**Participation. CRC detection. interval cancers and FIT results over three rounds of screening in the Basque Country**

Isabel Portillo Villares, Eunate Arana-Arri, Isabel Idigoras, Lorea Martínez-Indart

Colorectal Cancer Screening Programme. Basque Country
mariaisabel.portillovillares@osakidetza.eus

---

## THE BASQUE COUNTRY PROGRAMME

Coverage



**Objective:**
To decrease CRC incidence and mortality by detection and treatment of premalignant and malignant lesions

---

## THE BASQUE COUNTRY PROGRAMME

**STRATEGY**

- **POPULATION BASED**
- **50-69 year-old (586,700 people)**
- **FIT biennial. Cut-off 20µg Hb/g**
- **OC-Sensor from 2010**
- **Colonoscopy under sedation as confirmatory test**
- **Information system linked with medical database and cancer registries**
- **Primary Care Involved**
- **Centralized coordination**

**MAIN RESULTS**

| | |
|---|---|
| TOTAL INVITED | 958,450 |
| PARTICIPATION RATE | 68.5% |
| POSITIVE RATE | 6.2% |
| COLONOSCOPY UPTAKE | 93.7% |
| CCR DETECTION RATE | 3.4‰ |
| AA DETECTION RATE | 23.3‰ |
| AN DETECTION RATE | 26.7‰ |
| PPV CCR | 5.4% |
| PPV AA | 37.5% |
| PPV AN | 42.9% |

---

## OBJECTIVES

- To know the main trends in participation and lesion detection rate, by round, sex and age group 2009-2014.
- To know the features of the screened and interval cancer registered by the Programme.

---

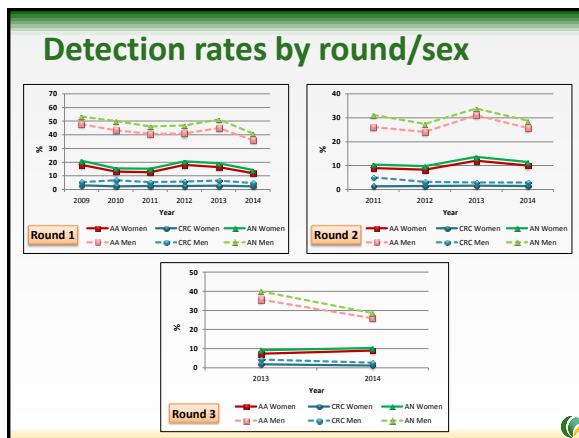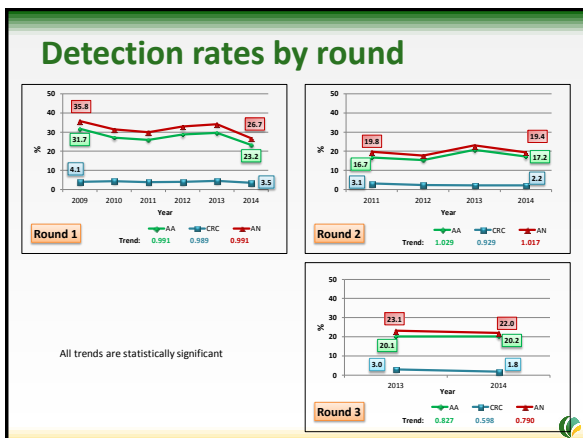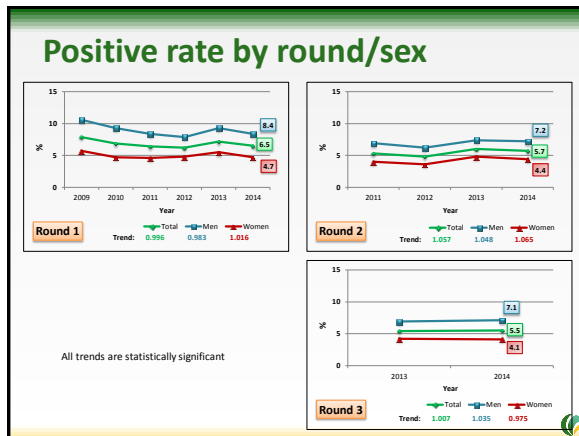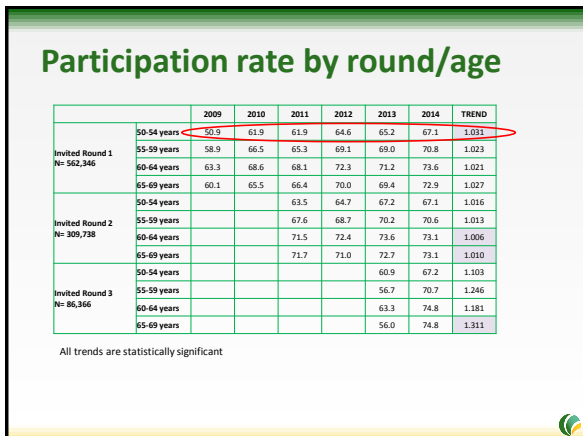## METHODS



