THE ROLE OF PRIMARY CARE IN POPULATION BASED COLORECTAL CANCER SCREENING: CURRENT SITUATION AND FUTURE PROSPECTS

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EDCD Prague
Special interest in colorectal cancer screening

- A member of a Foundation which initiated colorectal cancer screening in the Czech Republic in 2000
- Representative of GPs in **Czech National Colorectal Cancer Screening Committee**

- **European Society for Primary Care Gastroenterology**
- **PAC UEG Committee**

- Research on
  - the role of primary care in CRC screening
  - population adherence to CRC screening
Cumulative incidence of colorectal cancer (C18–C21) in international comparison

EUROPE

- Cumulative risk: cumulative incidence is the probability or risk of individuals getting from the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100) who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

- The average cumulative risk in Europe: 3.51%

- 5th in Europe

Cumulative incidence of colorectal cancer (C18–C21) in international comparison

**EUROPE male**

1. Slovakia
2. Hungary
3. Czech Republic
4. Slovenia
5. The Netherlands
6. Denmark
7. Serbia
8. Croatia
9. Belgium
10. Spain
11. Luxembourg
12. Ireland
13. Portugal
14. Norway
15. Bulgaria
16. Republic of Moldova
17. Germany
18. Malta
19. Poland
20. Montenegro
21. France (metropolitan)
22. Switzerland
23. Estonia
24. Romania
25. United Kingdom
26. Austria
27. Belarus
28. Sweden
29. Ukraine
30. Lithuania
31. Russian Federation
32. Latvia
33. FYR Macedonia

The average cumulative risk for male is: 4.48%

**EUROPE female**

1. Denmark
2. Norway
3. The Netherlands
4. Hungary
5. Slovakia
6. Belgium
7. Slovenia
8. Italy
9. Ireland
10. Iceland
11. Czech Republic
12. Sweden
13. Bulgaria
14. Malta
15. Republic of Moldova
16. Croatia
17. France (metropolitan)
18. Serbia
19. Spain
20. United Kingdom
21. Portugal
22. Switzerland
23. Estonia
24. Russian Federation
25. Belarus
26. Germany
27. Montenegro
28. FYR Macedonia
29. Cyprus
30. Latvia
31. Ukraine
32. Romania
33. Lithuania
34. Poland
35. Finland
36. Austria
37. Luxembourg
38. Bosnia Herzegovina
39. Greece
40. Albania

The average cumulative risk for female is: 2.73%

Cumulative risk: cumulative incidence is the probability or risk of individuals getting from the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100) who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

5-year relative survival of colorectal cancer (C18–C21) patients in international comparison

5-year relative survival, 1998–2003 and 2008–2013 (or nearest period)

Age-standardised survival (%)

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5-year relative survival by gender, 2008–2013 (or nearest period)

Age-standardised survival (%)

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<tr>
<th>Country</th>
<th>Women</th>
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1. Period analysis. 2. Cohort analysis. 3. Different analysis methods used for different years. * Three-period average. 95% confidence intervals represented by H. EU average unweighted.
GPs at the frontline of healthcare services

- **Primary prevention**

- **Early diagnostics in symptomatic**

- **Secondary prevention:**
  - screening programmes for high risk persons
  - screening programmes for average risk persons.

- **Tertiary and quartenery prevention**
Secondary prevention

Identification of people with high risk
- CRC incidence in 1st degree relatives or multiple occurrence in 2nd degree relatives
  - IBD
  - detected adenoma polyps
  - women after breast, ovarian or uterus surgery
  - hereditary nonpolyposis CRC syndrome
  - (Diabetes 2nd type or high CV risk)

□ Screening
Screening has been established in 22 out of 27 EU countries.

Programs vary in different aspects but certain trends are clear:

- **shift from opportunistic towards population based screening** with central address invitation systems (by-passing GPs)

- **shift from guajak FOBTs to immunochemical FOBTs centrally analysed**

- **screening colonoscopy** as a direct option
A shift from opportunistic to population based CRC Screening in Europe in the last decade

- Population based: **address personal invitation**
  - written systematic invitations for all
  - written systematic invitations for non-attenders
  - different strategies for invitation
- equity in access to information
- higher participation rate

- **Invitation + FOBT kits**: UK, The Netherlands, Finland,
- **Invitation to GPs**: France, Czech Republic
- **Invitation to pharmacies**: North of Italy
Invitations – GPs - uptake

Let’s look at the evidence

- Involvement of GPs in the invitation process lead to a greater uptake

- Direct mailing FOBT kit with instruction together with invitation letter and the information leaflet increases participation. The direct mailing reduces physician barriers to screening (no effort)
  USA: Church 2004, Mahon 1995

- Only slight difference between direct mailing and distributing the kits in GP office.
  Europe: Ore 2011, Segnan 2005, Rossi 2011

- The direct mailing of kits offers only a marginal advantage in countries with developed primary care network.
The satisfactory examination coverage on national level:
- UK
- Netherlands, Belgium,
- France, North Italy,
- Czech Republic
- Finland

*The estimates do not take into account opportunistic screening*
What does affect screening uptake on individual level?

