- colonoscopy quality
- rate of findings (polyps, size, Cudo classification, etc.)
- pathohystologic findings and rates
- complications
- time from FOBT positive reading to colonoscopy
Informatisation

- web application by Ericsson Nikola Tesla and MCS, reporting system SPAGO-BI
- connection with CEZIH (info system of primary care)
- so called GX applications-for GP-s
- new application for field nurses
- e-ordering an e-prescription (IN2), generation and connection with hospital systems (BIS, ENDO)
- problems with connection together
- harmonisation of current system
Great possibilities

- reporting system, opportunities to generate new reports
- all indicators can be compared
- this year is period of implementation and correction
- preparation for 3. cycle
- planning more education to improve colonoscopy quality
- future-equipement, including all society in arising knowledge about possibilities
Does European quality control guidelines answer all questions?

- different systems
- no unique recipe
- great field for learning, but who want to learn?
- long lasting programme
- slow results
- not for one ministry mandate