

## Introduction

# The diffusion of screening programmes in Italy, years 2011-2012

## La diffusione dei programmi di screening in Italia, anni 2011-2012

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In this report, we present the results of cancer screening programmes in Italy for the years 2011-2012. This report is produced by the National centre for screening monitoring (ONS), together with the Italian professional multidisciplinary screening groups: GISMa (Italian group for mammographic screening), GISCor (Italian group for colorectal screening), and GISCi (Italian group for cervical screening). Since 2004, ONS has been monitoring and supporting Italian screening programmes, in accordance with a decree issued by the Ministry of Health. Multidisciplinary groups work with ONS and provide the know-how required to promote the quality of public health programmes.

The following is a brief outline of the Italian screening programme setting:

- screening programmes (cervical, mammographic, colorectal) have been a Basic Healthcare Parameter (livello essenziale di assistenza, LEA) since 2001;
- guidelines are provided by the Ministry of Health's Department of Prevention in agreement with regional governments;
- regional governments are responsible for the organization, management, and quality assurance of screening programmes;
- since 2004, ONS has been responsible for monitoring and promoting screening programmes nationwide;
- the results of the screening programmes of each region are evaluated annually by the Ministry of Health in terms of coverage and impact.

The main characteristics of protocols of mammographic, cervical and colorectal screening programmes are summarized in [table 1](#) (p. 7).

Overall, in 2011-2012 almost 20 million people were invited to undergo a screening examination (7,419,295; 5,271,248 and 7,744,295 for cervical, breast, and colorectal cancer, respectively). As compared to the previous years, an increase was observed for all the screening programmes. Almost 10 million actually complied to the invitation (3,051,852; 2,959,329 and 3,556,486 for cervical, breast, and colorectal cancer, respectively). Unfortunately, in the observed increase in invitation and participation inequality persisted and grew between Centre, North, and South of Italy.

The screening activity has already produced a remarkable impact on the epidemiology of these three cancers in Italy. Changes have been documented in several papers.<sup>1-5</sup>

### CERVICAL CANCER SCREENING

Taking a closer look at the data (and adopting the same criteria for each year), we can observe that the actual extension of cervical cancer screening (i.e., how many 25-64 year-old women regularly received an invitation letter to perform a Pap smear every three years) in 2011-2012 was close to 70% (69.5%). This does not mean that 30% of the target population did not receive an invitation to screening. In some cases, it is possible that invitations were issued but the interval was longer than 3 years.

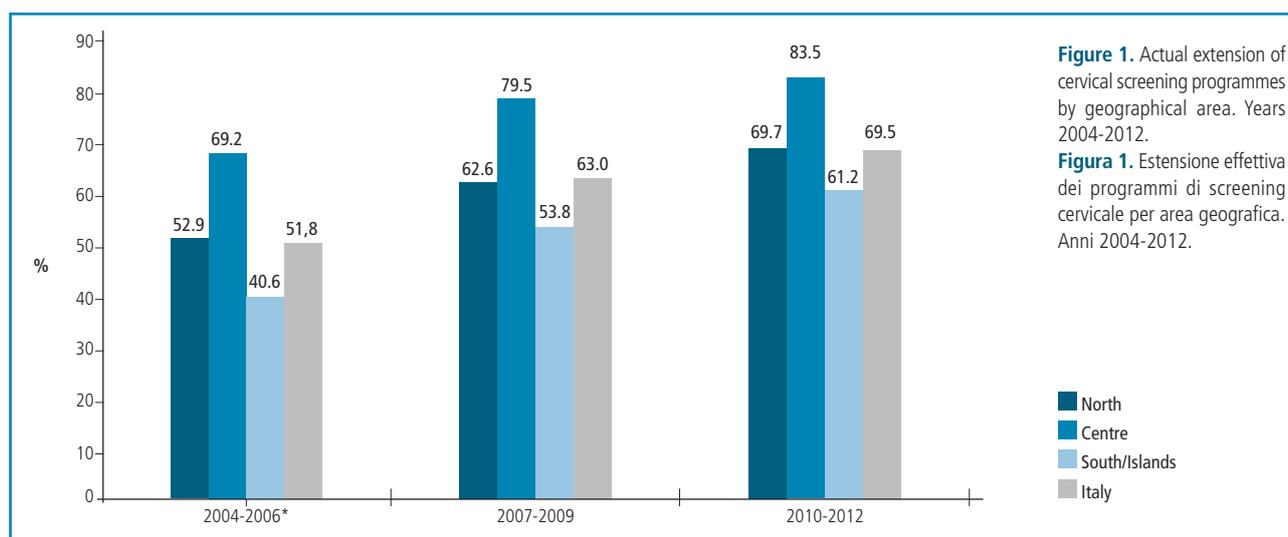
Extension in 2010-2012 was greater than in 2004-2006 (51.8%) and 2007-2009 (63%) (figure 1). This increase concerns all three Italian macro-areas (North, Centre, South), with a low heterogeneity among them, unlike what was observed in the other two types of screening. Unfortunately, this is partly due to the fact that the largest Italian regions in northern Italy did not implement a cervical screening programme throughout the entire region.

