



Finnish Cancer Registry

Finnish Cancer Organisations



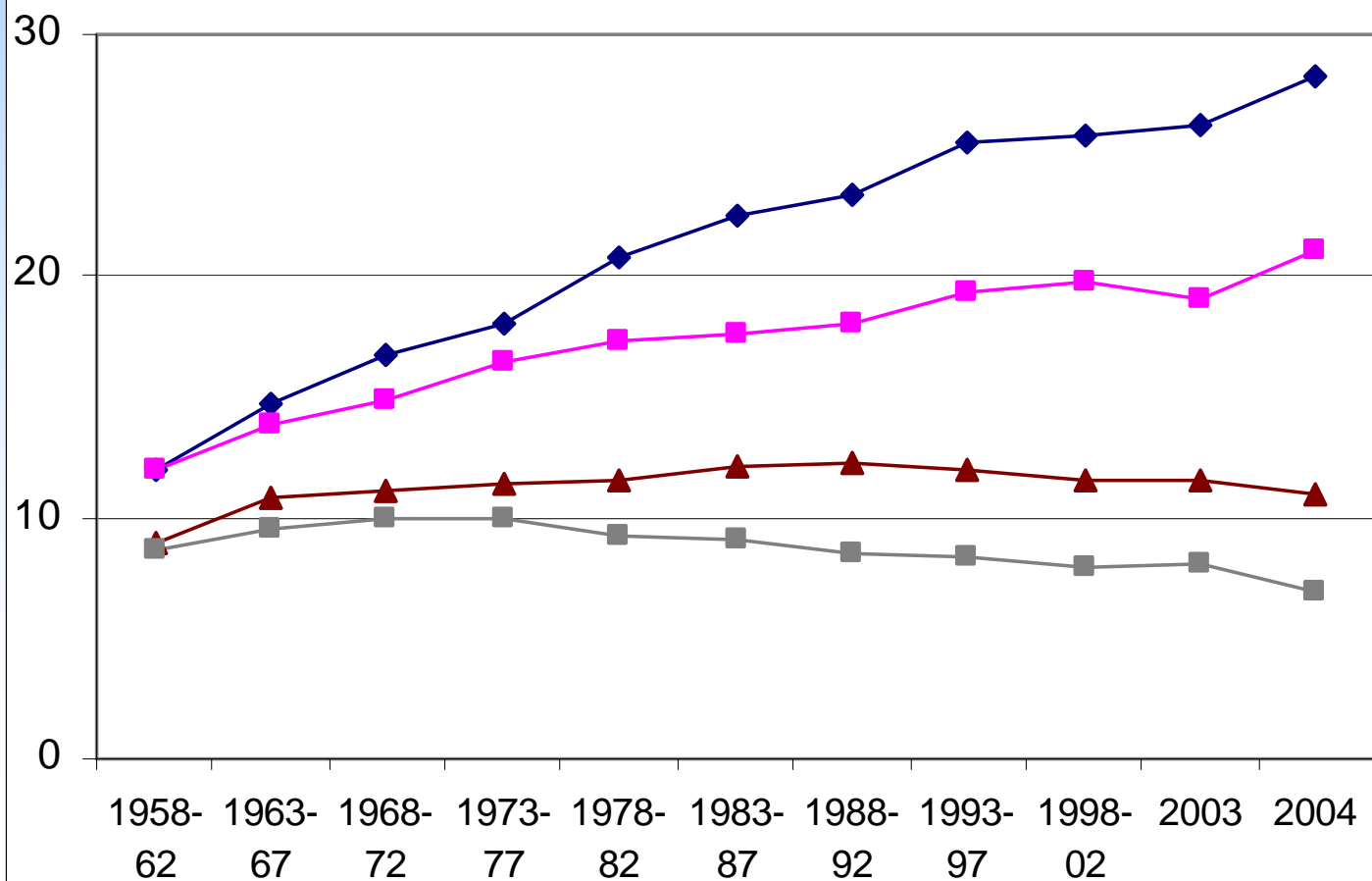
# Colorectal Cancer Screening

## Implementation of a public health programme

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Finnish Cancer Registry, Mass Screening Registry



