

# Cervical Cancer in the European Union and Accession Countries:

**An Audit**  
**April 2003**

Cervical Cancer

IN THE EUROPEAN UNION

AND ACCESSION COUNTRIES

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# Foreword

## PEGGY MAGUIRE

Director General, European Institute of Women's Health (EIWH)

Over the last decades, cervical cancer screening programmes have saved thousands of lives, but more than 12800 women in the European Union still die needlessly each year from the disease. The European Institute for Women's Health has undertaken an Audit regarding cervical cancer screening in all EU member states and the ten accession countries. The report is divided into brief country profile overviews. Issues addressed include a description of the target population and how they are approached, methodology and technologies used for screening and an overview of statistical information on mortality and incidence rates, where these are available.

The report demonstrates that the incidence of cervical cancer has been declining in Europe in recent decades primarily due to the introduction and adoption of national screening programmes and/or high levels of opportunistic screening. This is particularly true in the European Union, though there are nonetheless significant national and even regional variations in mortality and incidence rates within the EU.

There are also contrasting trends and geographical variations within Europe, where rates of cervical cancer in Eastern Europe are significantly higher than in the west, quantified by the European Journal of Cancer in 2000<sup>1</sup> as varying by over a factor of three between the highest rates registered in Poland and the eastern states of Germany and the lowest rates recorded in Italy, Spain and The Netherlands.

A major barrier to addressing and treating this wholly preventable, virus-linked disease in the former eastern bloc is the lack of resources available to implement national and/or regional cancer screening guidelines and cervical cancer screening programmes. In the long term however, the medical and hidden costs of treating cervical cancer prove more expensive than preventive measures such as screening. The compiling and registration of relevant statistical information is not comprehensively undertaken in many countries in Eastern Europe and limited information is available on cervical cancer prevention and treatment, particularly for the general public.

A significant finding in our Audit highlights that the most vulnerable age-groups for cervical cancer are the ages 20-24/25-29. This is particularly true of women in Eastern Europe, though it is by no means exclusive to that region. It underlines the critical importance of putting in place early detection systems to inform, target and treat these age groups, in particular in Eastern Europe.

The EU must demonstrate leadership for the accession countries and provide the necessary funds which are needed to ensure that national screening programmes can be implemented and maintained and support government and national institutes' efforts to draft and adopt national guidelines for cancer screening. Women need to be made aware of the importance of screening for cervical cancer. Introduction of new

<sup>1</sup> Cervical Cancer mortality rates in young women in Europe: patterns and trends, European Journal of Cancer 36 (2000) 2266 - 2271; p 2266

screening technologies such as HPV testing must also be encouraged. It should be highlighted that the Czech Republic, an accession country, for example, is the only European country to have adopted legislation which requires HPV testing for primary rather than secondary screening.

There are many, many diseases which remain difficult to detect, are invasive, traumatic and expensive to treat. Cervical cancer is not one of these. It is wholly preventable. It is wholly treatable if detected in time. We have come a long way in Europe in the past decades but this disease is still with us and continues to kill more than 12800 women

needlessly every year in the EU. More needs to be done and the incidence and mortality rates for cervical cancer should be zero.

All of us, healthcare practitioners, legislators and institutions for women's health, have a responsibility and a duty to tick this preventable disease off the list. With regard to Eastern Europe, we have a responsibility to assist our future fellow members to benefit from our experience and expertise to create, improve and even surpass our systems.

**Peggy Maguire**

Director General  
European Institute for Women's Health

# Foreword

## RIA OOMEN-RUIJTEN

Member of the European Parliament

As a Member of the European Parliament, I have always believed that my responsibility to my constituency is as important as my belief in European integration. These two commitments come together in my position that the highest standards of health protection become a top priority for the European Union. This is especially important at a time when the European Union is striving to make a strong impact on its citizens and where the prospect of the Union's eastern enlargement makes action now all the more critical.

Such commitments are built on concrete steps, and it is for this reason that I am honoured to have collaborated with the European Institute of Women's Health in preparing this audit of cervical cancer practices across the enlarged European Union. It was prepared as a tool for the public, specialists, national administrations, MEPs and the Commission to readily compare the

screening situation in all EU countries with the aim of pushing towards best practice.

Each year cervical cancer needlessly kills more than 12800 women in the Union and 200000 world-wide. A slow-growing cancer this disease is 100% curable if detected early enough. The Pap smear, introduced in the 1940's had made a great contribution to early diagnosis and has saved lives. But 60-years on, we are on the verge of introducing an exciting new test which detects the cause of this cancer, the human papillomavirus (HPV). As a founding member of *European women for hpv testing*, I am convinced that best practice includes HPV testing not only for borderline (inconclusive or slightly abnormal smears) but also as a primary tool for detection.

**Ria Oomen-Ruijten**

Member of the European Parliament  
April 2003

# Introduction TO THE AUDIT

## INTRODUCTION TO THE AUDIT

The European Institute of Women's Health, the EIWH, presents this Audit on cervical cancer screening throughout the enlarged European Union as our contribution to the debate around the draft EU Recommendation on Cancer Screening, due to be adopted by the European Commission in 2003. While the EU Recommendation is designed to promote quality screening in all cancers, this Audit focuses on cervical cancer because we are convinced that national programmes coupled with the introduction of the latest in screening technologies, notably HPV testing, would not only consolidate the successes of the Pap smear, but could make a significant contribution to eliminating this virally-induced and slow-growing disease.

National screening programmes in Europe still rely on the Pap smear which, introduced in the 1940s, has successfully reduced the number of deaths from cervical cancer, but technology has moved on and 12 817 women in the EU still die needlessly every year from this disease<sup>1</sup>. In the accession countries, which has a combined population of 140 million people, a little more than a third of the EU's, and where annual mortality rates are just not available, we see significantly higher rates of cervical cancer,

where all ten countries have incidence rates in excess of 15 per 100000 and some vastly greater than that. A mortality figure of about 15 000 has been indicated by certain sources for Eastern Europe as a whole, not including obviously Malta or Cyprus, but we believe this is probably not accurate, when one examines the incidence and mortality rates which the data in this Audit reveal. The figures must be significantly higher.

One of the most important results of our Audit is to confirm in no uncertain terms that cervical cancer screening programmes work. Finland, for example, which has had a national screening programme for decades, has a very low incidence and mortality rate for the disease, while Ireland, which does not have a national screening programme, has a considerably higher rate.

We also see that in the accession countries, recent cervical cancer incidence and mortality rates, where available, are significantly higher than in the EU. Before the collapse of the Soviet Union in 1989, Estonia, Latvia and Lithuania established the first population-based registration system for (all) cancer cases in the USSR. However with the political upheaval and the attendant changes in the health care systems, where one saw a move away from a centralised

<sup>1</sup> RJ Black et al. European Journal of Cancer 33 (1997) pp 1075 - 1107

state-controlled one, towards decentralised health-insurance based systems, funds for cervical cancer screening were withdrawn and cervical cancer incidence rates increased. Today these are again decreasing, but a significant gap continues to exist between the accession countries and the EU.

National cervical cancer screening programmes are currently operating in six EU member states: Finland, England & Wales, Germany, Luxembourg, The Netherlands and Sweden. In the case of the accession countries, Poland and Slovenia have currently implemented national screening programmes, and in the case of Slovakia, a national programme has been initiated, but, because of a lack of funds, has not been implemented.

In most EU countries cervical cancer screening began on an opportunistic basis, and later developed into organised programmes. The age-population of women targeted for screening ranges from 15 to 25 years up to 59 years and beyond. Many of the countries have issued specific national/regional guidelines which set standards of quality assurance, and are implemented in parallel to the European Guidelines, first published in 1993.

