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CRC screening in the Netherlands; issues to consider

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17 Oktober 2014
 FIT for Screening working group



Lead-up to the bowel cancer screening programme

- 2006: Start of pilot screening programmes
- 2009: Advisory report issued by the Health Council of the Netherlands
- 2011: Feasibility study conducted by RIVM
- June 2011: Ministerial decision
- Early 2013: Application and recommendation for permit under Population Screening Act
- September 2013: Start of pilot
- January 2014: National launch



CRC screening started end of January 2014

- FIT (FOB Gold, cut-off 15 µg/g) + colonoscopy
- Men and women 55-75 years old
- Bi-annually
- Phased introduction; when implemented: 2,2 million invitees per year
- Till 13 October: 473,435 invitees; 14,894 colonoscopies



ColonIS



First results March-May 2014

Participation rate 65-68%, referral rate 13%
 (we planned with 60% and 8%)

Referral rate by age

	age	negative	positive	total	%positive	95% CI
1951	63	951	72	1.023	7,04%	5,47 - 8,61
1949	65	1.574	146	1.720	8,49%	7,17 - 9,81
1947	67	6.956	826	7.782	10,61%	9,93 - 11,30
1939	75	13.342	2.011	15.353	13,10%	12,56 - 13,63
1938	76	39.930	6.454	46.384	13,91%	13,60 - 14,23
total		62.753	9.509	72.262	13,16%	12,91 - 13,41



Results: colonoscopy (August 2014)

	Number	Percent
Colorectal cancer	763	6.7%
Advanced adenoma	3,832	33.5%
Non-advanced adenoma	2,640	23.1%
Serrated polyp/adenoma	544	4.8%
No findings	3,649	31.9%
Other tumors	2	0.0%
Total	11,430	





Consequences

- Increasing waiting times: temporarily less people were invited
- With a referral rate of 12-13% there was not sufficient colonoscopy capacity
- We wouldn't be able to keep to the invitation scheme with a referral rate of 12-13% and acceptable waiting times
- Positive predictive value was lower than expected based on the pilot studies

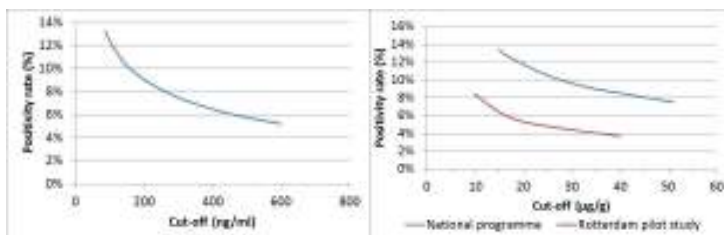


Actions taken from middle March

- Active surveillance of waiting times and intake capacity: if necessary slowing down number of invitations and adaptations in ColonIS
- Further analysis and development of scenarios to support decision what to do: RIVM, screening organisations and national evaluator Erasmus Medical Centre

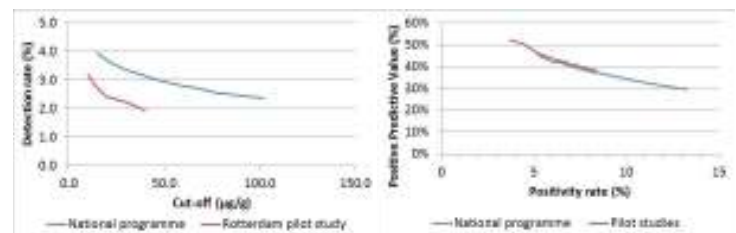
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Cut-off and referral in national programme (vs Rotterdam pilot study)



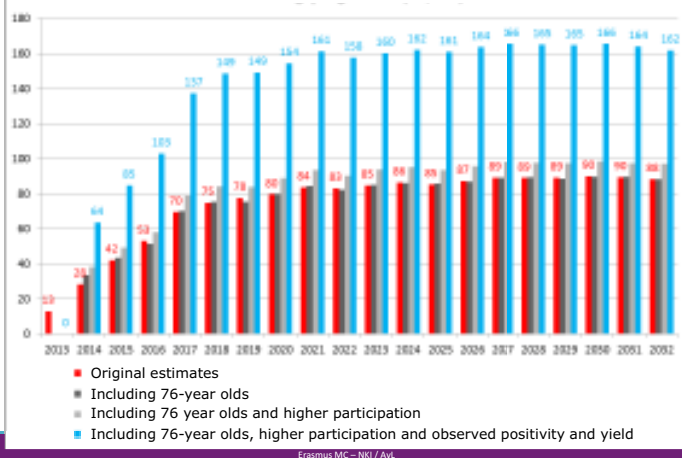
National Monitoring & Evaluation Colorectal Cancer Screening Programme
Erasmus MC – NKI / AvL

Cut-off and yield in national programme vs Rotterdam pilot study



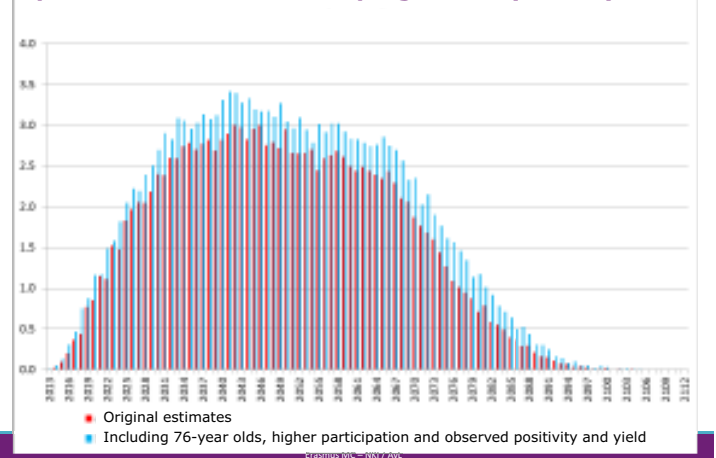
National Monitoring & Evaluation Colorectal Cancer Screening Programme
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Number of required colonoscopies in the national programme (x1,000)