## CRC incidence and mortality/100 000 Finland





# Launch of screening in 2004

- A population-based screening programme
- Centrally planned, organised and run
- Gradual implementation in the target population over time
- Gradual expansion over regions
- Main aim to reduce colorectal cancer mortality
- Evaluation (until effectiveness) of the programme in built
- Testing feasibility (practical issues, compliance, test results, colonoscopy process) within the public health care system in Finland



## Benefits of gradual implementation

- **Effectiveness** in the Finnish health care environment can be evaluated
- Colonoscopy resources existing and can be increased as needed in a controlled way
- Need of extra resources can be studied and planned
- Programme costs in Finland will be discovered



# Screening process

- Invitation of men and women aged 60-69-years eventually
- Randomisation into screening or control arms at individual level
- Gradual start among the target age-cohort during six first years
- Test-kits mailed and returned by mail
- Test results mailed to screenees
- Repeated screening every second year, no exclusions





# Implementation

		2010	2011	2012	2013	2014
Birth year	Age 2004					
1941	69 v					
1942	68 v	ReS+50%				
1943	67 v		ReS+50%			
1944	66 v	Re-Screen		ReS+50%		
1945	65 v		Re-Screen		ReS+50%	
1946	64 v	Re-Screen		ReS+50%		100 %
1947	63 v		Re-Screen		ReS+50%	
1948	62 v	Re-Screen		Re-Screen		ReS+50%
1949	61 v		Re-Screen		ReS+50%	
1950	60 v	100 %		100 %		100 %
1951			100 %		100 %	
1952				100 %		100 %
1953					100 %	
1954						100 %



# Procedure

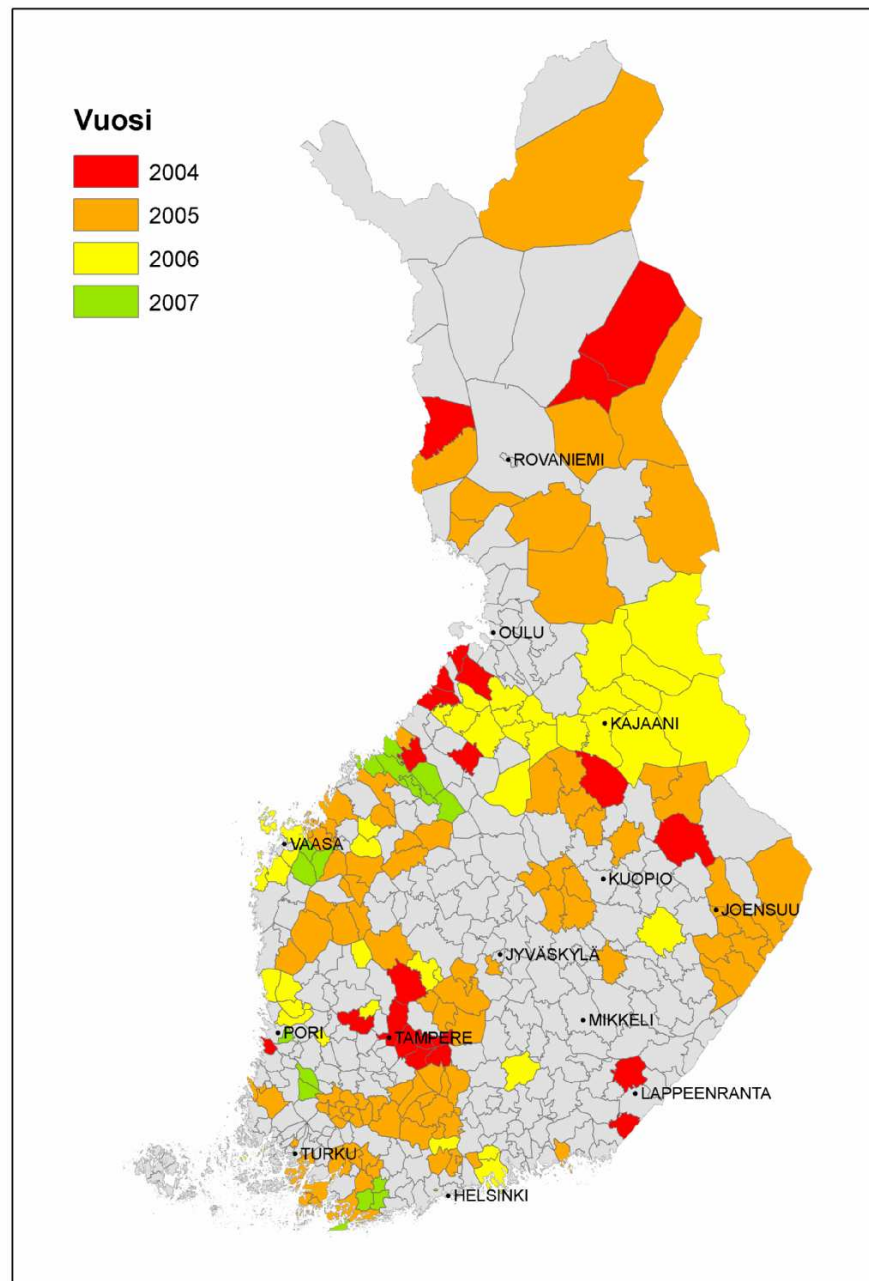
- Three day specimen collection (faecal cards) at home
- Guaiac based test, no rehydration
- Any positive test window (out of 6) regarded as a positive test result
- Those being positive are sent to their local health care center for colonoscopy referral
- Further surveillance and treatment according to usual care
- Data collected centrally via contact persons at local level and sending to screening center