### **DATA: A CAUTIONARY TALE**

As the European Union has learned, a starting point for any credible policy lies in the availability of comparable data. This Audit reveals the sorry state of the available data on deaths from cervical cancer but the EIWH would like to emphasise that, despite this weakness, the Audit remains a useful tool. The Audit captures both differences and similarities of incidence and mortality rates between the EU-15 and the ten accession countries, as well as identifying regional disparities, including within individual countries themselves. However, different types of incidence rates, calculated according to population density, are applied

in a number of countries. These include a 'crude' incidence rate (also referred to in the national context, for example, in the case of the Czech Republic, as the 'Czech standard'), a 'European' incidence rate and a 'world standardised' incidence rate.

These differing rates appear haphazardly in the data, particularly with regard to those available for the accession countries. We have mainly used the 'crude incidence' rates in the Audit and where only 'world standardized' or other rates are available, as in the case of Latvia for example, we have retained those.

To complicate the issue further, there are disparities evident in the statistical information taken from the fundamental source for compiling the Audit – the European Journal of Cancer (EJC). This is because of the various countries' use of varying methodologies to assess national cervical cancer mortality and incidence rates. Where possible, we have endeavoured to address these disparities.

### **INFORMATION SOURCES**

The Audit's main data source for the EU-15 is, as mentioned earlier, the European Journal of Cancer. In the case of the accession countries, locating available information proved a significant challenge. There are no European Journal of Cancer country profiles available for the accession countries, nor did the WHO headquarters in Copenhagen have any relevant statistical information. This was instead made available through direct contact with cervical cancer specialists, doctors, professors and officials from national Health ministries in each of the countries, who generously provided most of the information. The Association of Cancer Registries (IARC) has also been very helpful and provided data on incidence and mortality rates in a number of countries. Where possible, the most recent data available has been used.

# Data summary

## European Union

COUNTRY	MORTALITY RATE (per 100000 women/year)	INCIDENCE RATE (100000 women/year)	DATA OF NATIONAL SCREENING PROGRAMME
<b>Austria</b>	1.0 (2000)	9.92 (1999)	Non applicable
<b>Belgium</b>	220 cases/year (most recent estimate)	14.5 (2000)	Non applicable
<b>Denmark</b>	177 women died (1995)	12.9 (1995)	Non applicable
<b>England/Wales</b>	1200 cases (2000)	9.3 (1997)	1998
<b>Finland</b>	0.8 (1995)	3.8 (1999)	1970
<b>France</b>	4.6 (2000)	10 (2000)	Non applicable
<b>Germany</b>	3.6 (1996-98)	14.3 (1996-98)	1991
<b>Greece</b>	2.48 (2000)	9.29 (1998)	Non applicable
<b>Ireland</b>	3.41* (2000)	10.02* (2000)	Non applicable
<b>Italy</b>	1.7 (1981)	8.4 (1981)	Non applicable
<b>Luxembourg</b>	6.1 (1997)	4.8 (1995)	1962
<b>The Netherlands</b>	2.5 (2000)	8.1 (2000)	1970
<b>Portugal</b>	-	24.2 (1993 central region)	Regional pilot programme 1990
<b>Spain</b>	594 cases in 1995	Non applicable but 4-10 cases (1988-98)	Non applicable
<b>Sweden</b>	3.4 (1981)	10.1 (1989-93)	Mid - 1960's

\* Preliminary figures



# Data summary

## Accession Countries

COUNTRY	MORTALITY RATE (per 100000 women/year)	INCIDENCE RATE (100000 women/year)	DATA OF NATIONAL SCREENING PROGRAMME
Cyprus	4 cases (2000)	4.2	Non applicable
Czech Republic	7.4 (1999)	21.4	Non applicable
Estonia	9.8 (2000) - 5.8 (2000)	22 (2000) - 15.5 (2000)	Non applicable
Hungary	10.1 (1995)	26.7 (1995)	Non applicable
Latvia	6.3 (2000)	10.1 (2000)	Non applicable
Lithuania	7.7 (1998-99)	17.4 (1998-99)	Non applicable
Malta	2.44 (1992-93)	7.59 (1992-93)	Non applicable
Poland	6.8 (2000)	13 (2000)	1988
Slovakia	7.6 (1995)	22.2 (1995)	Non applicable
Slovenia	-	19.2 (1996)	2002

# Cervical Cancer

## IN THE EUROPEAN UNION MEMBER STATES

### Austria<sup>1</sup>

#### COMMENTARY

In addition to breast cancer, addressing cervical cancer is of increasing importance in Austria, and screening for the disease has taken place since the 1950's. Over the past few years, the importance of screening has been elevated to the political agenda.

#### COUNTRY OVERVIEW

An opportunistic cervical cancer screening programme was introduced in 1950 in two major hospitals. It was at the beginning of the 1960's that the programme was established in all nine regions of the country by the federal medical bureau. There is no nationwide cervical cancer screening programme in Austria. It is only in the most western region, Vorarlberg, that a project for organised cervical cancer screening was initiated in 1970. This programme is still ongoing and 85% of women in this area have been reached.

In the other regions of Austria, there are no cervical cancer screening programmes in place. However, women are invited to attend for an annual screening on a voluntary basis, which is reimbursed by insurance policies.

The Austrian Society of Cytology has issued guidelines for the cytological smear including a quality assurance protocol covering technical aspects, quality control of the smear and second readings, auditing of misread cases, personnel training and recruitment, communication of results and follow up of abnormal tests. In addition, the Austrian Society of Pathology, the Austrian Society of Cytology as well as the National Health Insurance scheme, issue the national guidelines for cervical cancer screening. However, there is no guarantee that quality levels aimed for in the guidelines are implemented in practice. Reimbursement is available for the traditional Pap smear, and HPV testing is reimbursed in the event of abnormal or borderline smears.

<sup>1</sup> Cervical Cancer Screening in Austria, Breitenecker,G.; Wiener,H.; Stani,J. European Journal of Cancer 36 (2000) 2189-2190  
- Österreichischen Gesellschaft für Zytologie <http://www.cytology.at/gynzyto.htm>

## TARGET POPULATION AND METHODOLOGY APPLIED

There are over three million women in the target group over 20 years of age, and no upper age limit eligible for screening. There are approximately 1.5 million smears only taken annually, exclusively by gynecologists.

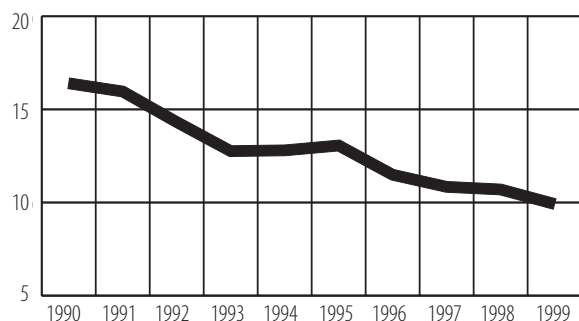
The percentage of women covered by the opportunistic screening is 60% with two or more smears, 10% with one smear in their entire life and 30% who have never had a smear. The recommended screening interval is every year.

## STATISTICS

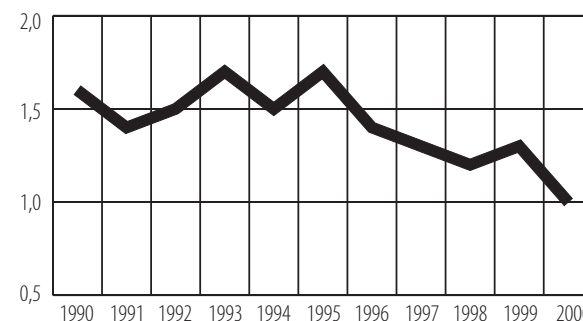
A National Cancer Registry exists. Hospitals, pathological institutes, forensic medicine and other institutes are legally obliged to report any cancer incidents. They code the cancer incident according to ICD 9 (International Classification of Diseases) and the data is collected and presented by Statistik Austria.

Opportunistic cervical cancer screening was introduced nationwide in the early 1960s. The graphs below reflect incidence and mortality rates as recorded from 1990<sup>2</sup>.

