Colorectal cancer screening in the Czech Republic at the advent of population-based program

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Population screening

• WHY?
• HOW?
• EFFECT?
Reasons for population screening
1. CRC epidemiology

Trends in incidence and mortality

Development of detection stages of the disease

Source: National Cancer Registry
2. program improvement

TOKS: negativní (15120) + pozitivní (15121)
Primární screeningová kolonoskopie, 2009-2011, od 55 let
Zdroj dat: NRC

Muži a ženy od 50 let

Celkové pokrytí (2010-2011): 24.8% (rozsah mezi okresy ČR: 15,9-37,2%)

Míra využití v cílové populaci (2011):
35,5 screeningových kolonoskopii na 10 000 osob (rozsah mezi okresy ČR: 1,9-94,0)
3. international recommendations

• 2003:
  – EU Council Recommendation on CRC Screening

• 2006:
  – IARC Handbook of Cancer Prevention

• 2010
  – European guidelines for quality assurance in CRC screening and diagnosis
    • population screening
    • coverage: minimal 45%, ideal 65%
## 4. evidence-based medicine

<table>
<thead>
<tr>
<th>State</th>
<th>Age (years)</th>
<th>Project period</th>
<th>Procedure of address invitation</th>
<th>Participation in 1.round</th>
<th>Participation in 2. round</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>50 – 69</td>
<td>2000 – 2004</td>
<td>Screening unit send kit</td>
<td>P: 59%</td>
<td>DM: 48%</td>
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<td></td>
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<td></td>
<td></td>
<td>DW: 56%</td>
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<tr>
<td>France</td>
<td>50 – 74</td>
<td>2003 – 2006</td>
<td>HI – invitation card to GP reminder 6M</td>
<td>PM: 54%</td>
<td>PW: 57%</td>
</tr>
<tr>
<td>Nederlands</td>
<td>50 – 74</td>
<td>2006 – 2007</td>
<td>Centrally invitation letter reminder 6T</td>
<td>gFOBT: 50%</td>
<td>FIT: 62%</td>
</tr>
<tr>
<td>Scotland</td>
<td>50 – 69</td>
<td>2000 – 2007</td>
<td>screening center, 1st kit 2nd kit 6 weeks</td>
<td>PM: 50%</td>
<td>PW: 60%</td>
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<td></td>
<td></td>
<td>DM: 49%</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>DW: 57%</td>
</tr>
<tr>
<td>Spain</td>
<td>50 – 69</td>
<td>2000 – now</td>
<td>Centrally invitation letter reminder 6weeks</td>
<td>PM: 17%</td>
<td>PW: 18%</td>
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<td></td>
<td></td>
<td></td>
<td>DM: 21%</td>
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<td></td>
<td>DW: 24%</td>
</tr>
<tr>
<td>Finland</td>
<td>60 – 69</td>
<td>2004 – now</td>
<td>National screening center send kit</td>
<td>PM: 62%</td>
<td>PW: 77%</td>
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<td></td>
<td>DM: 68%</td>
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<td>DW: 80%</td>
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</tbody>
</table>

P: 1st round, D: 2nd round, M: men, W: women, HI: health insurance

Realization
Address invitation project

• 3 screenings programs
  – colorectal cancer (age 50 – 70 )
  – cervical cancer (age 25 – 70 )
  – breast cancer (age 45 – 70 )

• financing: European Union program

• organization:
  – Ministry of Health CR + expert team

• duration: until year 2015, sustainability
Invitation system

• system I: health care payers (HCP)
  - databases of insured persons
  - persons not participating in the screening
  - repeated inviting, control effectiveness

• system II: diagnostic centers
  - GP, gynecologists, mammographic centers
  - repeat visits
  - not response → transition to system I
## Uninvited individuals

- foreigners or a long-term living abroad
- incomplete address, non-delivery shipments
- recorded performances / diagnosis:

<table>
<thead>
<tr>
<th>Diagnostics &lt; 3 years</th>
<th>Diagnostics &lt; 5 years</th>
<th>Terapeutics</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOBT: 15120, 15121</td>
<td>Colonoscopy: 15101, 15105 15403, 15404</td>
<td>Endotherapy: 15475, 15950 Surgeon: 51636, 51415, 51357 51359, 51365</td>
<td>C18.x – C20.x</td>
</tr>
</tbody>
</table>
Organization

• personal address invitation, by letters
• spread in time (in months)
• not to overload the diagnostic centers capacity
• „birthday invitation“ system
• evaluation and re-invitation:
  – after 1 year since the initial letter
## Capacity plan

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of invited in total</th>
<th>Number of invited per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal cancer</td>
<td>1,444,153</td>
<td>120,346</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>585,385</td>
<td>58,782</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>494,651</td>
<td>41,221</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,524,189</strong></td>
<td><strong>220,349</strong></td>
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</tbody>
</table>
Evaluation
Evaluation – current status

• complex evaluation
  – too soon, results expectation in July 2014

• January – March 2014
  – sent about 0.5 million letters

• March 2014
  – media campaign
  – TV and radio spots, billboards
  – „road show“
Conclusion

• Project of address invitation in the Czech Republic was launched in the beginning of this year
• This led to the transition of opportunistic CRC program to population based program
• For the three first months were sent out 0.5 million letters
• The first results of the project can be expected in the second half of 2014
Thank you for your attention