---

## Participation rate by round/sex



All trends are statistically significant

---

1

## Participation rate by round/age

| | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | TREND |
|---|---|---|---|---|---|---|---|---|
| Invited Round 1 N= 562,346 | 50-54 years | 50.9 | 61.9 | 61.9 | 64.6 | 65.2 | 67.1 | 1.031 |
| | 55-59 years | 58.9 | 66.5 | 65.3 | 69.1 | 69.0 | 70.8 | 1.023 |
| | 60-64 years | 63.3 | 68.6 | 68.1 | 72.3 | 71.2 | 73.6 | 1.021 |
| | 65-69 years | 60.1 | 65.5 | 66.4 | 70.0 | 69.4 | 72.9 | 1.027 |
| Invited Round 2 N= 309,738 | 50-54 years | | | 63.5 | 64.7 | 67.2 | 67.1 | 1.016 |
| | 55-59 years | | | 67.6 | 68.7 | 70.2 | 70.6 | 1.013 |
| | 60-64 years | | | 71.5 | 72.4 | 73.6 | 73.1 | 1.006 |
| | 65-69 years | | | 71.7 | 71.0 | 72.7 | 73.1 | 1.010 |
| Invited Round 3 N= 86,366 | 50-54 years | | | | | 60.9 | 67.2 | 1.103 |
| | 55-59 years | | | | | 56.7 | 70.7 | 1.246 |
| | 60-64 years | | | | | 63.3 | 74.8 | 1.181 |
| | 65-69 years | | | | | 56.0 | 74.8 | 1.311 |

All trends are statistically significant

## Positive rate by round/sex



Round 1 — Trend: Total 0.996, Men 0.983, Women 1.016
Round 2 — Trend: Total 1.057, Men 1.048, Women 1.065
Round 3 — Trend: Total 1.007, Men 1.035, Women 0.975

All trends are statistically significant

## Detection rates by round



Round 1 — Trend: AA 0.991, CRC 0.989, AN 0.991
Round 2 — Trend: AA 1.029, CRC 0.929, AN 1.017
Round 3 — Trend: AA 0.827, CRC 0.598, AN 0.790

All trends are statistically significant

## Detection rates by round/sex



## Participants by pattern of participation and lesion detected

| Variables at the diagnostic round | First invitation (36.3) | Regular (53.2) | Irregular (10.5) |
|---|---|---|---|
| Women/Men (%) | 53.6/46.4 | 55.1/44.9 | 50/50 |
| 50-54 years (%) | 43.9 | 17.6 | 22.0 |
| 55-59 years (%) | 21.5 | 28.9 | 31.1 |
| 60-64 years (%) | 19.0 | 27.1 | 25.9 |
| 65-69 years (%) | 15.5 | 26.4 | 21.1 |
| Positive rate (%) | 7.0 | 5.8 | 8.0 |
| CRC detection rate (‰) | 4.1 | 2.2 | 4.0 |
| AA detection rate (‰) | 27.3 | 17.5 | 29.5 |
| AN detection rate (‰) | 31.5 | 19.7 | 33.5 |
| LRA detection rate (‰) | 10.6 | 9.8 | 10.7 |