**Cervical Cancer Incident rates per 100000 in 1990-99**



**Cervical Cancer Mortality rates per 100000 in 1990-2000**



<sup>2</sup> Statistic Austria <http://www.statistik.at/>

## Belgium<sup>1</sup>

### COMMENTARY

Belgium's complex political structure, means that cervical cancer screening measures and guidelines vary, according to the three regions: Flanders, Wallonia and Brussels Capital Region. At present, only the Flemish area has a cancer screening programme, where the coverage of the target population in Flanders is 82.3%. This figure is significantly lower

in Wallonia and in the Brussels Capital Region.

State reform in the 1980's delegated all preventive health care to the three regions, however in October 2001, the Belgian Parliament unanimously adopted a Resolution, proposed by Yolande Avontroodt MP, calling on the Belgian government to introduce a national cervical cancer screening programme.

<sup>1</sup> Cervical cancer screening in Belgium, M. Arbyn, H Van Oyen, European Journal of Cancer 36 (2000) 2191-2197  
- European Guidelines for Quality Assurance in Cervical Cancer Screening, European Commission, 1999  
- European Network of Cancer Registries website: <http://www-dep.iarc.fr/encr.htm>

## COUNTRY OVERVIEW

The establishment of a cancer screening register has been delayed due to strict privacy laws and by the fact that implementation of screening programmes is the responsibility of the regions. Further complications arise as the financing of the programmes is controlled by the national government.

Therefore regional differences can be very significant. For example, in the Flemish region there are no formal guidelines at present to ensure the processes used in the laboratories but they are regarded as a future priority that needs to be set. In the Walloon region there is no formal screening programme. Pap smears are free but there are no reimbursement policies for HPV testing.

## TARGET POPULATION AND METHODOLOGY APPLIED

In Flanders, the female population is 1.6 million, in the Walloon region it is 3 million and in the Capital region of Brussels it is 0.5 million. Preventative healthcare in Belgium is organised according to regions, while curative care is addressed on a national level. A formal cervical cancer screening programme, based on the European guidelines, only exists in the Flemish region, and

is not applied in the Brussels region.

Screening in the entire country starts at the age of 25 and goes until the age of 64, with a three-year interval period. Reimbursement is provided for the Pap smear.

## STATISTICS

Cervical cancer still ranks third in Belgium after breast and colon cancer. According to the European Journal of Cancer, there has been a decline in death rates, though there seems to be a rising trend that younger women face an increased risk of contracting cervical cancer. The incidence rate for the entire country is 14.5 cases per 100000 women.

According to the 1993 National Cancer Register (NCR) statistics, there were 749 cases of cervical cancer with 482 (64%) cases in the Flemish region, 206 cases (28%) in the Walloon region and 61 (8%) in Brussels. Deaths are estimated at around 220 per year, with variations from region to region.

In the Flemish region the coverage of the population is high (approx. 82.3%). According to the European Journal of Cancer, a system of organised screening is estimated to save the state health authorities an average of € 4-5 million.<sup>2</sup>

<sup>2</sup> Cervical cancer screening in Belgium, M. Arbyn, H Van Oyen, European Journal of Cancer 36 (2000) 2191-2197

# Denmark<sup>1</sup>

## COMMENTARY

In Denmark, cervical cancer was elevated to the political agenda in 1986 when the National Board of Health issued national guidelines and recommendations for cervical

cancer screening. Women's health, and public health in general, is regarded as a political priority in Denmark and all primary health care and hospital treatment is free of charge.

<sup>1</sup> Cervical Cancer Screening in Denmark, Bigaard, J; Hariri, J; Lynge, E. European Journal of Cancer 36 (2000) 2198 – 2204

## COUNTRY OVERVIEW

Although no national cervical cancer screening programme exists in Denmark, the National Board of Health issued national guidelines and recommendations for cervical cancer screening in 1986. By 1998, these guidelines were almost completely implemented. Denmark is divided into 15 counties and it is the responsibility of regional politicians and the health authority in each county to organise and implement the national cervical cancer screening programme. Variations do therefore exist amongst counties, depending on the age of those invited for screening, follow-up procedures and treatment.

The national guidelines and recommendations for regional cervical cancer screening programmes, agreed on the following five recommendations:

- All women should be offered a smear every three years.
- The programme should be aimed at women between 23 and 59 years of age.
- Women between 60 and 74 years of age should be invited once.
- Smears should be taken by GPs.
- A coordinated programme should be set up with personal invitations to women not already screened within the last three years.

A woman is therefore offered thirteen rounds of screening in her lifetime, all of which are covered by the national health insurance policies.

## TARGET POPULATION AND METHODOLOGY APPLIED

The total female population is approximately 2670000. According to statistics, in 1997, 90% of women between 23 and 59 years of age were screened, and 46% of

women between 60 and 74 years of age were screened, thereby a total of 650000 Pap smears are taken annually. Although the national guidelines recommend screening every three years, these figures indicate that all women between 23 and 59 years of age are being screened on average every second year.

To ensure that women are being screened, a programme has been established whereby invitations are issued to women who have not been screened in the last three years. This is controlled through a population register, which records all health and personal information. If invitations are ignored, a letter is sent to the woman's GP who is expected to inform the woman. The GP is also expected to inform her on the results of the smear and if the results prove positive, the woman is referred to a gynecologist for treatment.

## STATISTICS

The Danish Cancer Registry became operational in 1943 and has almost complete reporting of cancer incidents in Denmark. In the period 1987-1992 there were 15.3 incidents per 100000 women and in 1993-1995, the incidence rate was 12.9 per 100000 women.

In 1995, cervical cancer was the eighth most common cancer in women, and between 1988 and 1992, Denmark was listed fifth highest amongst European countries for its age-standardised incidence rate. In 1995, 486 new cases of cervical cancer were diagnosed and 177 women died from cervical cancer in the same year.

# England and Wales<sup>1</sup>

## COMMENTARY

Cervical cancer in England and Wales is managed through an organised cervical screening programme. This is a result of cervical cancer being prioritised by the National Health Service, which before 1960 was administered in a less structured manner. Both incidence and mortality rates are high in England, and therefore an issue that has been addressed as a priority by politicians.

## COUNTRY OVERVIEW

Cervical cancer screening has existed since the 1960's, though in 1988 it was decided to develop a national cervical cancer screening programme to absorb all the local programmes that existed and to provide the same service to all women in England. Cervical screening operates through the National Health Service, which is funded from general taxation and is available free of charge.

The programme is controlled through a computerised call and recall system, which was introduced in 1988. To ensure quality assurance, guidelines have been established to complement the national screening programme. These include quality of information given to women, and to clarify more technical topics such as standards in cytopathology and in colposcopy. As a result of the success of the national programme, the National Health Service has three pilot implementation projects running on liquid based cytology and HPV testing.

## TARGET POPULATION AND METHODOLOGY APPLIED

England has a population of approximately 14 million women who are eligible for a cervical cancer screening test and the country is divided into eight health regions at a sub-national level. The target population is between 20 and 64 years of age, which is screened at least every five years. In the case of an abnormal Pap smear, the patient is recommended to repeat the smear after six months.

## STATISTICS

In England there are nine cancer registries, and one in Wales. These cancer registries receive data and statistics from hospitals in their regions, and are then obliged to send the information to the Office of National Statistics, which records all statistics in the UK<sup>2</sup>.

In England and Wales, there are approximately 2700 cases of invasive cervical cancer a year, and approximately 19000 in-situ cases registered per year, and approximately 1200 deaths per annum.

The incidence has fallen from 16 per 100000 in 1986 to 9.3 per 100000 in 1997. Moreover, mortality rates are falling at about 7% per annum in England and Wales.

According to the European Journal of Cancer, approximately 800 lives are saved each year in women under 55 years of age, due to the implementation of a national screening programme.

<sup>1</sup> Cervical Cancer Screening in England, Patnick, J. European Journal of Cancer 36 (2000) 2205-2208

<sup>2</sup> Dr. M. Quinn, National Cancer Intelligence Centre, London, UK

# Finland<sup>1</sup>

## COMMENTARY

In Finland, cervical cancer screening has a long history and a screening programme has been in place for over 30 years, which, according to the European Journal of Cancer, explains the 70-80 per cent decrease in the age-adjusted cervical cancer incidence. These results encourage the continuation of the Pap-screening programme in its current form, although options for the modernisation of the screening systems with the help of new technologies available – such as HPV-based controls – are being planned.