A crucial innovation for cervical screening policy is currently taking place. Italy is one of the first countries in Europe to move towards the use of DNA HPV test as a primary test. As reported by Ronco et al. in this issue,<sup>6</sup> in 2012, 19 Italian programmes from 10 regions invited women for HPV-based screening. During 2012, more than 300,000 (8% of the target population) women were invited to HPV testing and more than 130,000 accepted. As far as we know, this is one of the first reports in Europe on the performances of HPV-based screening programmes.

## BREAST CANCER SCREENING

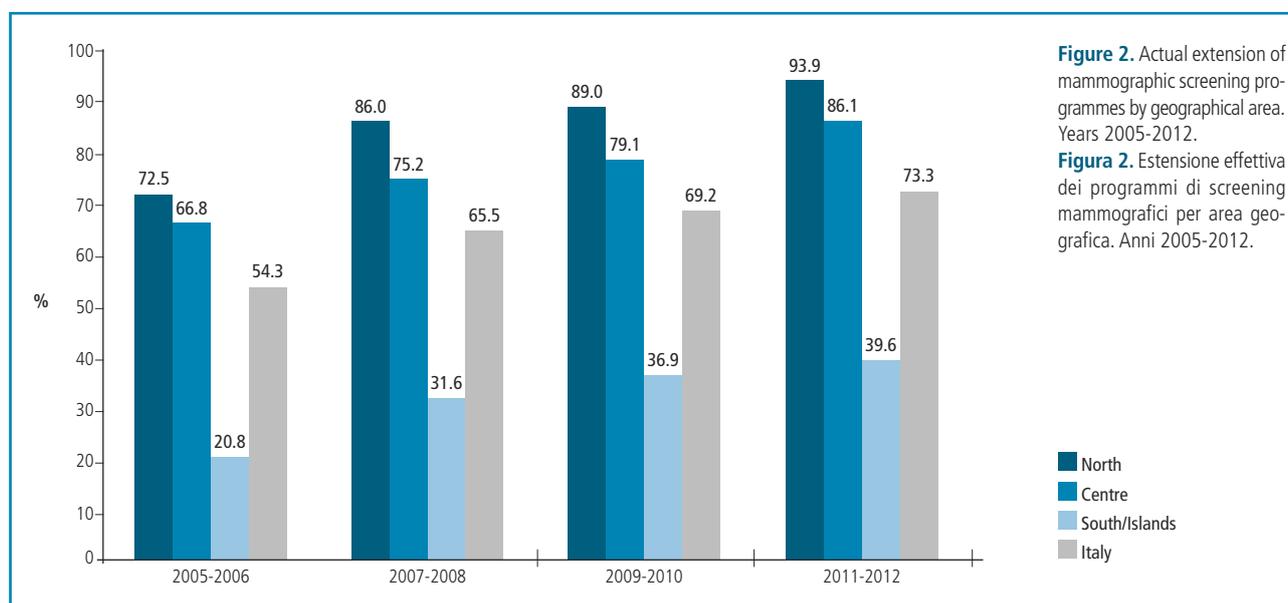
Regarding mammography screening, actual extension from 2005 to 2012 (percentage of 50-69 years old women regularly receiving a letter of invitation every two years) is reported in figure 2. In the biennium 2011-2012, almost 3 out of 4 women were invited (73.2%). Unfortunately, screening diffusion is still heterogeneous, with a higher distribution in northern/central Italy (nearing or over 90%), compared with southern/insular Italy (only 40%). Even though we observed a stable increase from 2005-2006 in all three areas (on average, each area showed twenty percentage points less in 2005-2006), this trend does not allow us to be fully optimistic. Due to the difficulties in spreading organized screening activity in southern Italy, the goal of assuring complete breast screening coverage in Italy remains uncertain.