# First experiences in Finland

- Launch in September 2004 in 22 municipalities (out of 444)
- In 2007 175 municipalities in the programme
- One national centre for the entire country (5,3 million people)
- Centre takes care of sending invitations, analysing tests and referrals for further examination
- Overall compliance good, 71%
- Test positivity 2,1%





# Finland, first round 2004-2006

Invitation year		2004	2005	2006	All
Controls	Men	2148	11639	12462	26249
	Women	2391	11923	12435	26749
	<b>Total</b>	4539	23562	24897	52998
Screening	Men	2143	11643	12461	26247
	Women	2396	11916	12435	26747
	<b>Total</b>	4539	23559	24896	52994



## Final results from first round

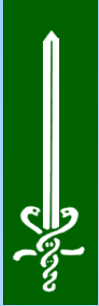
Test result	MEN	WOMEN	BOTH
NEG	16130	20581	37514
POS	495	308	803
NON-COMPLIERS	9622	5858	15480
<b>Total</b>	<b>26247</b>	<b>26747</b>	<b>52994</b>



<i>Males</i>			
<b>age_gr</b>	<b>non-complier</b>	<b>Total</b>	<b>Non-compliance</b>
1940	179	666	26,9 %
1941	1254	3862	32,5 %
1942	1155	3271	35,3 %
1943	1142	3307	34,5 %
1944	1750	4410	39,7 %
1945	1673	4474	37,4 %
1946	2594	6257	41,5 %
<b>Total</b>	<b>9747</b>	<b>26247</b>	<b>37,1 %</b>

<i>Females</i>			
<b>age_gr</b>	<b>non-complier</b>	<b>Total</b>	<b>Non-compliance</b>
1940	138	784	17,6 %
1941	841	4059	20,7 %
1942	734	3472	21,1 %
1943	698	3448	20,2 %
1944	1074	4470	24,0 %
1945	1000	4409	22,7 %
1946	1479	6105	24,2 %
<b>Total</b>	<b>5964</b>	<b>26747</b>	<b>22,3 %</b>



# Colonoscopy findings, preliminary

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<b>Diagnosis</b>	<b>Number</b>
Cancer	54
Adenoma	286
Hemorrhoides	80
Other diagnoses	89
Normal finding	59
No diagnosis	235
Total	803

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<b>No diagnosis</b>	<b>235</b>	
<b>Information missing</b>	<b>60</b>	
<b>Not done</b>	<b>88</b>	
		Not reached 3
		Declined 19
		In follow-up 3
		Done recently 27
		Other 34
		Not known 2
		<b>88</b>
<b>No findings</b>	<b>87</b>	
<b>Total</b>	<b>235</b>	



# Evaluation

- The randomised design allows comparison between the screening and control arms
- Cancers and deaths followed through national registries (statistics Finland, Finnish Cancer Registry)
- Both screened and controls can be followed through register linkage (personal id)
- First years: performance, compliance, positivity rate, colonoscopy performance
- After six years randomisation will gradually cease
- At three years process evaluation, after 10-15 years mortality reduction in screened and controls