## COUNTRY OVERVIEW

Organised cervical cancer screening was introduced in Finland in the early 1960's, first with pilot projects in three municipalities in 1963 which then spread to cover most parts of the country within a few years. By 1970, the coverage of the invitational programme exceeded 80 per cent of the women in the target age group.

Screening for cervical cancer is part of the national healthcare system in Finland and is free of charge for women. In the organised programme, the coverage of invitations was approximately 90 per cent of the target age in 2000. Most of the screening activities have, in the past been administered by the Finnish Cancer Organisation (FCO). Within the FCO programme, the cytological laboratories analysing smears are under the supervision and control of the Central Cytological Laboratory of the FCO. In the normal screening practice of the organised programme there are a number of quality control activities, such as control of sample quality, re-readings, and cytopathological meetings. There is currently no systematic monitoring or publishing of their results.

The national screening guidelines were drawn up in a bylaw in 1992, which specifies the target population and the screening intervals.

## TARGET POPULATION AND METHODOLOGY APPLIED

The target population is identified from the central population register of Finland. Invitational status is defined according to the year of birth and municipality. Since 1992 the municipalities have had to offer cervical cancer screening for all 30-60 year old women. The screening interval is five years and the screening method used is the Pap smear.

## STATISTICS

Finland has a National Cancer Registry, which records and files the invitations and screening results of the screening programme. The Finnish Cancer Registry provides complete data on cancer incidence and mortality, with the mortality records being obtained from the files of the Cause-of-Death Registry at Statistics Finland.

The annual statistics on the occurrence of cancer give the number of cases and incidence rates by gender, age and health care district. Age-specific and age-adjusted incidence rates are available. There are also annual statistics for incidence and deaths from cervical cancer.

In 1996, 256616 women in the target age group were eligible for cervical cancer screening, according to population statistics; 167261 smears were taken in compliance with the organised programme in the target age group, with a participation rate of 72.8 per cent.

In 1999, the incidence of cervical cancer in Finnish women was 3.8 per 100000 and the number of cases was 153. The predicted number of cases for 2003 is 137. In 1995, the mortality rate of cervical cancer was 0.8 per 100000.

<sup>1</sup> Cervical Cancer Screening in Finland, A. Anttila, P. Nieminen, European Journal of Cancer 36 (2000) 2209 - 2214

# France<sup>1</sup>

## COMMENTARY

In France, the first mass screening programmes were launched in 1990 but opportunistic testing had already become widespread prior to this date and the country has experienced a clear decrease in invasive cancer cases. There is no single programme in the country, but national guidelines on how the screening programme should be organised do exist. A law passed in 1998 stipulates that all screening tests that are performed in agreement with the national recommendations are free of charge.

On 10 March 2003, France implemented cervical cancer action guidelines, which set out an action plan to tackle cervical cancer in France and links cervical cancer to the human papilloma virus (HPV). The screening methodology recommended in the guidelines is the Pap smear test and HPV testing for borderline cases.

## COUNTRY OVERVIEW

The different *départements* (local regions) implement cervical cancer screening programmes in the different geographical areas. As of 1999, a national committee is responsible for editing guidelines and following the screening practice for the entire country. The guidelines for screening are published by the National Agency of Evaluation of Health Intervention (ANAES). Reimbursement is available for Pap smears, and a decision for reimbursement of HPV testing will be taken by the Reimbursement Committee of the Health Ministry during the course of 2003.

Meanwhile, the Ministry of Health issued a Cancer Action Plan in March 2003, which recommends traditional Pap smear, followed by HPV testing for borderline cases, reimbursed by health insurance schemes.

Since 1990 there have been four population-based pilot programmes that have been implemented in Isère, Doubs, Bas-Rhin and Martinique. They evaluate the participation rates (which varies from 20 % to 80 % according to the region and the age), the number of abnormal results, and the cancer detection rate. Further benefit could be derived from focusing on the age group over 55 and on the implementation of a quality assurance test, and follow-up of women with abnormal smears.

## TARGET POPULATION AND METHODOLOGY APPLIED

The total female population being tested is 17 million and the age groups range from 25 to 65, with an interval period of three years. There is no national cancer registry - it exists only at a regional level. At present six million cervical smears are taken each year, primarily by gynecologists. The Association of Cytological Evaluation created new guidelines and the evaluation of cervical smears is published. Pathology laboratories are responsible for the readings and are obliged to follow these national guidelines.

There has been a voluntary initiative undertaken on the part of the pathologists who have initiated a computerised national database of cytological cervical smear results (CRISAP). If participation in this register should become mandatory, then the data would serve to organise the follow-up of the abnormal smears. Since 1990, a number of *départements* have implemented the national guidelines, however, as the results of the four pilot programmes indicate, the impact across the regions differ. The Martinique programme, for example, saw a very low level of participation regardless of the age group.

<sup>1</sup> Cervical cancer screening in France, P. Schaffer et al., European Journal of Cancer 36 (2000) 2215-2220  
- European Guidelines for Quality Assurance in Cervical Cancer Screening, European Commission, 1999  
- European Network of Cancer Registries website: <http://www-dep.iarc.fr/encr.htm>



## STATISTICS

The estimated incidence rate of cervical cancer in France is 10 per 100000 and the mortality rate is 4.6/100000. In 2000, 3400 new cases were reported, and there are approximately 2000 deaths per year. Mortality caused by cervical cancer has been in decline, and in the period 1978 to

2000, incidence rates for cervical cancer have decreased 2.9% per year.

The most recent data indicates a marked decrease in women over 40 years of age, while there still is no decline in younger women where about 400 new cases are detected each year. Forty per cent of French women have never had a cervical smear test.

# Germany<sup>1</sup>

## COMMENTARY

The debate on cancer screening programmes has become politicised in Germany. However it should be noted, that the predominant focus is on breast cancer and cancer of the colon. Concerns about cervical cancer are present both among political elites and the public, though awareness amongst the public is less well developed.

## COUNTRY OVERVIEW

In 1971, the statutory cancer screening programme was introduced in West Germany. Following reunification, the programme was extended to the new Bundesländer in 1991. Prior to 1991, there was no national screening programme established in former East Germany. Under the national screening programme, women as of the age of 20 and covered by the statutory German health insurance have the right to an annual Pap smear test, and HPV testing is reimbursed for borderline cases.

The German Medical Association (Bundesärztekammer) and the National Association of Office-based Physicians issue the national guidelines for cancer screening. These guidelines include a quality assurance protocol.

The statutory health insurance programme covers the costs of the screening examination, as well as any diagnostic follow up or treatment of abnormalities detected by the screening. In addition, private insurance fully covers the Pap smear.

## TARGET POPULATION AND METHODOLOGY APPLIED

In 2000, there were 33 million women over 19 years of age eligible for the programme, approximately 46% of which participate in the cervical cancer screening programme each year, and over 80% attend in a three-year period.

Of these thirty-three million, 92% are covered by statutory health insurance schemes.

The traditional Pap smear, provided at a one-year interval, is the screening method used in Germany. It starts at the age of 20, and has no upper age limit.

<sup>1</sup> Cervical Cancer Screening in Germany, U. Schenk, L. von Karsa, European Journal of Cancer 36 (2000) 2221- 2226  
- Leitlinie der Bundesärztekammer zur Qualitätssicherung zytologischer Untersuchungen zur Früherkennung des Zervixkarzinoms Bundesärztekammer  
- Stand: 11.02.1994 <http://www.bundesaerztekammer.de/30/Richtlinien/Leitidk/Zervix.html>  
- Krebs in Deutschland, Häufigkeiten und Trends.; Herausgeber: Arbeitsgemeinschaft Bevölkerungsbezogener Krebsregister in Deutschland, in Zusammenarbeit mit dem Robert Koch Institut; Saarbrücken, 2002.