## CRC in different participants

| | | First invitation (48.7) | Regular (37.7) | Irregular (13.6) |
|---|---|---|---|---|
| Sex | Women/Men (%) | 34.1/65.9 | 35.4/64.0 | 33.5/66.5 |
| Age | 50-54 years (%) | 20.6 | 9.4 | 11.4 |
| | 55-59 years (%) | 21.7 | 21.7 | 27.8 |
| | 60-64 years (%) | 25.2 | 30.1 | 23.9 |
| | 65-69 years (%) | 32.5 | 38.2 | 36.9 |
| Stage | Stage I-II | 65.0 | 60.3 | 64.2 |
| | Stage III-IV | 26.5 | 29.2 | 23.6 |
| Location | Right colon | 10.6 | 20.9 | 15.9 |
| | Left colon | 60.2 | 48.7 | 60.8 |
| | Transverse colon | 4.1 | 6.5 | 2.3 |
| | Rectum | 15.2 | 17.8 | 17.0 |
| First Treatment | Surgery | 52.3 | 66.7 | 62.4 |
| | Radical endoscopy | 38.4 | 19.0 | 24.8 |
| | Chemotherapy/radiotherapy | 9.3 | 14.3 | 12.7 |

## Interval Cancer

| µHb/g faeces | | Sex | | Age | | Round | | Location*** | | | Stage | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Women | Men | 50-59 years | 60-69 years | 1 | 2* | Right | Left | Rectum | I-II | III-IV |
| FIT NEGATIVE (159) | 0.00-5.00 (96) | 39.6% (38) | 60.4% (58) | 45.9% (44) | 54.1% (52) | 82.3% (79) | 17.7% (17) | 23.9% (23) | 26.0% (25) | 32.3% (31) | 42.7% (41) | 51.0% (49) |
| | 5.01-10.00 (26) | 23.1% (6) | 76.9% (20) | 42.3% (11) | 57.7% (15) | 88.5% (23) | 11.5% (3) | 3.1% (8) | 23.1% (6) | 42.3% (11) | 34.6% (9) | 53.8% (14) |
| | 10.01-19.99 (37) | 35.1% (13) | 64.9% (24) | 45.9% (17) | 54.1% (20) | 75.5% (28) | 24.3% (9) | 29.7% (11) | 45.9% (17) | 18.9% (7) | 45.9% (17) | 54.1% (20) |
| COLONOSCOPY** (19) | | 68.4% (13) | 31.6% (6) | 42.1% (8) | 57.9% (11) | 89.5% (17) | 10.5% (2) | 31.6% (6) | 47.4% (9) | 15.8% (3) | 47.4% (9) | 52.6% (10) |

*

| 0.00-5.00 µHb/g faeces | 19 |
|---|---|
| 5.01-10.00 µHb/g faeces | 2 |
| 10.01-19.99 µHb/g faeces | 3 |
| No participant 1º round | 5 |

***

| DIFERENT LOCATION | ADENOMA LOCATION | CRC LOCATION |
|---|---|---|
| LRA (1) | Sigmoid | Caecum |
| AA (1) | Ascending | Caecum |
| AA (1) | Transverse | Caecum |
| AA (1) | Rectum | Caecum |

| SAME LOCATION | ADENOMA LOCATION | CRC LOCATION |
|---|---|---|
| AA (3) | Sigmoid | Sigmoid |
| AA (1) | Rectum | Rectum |
| AA (1) | Ascending | Ascending |

**PREVIOUS COLONOSCOPY:
Normal: 10 (2 ⇨ Round 2)
LRA: 1
AA: 8

**Negative FIT - Interval Cancer:** symptomatic for the diagnosis 78.4%
- Main symptoms: rectal hemorrhage (42.4%), abdominal pain (40.4%) and constipation (7.3%)
**Post-colonoscopy Interval Cancer:**
- Symptomatic for the diagnosis 50.0%
- Delay in follow-up colonoscopy

## LESSONS LEARNT

- Participation rate trends increased significantly in all rounds by sex and age group.
- Positive rate trends decreased in successive rounds but not as much as we had expected.
- Advanced Neoplasia detection rate decreased by round, showing differences between men and women.
- Irregular and first participants showed similarities in positive rate and lesions detected.
- Post-FIT negative Interval Cancer were more often in men, the oldest group and detected in advanced stage.
- Post-colonoscopy Interval Cancer were more often in the oldest group of women, and 52.6% after a normal colonoscopy. After Adenoma resection, 44.4% were localized in caecum.