It is worth mentioning that in 2011-2012, 227,00 women older than 69 (13.6% of the target population) were invited to continue screening till 74 years of age. Furthermore, two re-



**Figure 1.** Actual extension of cervical screening programmes by geographical area. Years 2004-2012.

**Figura 1.** Estensione effettiva dei programmi di screening cervicale per area geografica. Anni 2004-2012.



**Figure 2.** Actual extension of mammographic screening programmes by geographical area. Years 2005-2012.

**Figura 2.** Estensione effettiva dei programmi di screening mammografici per area geografica. Anni 2005-2012.

<b>Mammographic screening</b>	
Target population	women aged 50-69 (some regions have extended the age target from 45 to 74)
Primary test	2 views, doubling reading mammographic test
Screening interval	2 years
<b>Cervical screening</b>	
Target population	women aged 25-64
Primary test	Pap smear
Screening interval	3 years
Some programs have moved towards HPV testing as primary test:	
Target population	HPV: women aged 30/35-64 Pap smear: women aged 25-30/35
Primary test	HPV
Screening interval	5 years
<b>Colorectal screening</b>	
Primary test	fecal immunochemical test (FIT)
Target population	subjects aged 50-69 (some regions have extended the age target to 74 or 75 years)
Screening interval	2 years
Primary test	flexible sigmoidoscopy (FS) + FIT
Target population	subjects aged 58 or 60 (FS); subjects aged 59-69 (FIT)
Screening interval	flexible sigmoidoscopy once in a lifetime and FIT every 2 years for non-responders to FS

**Table 1.** Main characteristics of protocols of mammographic, cervical and colorectal screening programmes.

**Tabella 1.** Caratteristiche principali dei programmi di screening mammografico, cervicale e coloretale.

gions (Emilia-Romagna and Piemonte) also included younger women (ages 45-49) among those to be invited. In 2011-2012, almost 380,000 women in this age class were invited annually (7.9% of the Italian target population of 45-49 year-old women). The latter figure shows a small increase in comparison with the previous two years.

## COLORECTAL CANCER SCREENING

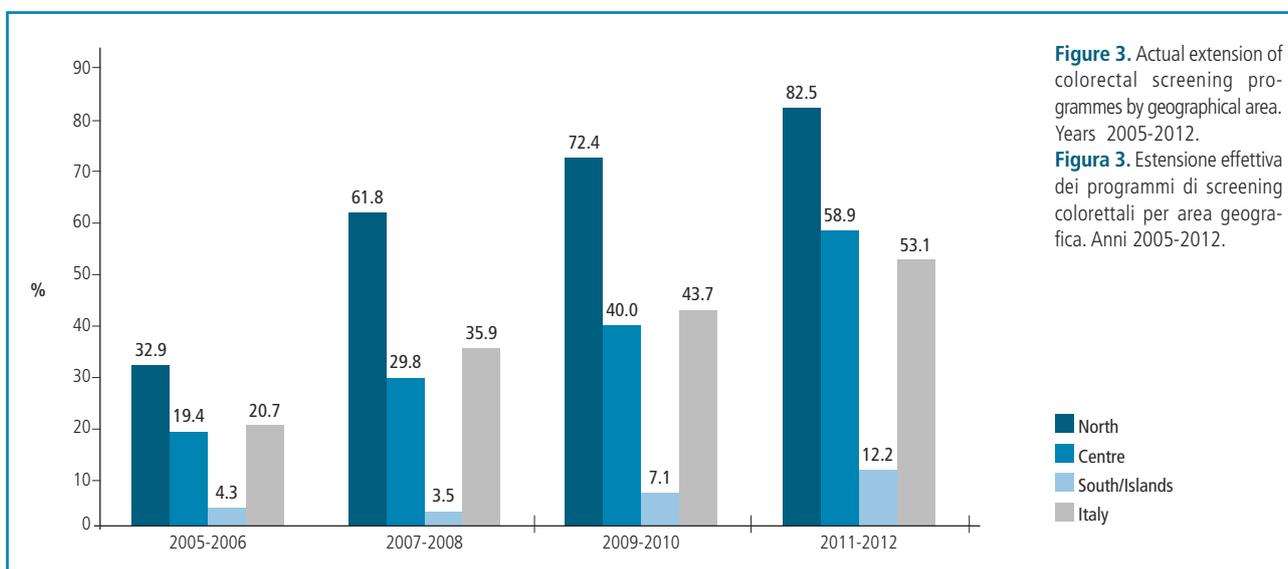
Concerning colorectal cancer screening, in the period 2011-2012 we continued to observe an increase in the actual extension for the whole country (extension was 53% of the target population: men and women aged 50-69). Actual extension was almost double compared to the biennium 2005-2006 (29.7%). This is very encouraging, since colorectal cancer