## STATISTICS

In January 1995, a law obliging every Bundesland to introduce a harmonised cancer registry was adopted. As of 1 January 1999, it became the responsibility of the individual Laender to update the cancer registry. The Laender were given individual powers to adjust their cancer registries according to their local conditions. Thus the content of the cancer registers vary according to the extent of data protection offered by the individual Laender, and depending on consent given by the patient.

Reliable data are available for Saarland since 1970, but recently have been broadened to include the rest of West Germany. In the area of Saarland, age-standardised incidence rates of invasive cancer decreased by 50 % in the decade following the introduction of the national screening programme (from 29.2 per 100000 in 1970 to 11 per 100000 in 1990). For the former German Democratic

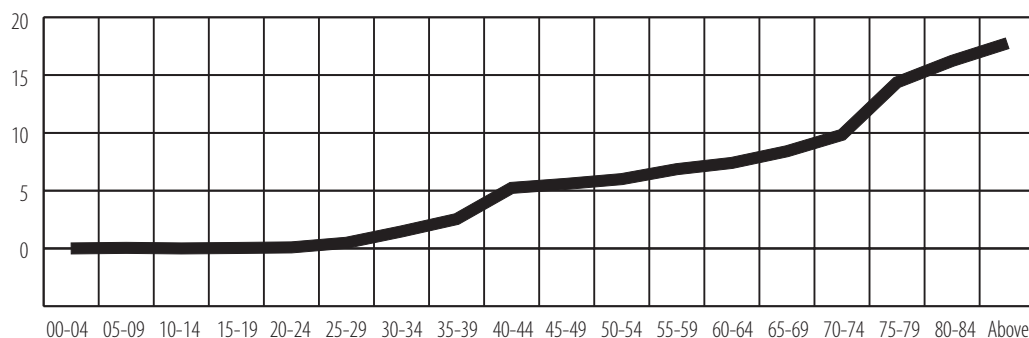
Republic there was a national cancer registry which showed the age-standardised incidence rates in East Germany to be 21 per 100000 in 1990. In 1998, there were 4 232 incidents of cervical cancer in women under 60 years of age in Germany.

Mortality rates in Germany have decreased by approximately one-third in Saarland and East Germany since the 1970s, from 7 per 100000 in 1970 to 4 per 100000 in 1981 in the area of Saarland; in East Germany from 11 per 100000 in 1970 to 7 per 100000 in 1981. In West Germany, cervical cancer mortality has decreased from 6 per 100000 in 1970 to 3 per 100000 in 1990.

The table below reflects the age-standardised mortality rates in Germany<sup>2</sup>.

The latest available incidence rate for Germany as a whole is 14.3 per 100000 and a mortality rate of 3.6 per 100000, for the years 1996 – 1998<sup>3</sup>.

### Age-standardised mortality in Germany in 1999



<sup>2</sup> Robert Koch - Institut, 5.12.2002, 12988. Datenanforderung

<sup>3</sup> Cancer in Germany: its spread and trends, Arbeitsgemeinschaft Bevölkerungsbezogener Krebsregister in Deutschland In cooperation with Robert Koch-Institut, 3rd revised version Saarbrücken, 2002

# Greece<sup>1</sup>

## COMMENTARY

At present, there are just two organised regional screening programmes in Greece, which commenced in 1991 and are partly funded by the European Union: the Ormylia Cervical Cancer Screening Programme, which covers the population of Northern Greece, and the Oncological Society Programme which covers the regions of Messinia and Ilia in the south of the country. Both programmes are part of the European Network for Cervical Cancer Screening set up by the Europe Against Cancer programme. Over 80% of the target population for both programmes has already been screened.

However, in the case of the Ormylia programme, a large percentage of the population (75%) lives in rural areas where convenient access to health institutions may be limited. In the Messinia and Ilia programme, mobile units and mini-buses are used in order to better reach parts of the population living in remote parts of the region.

## COUNTRY OVERVIEW

There are no national or regional guidelines for cervical cancer screening, and quality assurance of smear taking in both regional programmes is mainly ensured by involving qualified and well trained health professionals, by using modern equipment, and by following the European Union "Europe Against Cancer" programme. In addition, in the Messinia and Ilia screening programme, a common computerised programme for reporting according to the World Health Organisation classification and the European recommendations, is used.

Although no national screening programme is in place, state and university hospitals provide free smear tests for all women who wish to be examined, but no invitation system is available outside the two organised screening programmes. Private hospitals

and private practices charge a fee for the smear test, which is refundable (either in full or as a percentage of the cost) by the patient's health care provider. However, physicians believe that the paperwork required by most insurance companies is such that women are discouraged to take the smear test.

## TARGET POPULATION AND METHODOLOGY APPLIED

The total population of women eligible for screening in Greece is 3.6 million. The target population of the Ormylia screening programme is just under 17000 women. In the Messinia county 11832 women were screened and a total of 8 129 in Ilia. Both regionally organised programmes use the Pap smear as a screening method. They target women between 25 and 64 years of age and a Pap test is recommended every 2-3 years.

## STATISTICS

Cervical cancer mortality in Greece is relatively low and similar to other Mediterranean countries like Spain and Italy.

In August 1990, the Greek National Cancer Registry was set up. The Registry recently issued data on its first year of work. The incidence rate for cervical cancer in Greece 1991 was 9.55 per 100000. According to the EUCAN database (Cancer Incidence, Mortality and Prevalence in the European Union), the estimated cervical cancer incidence rate for cervical cancer in Greece for 1998 was 9.29 per 100000.<sup>2</sup>

Mortality data released by the National Statistical Service indicate that in Greece cervical cancer was the cause of death for 113 women in 1990, with a decrease to 84 in 1995 and 81 in 1996. The mortality rate from cervical cancer in 2000, was 2.48 per 100000. There are no age-standardised incidence rates available.

<sup>1</sup> Cervical cancer screening in Greece, E. Riza et al, European Journal of cancer 36 (2000) 2227-2232

<sup>2</sup> Ferlay, J. et al. EUCAN database. Cancer incidence and mortality in Europe. International Agency for the Research on Cancer – WHO, Lyon, IARC Press 1998

# Ireland<sup>1</sup>

## COMMENTARY

It is only within the past five years that cervical cancer screening has become an issue on the political agenda in Ireland, although screening for cervical cancer commenced in the 1960's. In 1997, a ministerial decision was taken to introduce a national cervical cancer screening programme, and this has been followed by the introduction of a pilot screening programme for women living in the Mid Western area.

## COUNTRY OVERVIEW

Cervical cancer screening commenced in Ireland in the 1960's on an opportunistic basis. In 1996, national guidelines for cervical cancer screening were produced by the Department of Health Cervical Cancer Committee, and are currently being updated. Additionally, the National Committee of Experts was set up to advise the Department of Health on pilot programmes, the development of protocols, quality assurance, as well as the setting up and implementation of the national cervical screening programme.

In 1997, a ministerial decision was taken to introduce a national cervical cancer screening programme and this has been followed by the introduction of a pilot screening programme in 2000 for women 25-60 years of age living in the Mid Western area of the country. Ireland does not have a population register, however the Data Protection Act was recently amended to allow access to specific databases for the purpose of setting up an age/sex register for breast and cervical cancer. Self-registration for the programme is expected

by the women living in the region and information and awareness is distributed through advertising and notifying health professionals.

The programme is funded by the Department of Health.

## TARGET POPULATION AND METHODOLOGY APPLIED

Cervical cancer screening in Ireland is opportunistic and over 160000 smears are undertaken each year from a population of approximately one million women. Within the context of the pilot programme in the Mid Western region, the target population is approximately 67000 women. The method used is the traditional Pap smear, which is taken by general practitioners, family planning clinics, community clinics and hospitals. The recommended screening interval is every five years and a one year interval after the first smear.

## STATISTICS

There are approximately seventy deaths annually from cervical cancer in Ireland, which is a mortality rate of 4 per 100000.