Reasons for accepting screening (Chapple, 2008):
- knowing somebody with cancer
- previous positive experience of women’s screening program
- being a good citizen
- previous bowel problems
- encouragement from others

Reasons for reluctance:
- feeling healthy
- fear of outcome, fear of colonoscopy
- lack of time (procrastination)
- disgust by the idea of handling stools
- misunderstanding instructions
gFOBT → iFOBT

- EBM in favour of immunochemical tests:
  - no diet limitations
  - user friendly sampling
  - easy analysis
  - higher accuracy, higher sensitivity

- higher compliance
  - higher participation rate

- iFOBT: qualitative (strip tests) – quantitative (automatised)
  - Quantitative: laboratory based analysis or POCT available

- Higher operational efficiency: cut-off/capacity
Figure 3.4. Tests used for colorectal cancer screening in the EU member states in 2016

Legend - gFOBT: Guaiac Fecal Occult Blood Test; FIT: Fecal Immunochemical Test; FS – Flexible Sigmoidoscopy; TC – Total Colonoscopy.
Neither Council Recommendation on Cancer Screening or European Guidelines on CRC screening do not mention the role of GPs.

GP involvement varies according to the chosen national strategy and organization of health care:

- **Key role** in distributing (and performing) FOBTs
  - Czech R., Germany, Slovakia, France

- **Supportive role**
  - Netherlands, UK, Spain, Finland

- **Recruitment** for colonoscopic screening
  - Poland, Germany
Historical concept of involvement of GPs in a screening program in the CR

- Prevention and screening as a part of complex approach to person

- Preventive interventions need personalised care

- Additional value of preventive/screening programs (CV, GYN, MAMMO, CRC)

- GP perform cheaper
Coverage of target population: iFOBT + screening colonoscopy 2007-2015

Total coverage
(men and women 55-69)

iFOBT negative + positive
Primary screening colonoscopy since 2009, age 55 and more
Source of data: IBA

Introduction of primary screening colonoscopy
iFOBT, test on yearly basis age 50-55

Address invitation system

Czech Colorectal Cancer Screening
Czech experience: 17 years of screening

Historically some suboptimal solutions but no blind pathways:

- **In 2000** GPs allowed to launch a screening with gFOBT.
- CRC screening became a traditional part of preventive activities in the Czech Republic.
- **In 2009**: The introduction of (qualitative) iFOBT helped to increase the uptake fundamentally.
- **In 2014**: The address invitation system established. Letters invite to GP (or gynecologist) who is the source for potential referral.

- The transition to quantitative iFOBT is agreed among disciplines with continuing key role of primary care.
GPs should be educated in order to:

- understand screening
- communicate screening

- To assess eligibility for screening
  - increase participation
  - provide balanced information for informed choice

- perform FOBT if relevant
- deal with FOBT positive result, refer for colonoscopy
- support patient in surveillance program
Uptake v. balanced information

- Media campaign is often straightforward.
- Financial targets for participation.
- Paternalistic approaches

GP communication on CRC screening and ethical principles:
- provision of unbiased information
- respecting patient autonomy
- need to suit adults ranging in literacy level, minorities
- (not relying on written information)

INFORMED CHOICE = a meaningful choice made by the patient on the basis of adequate information

O’Connor, Rostom, Fiset et al, 1999
Criticism of the CRC screening

False test results
- 30% of CRC will not be detected
- 13 colonoscopies in FOBT+ to detect 1 CRC
- Interval cancers
- False positivity

Consequences:
- Negative test reduces worries and doubts (too much?)
- Positive test: anxiety, depressive feelings, physical complaints (headache, abdominal complaints)

Risk of colonoscopy
0,5% bleeding, 0,5-1,0‰ perforation
(e.g. 80 perforations a year estimated for the Dutch program)
Quality of information about CRC screening

New paradigm of screening, beside uptake, emphasizes principles such as quality and safety of procedures, equity and quality of information and appropriate communication strategy.

People who use CRC screening should receive accurate and accessible information that reflects the most current evidence about CRC screening test and its potential contributions to reducing illness as well as information about its risks and limitations.

European guidelines on quality assurance of colorectal screening, Segnan et al, 2010
In conclusion

Regardless of the specific role of primary care in screening

- GP office is the place where population strategies are translated into personal medicine and individual care.

- General practitioners have unreplaceable role in screening communication strategy.

- GPs should be competent in CRC screening communication and their attitudes should combine guidelines/evidence and individual approach.