screening was only introduced recently (2005) in Italy. Unfortunately, once again, differences between North and South are evident and become increasingly greater, with 82%, 59%, and 12% actual extension in the North, Centre, and South, respectively. Even more worrisome is the fact that in the South we did not observe any relevant increase till 2012.

## DISCUSSION

In conclusion, we observed an increase in the actual extension of all three screening programmes, although the differences between Centre, North, and South remained relevant, especially for breast and colorectal cancer screening.

Our data are consistent with the PASSI survey reported on in this issue by Carrozzi et al.<sup>7</sup> PASSI is a national telephone sur-



**Figure 3.** Actual extension of colorectal screening programmes by geographical area. Years 2005-2012.

**Figura 3.** Estensione effettiva dei programmi di screening coloretali per area geografica. Anni 2005-2012.

veillance system that continuously collects information about behavioural health risk factors and the diffusion of preventive health interventions. PASSI collects information both on organized screening programmes and spontaneous public and private screening. The PASSI survey reports that from 2010 to 2013 coverage increased for all types of screening and the increase was mostly due to the tests performed within organized programmes. All three screening types show a decreasing North-South trend in coverage. The gap between Centre-North and South is mainly due to organized screening.

A screening programme is not limited to the administration of a test. It is the construction of a process which takes care of the invited person from the primary test to (if necessary) the assessment phase, treatment, and follow-up of the detected lesions. Each of these phases requires a standardized protocol and a monitoring system in order to maintain high quality assurance. In the present issue, we present examples of the effort we are making in that direction.

Ponti et al.<sup>8</sup> reports on the audit system on Quality of breast cancer diagnosis and treatment (QT). QT is a voluntary quality assurance programme concerning screen-detected breast cancer care and it has been running in Italy since 1997. During the period 2000-2012, about 40,000 lesions in thirteen Italian regions were documented in QT.

Castagno et al.<sup>9</sup> deal with the quality and completeness of the information provided to women by Italian breast screening

programmes. It reports the results of a survey promoted by the Italian group for mammography screening (GISMa) in the spring of 2014. Aim of the study was to compare information provided by invitation letters and leaflets of Italian breast screening programmes in 2001 and nowadays, and to verify whether there has been an evolution in the type of information provided, and, if so, of what type.

Bucchi et al.<sup>10</sup> report the position paper on interval cancers by the Italian group for mammography screening. In particular, the paper outlines problems and solutions with respect to appropriate assessment of the frequency of interval cancers in relation to expected incidence (proportional incidence).

Carozzi et al.<sup>11</sup> describe the HPV-based follow-up protocol for cervical lesions proposed by the Italian group for cervical screening (GISCi). Aim of the protocol is to improve follow-up appropriateness (eliminating too frequent check-ups) by using HPV testing. To date, screening programmes in Italy lack any clearly defined follow-up protocol after an abnormal Pap smear and negative colposcopy, or any uniform indications.

In the two papers by Zorzi et al.<sup>4,5</sup> the early impact of implementation of screening programmes on stage distribution at diagnosis and incidence of colorectal cancer is reported. Despite the brief time since programme implementation, clear changes have nevertheless been evident in the epidemiology of colorectal screening.

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