According to the National Cancer Registry, overall incidence rates for the years 1994 to 1998 (inclusive) average 9.69 cases per 100000, with an average of 75 deaths per year for the same period, which is a mortality rate of 4.1 per 100000.

<sup>1</sup> Cervical Cancer Screening in Ireland, O'Neill, W. European Journal of Cancer 36 (2000) 2233-2234

# Italy<sup>1</sup>

## COMMENTARY

The situation of Italian cervical cancer screening is rapidly changing, from that of a largely spontaneous practice with only a few organised programmes, to one in which organised activity will soon cover most Italian women.

Organised programmes are now mainly taking place at a regional level, which have almost total autonomy in health care matters. At the end of 1999, 34% of the Italian population between 25 and 64 years of age was included in screening programmes. However, there are still significant differences between the north and the south of the country.

A trial on HPV testing is now running in six regions and is funded by the Ministry of Health. The pilot programme, in which 100000 women will be tested, began at the end of February 2002 and will last for two years.

The Italian government is about to introduce new guidelines on cervical cancer screening in 2003.

## COUNTRY OVERVIEW

The oldest and best organised screening programmes took place in the province of Florence (where invitations have been sent out since 1980) and Turin (began in 1992). Other smaller local organised programmes also began during those years, in the absence of national institutional planning. Nationwide programmes, on a regional basis, were organised for the first time in

1996, following the National Oncological Commission's guidelines.

Screening programmes follow the national guidelines but are run and managed at the regional level by the local health authorities. At the end of 1999, seventy-three local organised programmes were active.

National guidelines recommend quality assurance for all parts of the screening programme. However, there is no nationwide standardisation and in recent years data has been collected by most organised programmes, within the framework of the recently created Italian Group for Cervical Cancer Screening (GISCI).

## TARGET POPULATION AND METHODOLOGY APPLIED

A survey conducted by GISCI in 1997 identified 29 active organised screening programmes, with an overall target population of 2074820 women. At the end of 1999, there were seventy-three local organised programmes and 5250000 women (34% of the population between 25 to 64 years of age) were included in the target population.

National guidelines recommend population-based screening of women between 25 and 64 years of age. The recommended interval between screenings is three years. In the 1996 national guidelines, the Pap test was stated to be the only primary screening test. However, a recently appointed (July 2001) National Commission is currently revising the guidelines and will present new ones to the Regions in 2003.

<sup>1</sup> Cervical cancer screening in Italy, N. Segnan et al., European Journal of Cancer 36 (2000) 2235-2239

## STATISTICS

There is no national cancer registry in Italy. Italian cancer registries are organised by the screening programmes (i.e. on a regional basis or by province). However, the GISCi is also working for the establishment of a centralised registry.

The incidence of cervical cancer in Italy is lower than the EU average. The Italian Association of Cancer Registries issues annual statistics on the incidence and deaths from cervical cancer. The most recent data (1998) report 3500 new cases

of cervical cancer per year and 1700 deaths (2.7% of cancer deaths among women).

The standardised annual incidence rate in the Italian population, according to the 1981 census, is 8.4 cases per 100000.<sup>2</sup> The standardised mortality rate of the Italian population, according to the 1981 census, is 1.7 deaths per 100000 annually.<sup>3</sup>

There are no national comparative statistics available or age-standardised incidence rates. The only data available are organised by local registries.

<sup>2</sup> Il Cancro in Italia. I dati di incidenza dei Registri Tumori. Vol III: 1993-1998.  
- R.Zanetti, L.Gafà, F.Pannelli, E.Conti, S.Rosso. Il pensiero Scientifico Editore: Roma, 2002.

<sup>3</sup> Idem

## Luxembourg<sup>1</sup>

### COMMENTARY

Cervical cancer screening in Luxembourg began in 1962, when the first national programme was adopted. It is at present carried out according to criteria that were defined in 1990, when the programme was adapted to take into account developments in the detection and treatment of cervical cancer. The national cancer screening programme (NCCSP) is managed by the government through the National Health Directorate in the Ministry of Public Health. There is a centralised system for the smear readings and handing out of the material needed to take the smears. The health care system guarantees a free annual Pap smear for all women.

### COUNTRY OVERVIEW

The existing national cervical cancer-screening programme has been re-adapted

twice since 1962, with the latest set-up in 1990. There is a system in place for cytology and quality assurance is guaranteed through a cross-reference system that uses daily information regarding biopsies performed across the entire country for histological (study of living tissues) diagnosis. The differences in the results are then registered by the Morphologic Tumor Registry (MTR) – the equivalent to the national cancer registry.

Most doctors work independently in a competitive, free market system. There is only one structured semi-public hospital with a group of gynaecologists working as employees. There is a bonus system for the doctors sampling cervical material. The Ministry of Health keeps a record of how many Pap smears have been examined and how many women and doctors take part in the programme.

<sup>1</sup> Cervical cancer screening in Luxembourg, R. Scheiden et al., European Journal of Cancer 36 (2000) 2240-2243  
- European Guidelines for Quality Assurance in Cervical Cancer Screening, European Commission, 1999  
- European Network of Cancer Registries website: <http://www-dep.iarc.fr/encr.htm>

## TARGET POPULATION AND METHODOLOGY APPLIED

The targeted age group is between 15 and 64 with a three-year interval period. There is however particular attention paid to teen smears that are sent to the laboratory for Family Planning Foundation (Planning Familial). Overall there has been a 4.25-fold increase in the number of women who benefit from the screening programme.

The programme is institutionalised with the National Health Directorate paying a bonus of € 1 for each smear to the doctor who has taken the sample. The system is flexible due to the centralisation of the smear interpretation. Every change in quality concerning spatulas or fixatives can be detected in a short time frame. The direct collaboration

of the three departments, namely cytology, anatomical pathology and the MTR, has the advantage of permitting an evaluation of the programme as a whole and for each individual case.

## STATISTICS

There has been a decrease in cervical cancer mortality rates from 19 per 100000 in 1970 to 6.1 per 100000 in 1997. In 1995, the age-standardised incidence rate of cervical cancer was 4.8 per 100000.<sup>2</sup>

There has been an increase in participation of about 50% of the women targeted by the programme (all women older than 15) each decade from the early 1970's going from 10950 in 1972 to 70441 in 1999.

<sup>2</sup> International Association of Cancer Registries (IARC)  
- Comprehensive Cancer Monitoring Programme in Europe, Europe 95

# The Netherlands<sup>1</sup>

## COMMENTARY

In The Netherlands, the incidence of cervical cancer is amongst the lowest in Europe. Screening started early in the 1970's with a combination of local and regional invitation programmes and opportunistic screening. At present the short-term results of the new screening programme, started in 1996, are available. Evidence of long-term effects will take some years to emerge. The programme is financed by the government and cervical smears are free of charge.

Furthermore, the Ministry of Health is presently funding a study on HPV testing.

## COUNTRY OVERVIEW

The first mass screening programme was launched in 1970 and it combined opportunistic screening and local and regional invitation programmes. Since 1996 there has been a national cervical cancer screening programme which covers the entire country. The Dutch Health Insurance Council, Gezondheidsraad, on behalf of the government, coordinates the programme and it is responsible for financing and quality control. However the structure is largely decentralised and implementation of the programme in practice is left to the nine regional screening centres.

<sup>1</sup> Cervical cancer screening in the Netherlands, M. van Ballegoijen, R. Hermens, European Journal of Cancer 36 (2000) 2244-2246  
- European Guidelines for Quality Assurance in Cervical Cancer Screening, European Commission, 1999  
- European Network of Cancer Registries website: <http://www-dep.iarc.fr/encr.htm>



Information about cytological and pathological investigations performed in the 70 national laboratories is registered in a national data file linked with PALGA (Dutch Network and National Database for Pathology). Incidence and mortality rates are registered at a national level by the cancer registration and the CBS (Central Bureau of Statistics). However, quality assurance guidelines are issued separately by general practitioners, pathologists and gynaecologists, and setting-up of a new quality assurance system has been advised. The Dutch Health Insurance Council coordinates the screening guidelines and it is largely decentralised.