Erasmus MC – NKI / AvL

Estimated number of colorectal cancer deaths prevented in the national programme (x1,000)



Erasmus MC – NKI / AvL

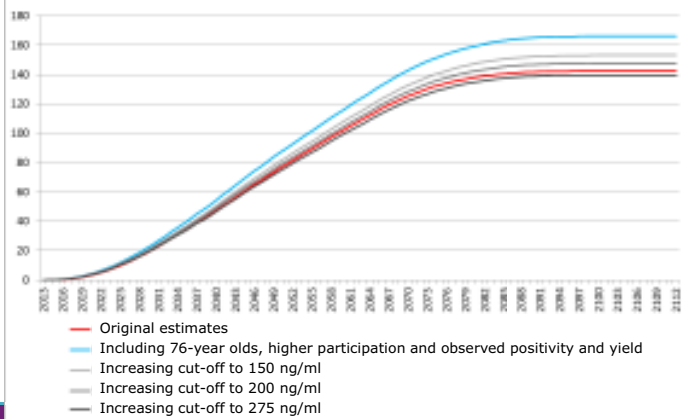
Options to meet colonoscopy demand

- Increase colonoscopy capacity
- Reduce demand
 - Slow down rate of invitations
 - Change implementation scheme
 - Increase cut-off value
 - Increase screening interval

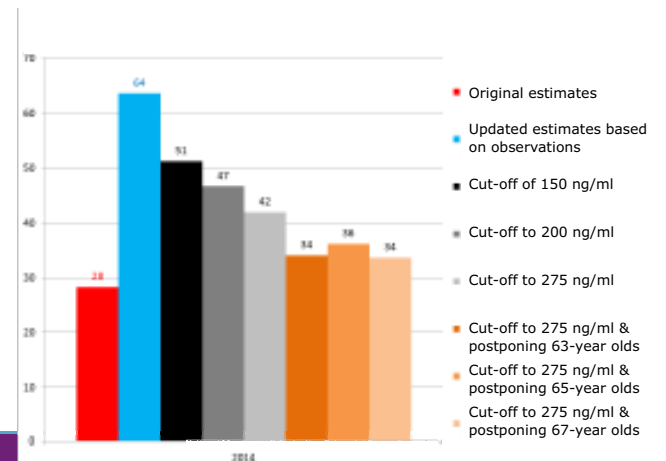
Efficient measures to reduce required colonoscopy capacity in 2014

Measure	Reduction in colonoscopies	Reduction in cancer deaths prevented	Cancer deaths <i>not</i> prevented per 1,000 colonoscopies saved	Rank
Postpone screening in 63-year olds	17.9	0.33	18	3
Postpone screening in 65-year olds	18.4	0.31	17	2
Postpone screening in 67-year olds	19.9	0.38	19	4
Postpone screening in 75-year olds	11.8	0.56	48	6
Postpone screening in 76-year olds	11.3	0.51	45	5
Increase cut-off to 150 ng/ml	18.9	0.24	12	
Increase cut-off to 200 ng/ml	26.4	0.35	13	1
Increase cut-off to 275 ng/ml	34.3	0.50	15	

Estimated cumulative number of colorectal cancer deaths prevented in the national programme (x1,000)



Required number of colonoscopies in the national programme in 2014 (x1,000) – impact of measures per July 2014



Conclusions of evaluation

- Inviting 76-year olds in 2014, higher participation rate and especially the higher positivity rate of FIT have increased the required colonoscopy capacity in 2014 from 28,000 to 64,000 per year; in the long term, a colonoscopy capacity of 160,000 per year is needed
- The higher participation rate and especially the higher positivity rate of FIT also increase the health benefits by approximately 300 additional prevented colorectal cancer deaths per year

Conclusions of evaluation (2)

- Increasing the cut-off is the most efficient way to reduce required colonoscopy capacity while maintaining a high number of colorectal cancer deaths prevented
- Increasing the cut-off of the FIT in the national programme to 275 ng/ml results in a similar balance of harms and benefits as observed in the Rotterdam pilot study



Proposal RIVM short term: 2014/2015

Increasing cut-off value to 275 ng/ml in order to

- Balance harms & benefits in accordance with advice Health Council 2009
- Invite people according to plan, given the available colonoscopy capacity => gives the most health gain
- Where possible extra colonoscopy capacity: meetings with hospitals and health insurances

May/June

Meetings with advisory board screening programme, Ministry of Health and Health Council

July

Cut-off value was increased



Proposal long term (after 2015)

- Modelling scenario's again when more data are available
- First half of 2015: proposal further implementation of the programme from 2016 onwards.

Searching as much colonoscopy capacity as possible + options:

- Changing screening interval and/or cut-off value?
- Age and/or sexe specific cut-off value?
- Changing surveillance guideline / accelerate shift in work distribution?

Afternoon: presentation results until June



Further information

http://www.rivm.nl/en/Topics/B/Bowel_cancer_screening_programme

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