### **TARGET POPULATION AND METHODOLOGY APPLIED**

The size of the target population is 3.6 million and screening begins at 30 and continues to 60 years of age with a three to five-year interval period. There is no national cancer registry; they exist only on a regional level, twelve of which are listed as members of the International Association of Cancer Registries (IARC).<sup>2</sup> The total number of smears taken annually is about 1000000 of which 450000 are taken in an organised programme, while 300000 are other pri-

mary smears and 250000 secondary (follow-up) smears.

Usually, women wait two weeks for the results of the test. In some regions the results of the tests are sent both to the patient and the GP, while in others only the GP is informed and the patient is asked to contact the GP for the smear result. In all cases however, the GP is responsible for the woman being informed of her test results and for the follow-up to be completed. Laboratories in the future will be providing GPs with the lists of incomplete follow-ups in order to reduce the number of women receiving insufficient coverage.

### **STATISTICS**

In 2000, the incidence rate of cervical cancer in the Netherlands is 8.1 per 100000, and the mortality rate is estimated at 2.5 deaths per 100000 women.

The number of cervical cancer cases began to decrease even before the introduction of appropriate screening between 1965 and 1970. The programme introduced in 1996 restructured the management and financing, but it will take at least five years more before steady results can be evaluated.

<sup>2</sup> European Network of Cancer Registries website: <http://www-dep.iarc.fr/encr.htm>

## **Portugal<sup>1</sup>**

### **COMMENTARY**

Cervical cancer in Portugal is dealt with at a regional, rather than on a national level. At present, the traditional Pap smear is the only test included in routine regional screening programmes developed, or to be developed, by the Regional Oncology Institute, as recommended by the National Oncological Plan (NOP).

### **COUNTRY OVERVIEW**

In 1990, the Portuguese government approved the National Oncological Plan (NOP), and as a result, a Regional Cervical Cancer Screening Programme was launched in the eighty-six counties of the Central Region of Portugal.

<sup>1</sup> Minitério da Saúde (Ministry of Health): <http://www.min-saude.pt/>  
- Direcção Geral da Saúde (Directorate General of Health): <http://www.dgsaude.pt/>  
- Dr. Odete Real; Registo Oncológico Regional (Regional Oncological Register)



Following the regional pilot programmes launched in 1990, the Portuguese Government adopted a second NOP in August 2001. This NOP foresees a strategy on cancer screening from 2001 to 2005. Consequently, screening programmes have now commenced in all regions. At national level, the Ministry of Health consults the “Direcção Geral da Saude” (Health Directorate General), which is entitled to produce national guidelines only. The National Health System covers the reimbursement costs of Pap smears, however only HPV testing in the case of borderline cases.

On a regional level, the key regional institutions are divided into two groups:

- Firstly, the “Administrações Regionais de Saúde” (ARS - Regional Health Administrations), of which there are five in the entire country, coordinate actions amongst the health institutions network (i.e. hospitals, clinics). They are the only institutions with the authority to oblige clinicians to use HPV testing.
- Secondly, there are three “Institutos Regionais de Oncologia – IPO” (Regional Oncology Institutes) in the country. These institutes develop their own programmes and have a high degree of autonomy.

## **TARGET POPULATION AND METHODOLOGY APPLIED**

There is currently no national data available for the size of the target population of screened women in Portugal. Unofficially, at regional level, it has been estimated that an average of 600000 women would be targeted in the screening programme of the Central Region of Portugal, which has the most advanced programme.

Within these regional programmes the Pap smear is the only routine test included. The NOP identified as a main objective the launch of screening programmes for women between 30-60 years of age. The interval of testing repeated annually after the first year, and then provided that the results are normal, the interval of testing is recommended every three years.

## **STATISTICS**

In addition to the National Institute of Statistics (NIS), there are four regional cancer registries responsible for collecting data<sup>2</sup>. Following the adoption of the NOP, data collection was made obligatory. No recent data is publicly available and there are no annual statistics for incidence and deaths from cervical cancer.

The latest estimates, which date from 1993, reflect the incidence rate of cervical cancer in the following regions:

- Northern Region: no data publicly available
- Central Region: 24.27 cases per 100000
- Southern Region: average of 15 cases per 100000

No comparative statistics, or age standardized incidence rates are available.

<sup>2</sup> Ministerio da Saude I.P.O.F.G. (Centro de Oncologia de Coimbra); Registo Oncológico Regional Sul; RORENO - Registo Oncológico Regional do Norte; Vila Nova de Gaia Cancer Registry

# Spain<sup>1</sup>

## COMMENTARY

Not all Autonomous Communities and/or regions have a routine cervical cancer screening programme. Regulators justify this by citing low occurrence and mortality from this particular type of cancer.

## COUNTRY OVERVIEW

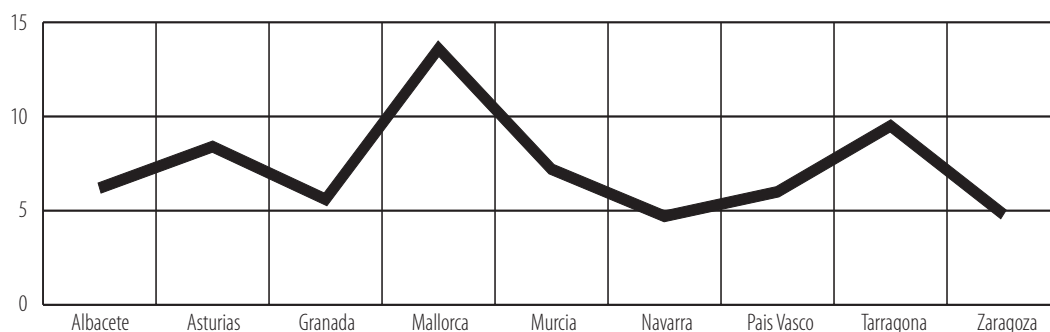
Cervical cancer screening in Spain began recently, in the 1990's. There is no national cervical cancer screening programme, and those that do exist, are established at the level of the Autonomous Communities. The screening programmes that do exist, are managed and controlled by the Territorial Services for Health and Social Welfare. Quality assurance is guaranteed through actions such as training of primary care personnel, incorporation of primary care physicians from basic healthcare zones, annual regional evaluations and reporting of findings etc.

INSALUD, the Spanish National Health Institute, established a specific plan for women's care in 1998, where the objective was to introduce an integrated approach to the actions and tools of the public health system in order to improve women's health throughout the different stages of the biological cycle. In particular, this project includes guidelines for the early detection of cervical cancer, focused on high risk groups and based on the use of Pap smear.

Given that health functions and services have now been transferred to the majority of regional governments of the Autonomous Communities, it is up to the latter to decide whether to establish cancer screening programmes and/or guidelines. Reimbursement of the Pap smear is provided.

In Castilla-y-Leon, HPV testing is not used for screening purposes but rather during the treatment process for borderline or

**Table of incidence rate per 100000 women with cervical cancer in the various regions of Spain, 1988-92<sup>2</sup>**



<sup>1</sup> Cervical Cancer screening in Spain, *European Journal of Cancer*, 36(2000) 2250-2254  
- Cancer de cuello de utero, Ministerio de Sanidad y Consumo, DG Salud Publica, Subdireccion general epidemiologia, promocion y educacion para la salud, August 1999  
- Plan integral de atencion a la mujer, INSALUD (Instituto nacional de la salud), 1998  
- Statistics from the department on environmental epidemiology and cancer, Spanish National Center of Epidemiology  
- European network of cancer registries, <http://www-dep.iarc.fr/encr.htm>  
<sup>2</sup> Cancer incidence in five continents, Parkin DM, Whelan SL, Ferlay J, Raymond L, Young J (eds). vol.VII (IARC Scientific Publications n° 143). Lyon: IARC, 1997

abnormal cases. However this is still at pilot project phase, but full reimbursement is provided.

## **TARGET POPULATION AND METHODOLOGY APPLIED**

The target population of screened women within the different regions is as follows:<sup>3</sup>

- Andalusia : 18% of the total Spanish population: 3730640 women
- Catalonia : 15.47% of total Spanish population: 3203371 women
- Castilla y Leon: 6% of the total Spanish population: 1257145 women

Efforts focus on high risk groups, in particular young women who do not undergo regular gynaecological check-ups.

At present the Pap smear is the only test included in routine screening programmes in the Autonomous Communities. The programmes are population-based, focusing on women between 25 and 65 years of age. Most programmes schedule a new test one year after the first cytological test and

provided that the results are normal, at an interval of three years.

## **STATISTICS**

There is no cancer registry at national level. There are instead sixteen different regional cancer registries. The number of deaths from cervical cancer between 1993 and 1998 varies from 517 deaths in 1993 to 594 in 1995<sup>3</sup>. Statistics indicate that the impact of cervical cancer on the Spanish population is between 4 to 10 cases per 100000 women, which represents 1.7% of the deaths due to malign tumours and 0.3% of total deaths among women.

<sup>3</sup> Instituto Nacional de Estadísticas, (INE) of Spain as in 2000

<sup>4</sup> Cancer de cuello de utero, Ministerio de Sanidad y Consumo, DG Salud Publica, Subdireccion general epidemiologia, promocion y educacion para la salud, August 1999

# Sweden<sup>1</sup>

## COMMENTARY

The healthcare system in Sweden is organised regionally in each of the 26 counties of the country. The cervical screening programme in Sweden is heterogeneous in quality, though it has a long tradition and the new national guidelines seek to remedy some of the major shortcomings. Historically there has, however, been limited compliance with the national guidelines by the different counties. A major debate ongoing in Sweden is whether organised or opportunistic screening should be favoured.

## COUNTRY OVERVIEW

Organised cervical cancer screening was first implemented in Sweden in the mid-1960s. Out of the twenty-six counties, a few of these also have regional screening organisations, thus there have been thirty different autonomous regional screening organisations in the country.

The Swedish National Board of Health and Welfare (SoS) issues national guidelines for cervical cancer screening. The guidelines issued in 1985, recommend that all women between 20 and 59 years of age should be screened every third year. In 1995-1997, a new working group of the SoS made an inventory of how screening was actually being performed in Sweden. The results were published in 1998 together with the new national guidelines for cervical cancer screening. The new guidelines suggest that screening should be done at three-yearly intervals between 23 and 50 years of age

and at five-yearly intervals between 50 and 60 years of age. Coverage should be analysed continuously and should be maintained at 85% during a screening interval.

## TARGET POPULATION AND METHODOLOGY APPLIED

For the entire country of Sweden, it is estimated that approximately 950000 smears are taken annually, although a majority (69%) are taken opportunistically, with 31% taken under an organised screening programme.

The target population is identified by using the population registry. The proportion of Pap smears taken within the organised programme varies dramatically between the different counties, from 3% in the city of Malmö to 62% in the rural county of Jämtland. The attendance rate in organised screening also varies greatly between the counties. However, most counties have an attendance rate of 50-70%.

Organised screening was free of charge in only 5 of the 26 counties. The cost for the woman varies from €8.93 to €22.32 in the different counties.

The Europe Against Cancer Pilot project in Sweden is a population-based randomised trial of screening for HPV infection with an organised cervical cancer screening programme. The 32-38 year-old age group is targeted for the trial which enrolls 10000 women in four Swedish counties.

<sup>1</sup> Cervical Cancer Screening in Sweden, Dillner, J. European Journal of Cancer 36 (2000)2255 - 2259

## STATISTICS

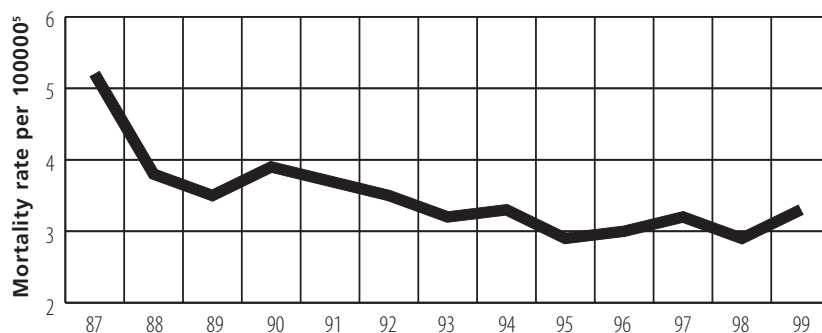
Sweden has a National Cancer Registry ("Cancerregistret"), which was created in 1958 and is part of the Centre for Epidemiology of the National Board of Health and Welfare. The Centre publishes an annual report entitled "Cancer incidence in Sweden" on the Internet.<sup>2</sup> A separate 'Cause of Death' register includes information on the number of deaths per year from cervical cancer.<sup>3</sup>

During 1959 - 1963, the age-standardized incidence rate was 20.6 per 100000. Subsequent to the introduction of the orga-

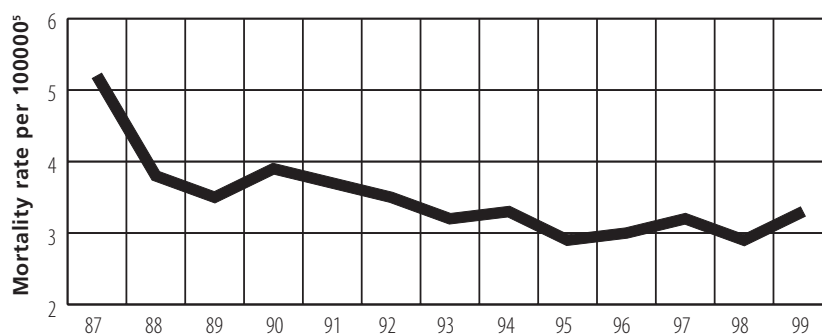
nised screening programme, incidence rates fell for the period 1989 – 1993 to 10.1 per 100000.

In the year 2000, a total of 448 new cases of cervical cancer were discovered. The number of deaths from cervical cancer in the period 1987-2000 can be seen in the chart below (thicker line: all women; dotted line: women between 15 and 74 years of age, number of deaths per 100000). Comparative and age-standardised incidence rates are also available.

### Cervical cancer all women<sup>4</sup>



### Women aged 15-74



<sup>2</sup> Cancer incidence in Sweden, Socialstyrelsen, Epidemiologiskt Centrum, <http://www.sos.se/FULLTEXT/42/2002-42-5/2002-42-5.pdf>

<sup>3</sup> Causes of death 2000, Socialstyrelsen, Epidemiologiskt Centrum, <http://www.sos.se/FULLTEXT/42/2002-42-4/2002-42-4.pdf>

<sup>4</sup> Ibid.

<sup>5</sup> Standardised to the world standard population

# Cervical Cancer

## IN THE ACCESSION COUNTRIES

### Cyprus

#### COMMENTARY

In Cyprus there is a lack of information available to the public on cervical cancer screening and cancer screening in general. The data for Cyprus refer only to the southern (Greek) region of the country. No information is available for the northern (Turkish) region of Cyprus.

#### COUNTRY OVERVIEW

A cervical cancer screening programme in Cyprus was initiated by Ministerial Decision in November 1997. The first phase of the programme (1998 – 2000) offered cervical cancer examination by gynaecologist to all women aged 25-64 and living in rural areas.<sup>1</sup> The programme utilized mobile units for the prevention and early detection of both cervical and breast cancer, and ninety-nine private gynaecologists were recruited to help with the prevention campaign.

The programme is funded by the Ministry of Health and gynaecologists are reimbursed

with a fixed amount for each woman examined. A full gynaecological examination by the gynaecologist included breast self examination training, and smear taking and lab examination.<sup>2</sup>

No information is available on how quality assurance was guaranteed,<sup>3</sup> and national guidelines have not yet been issued.<sup>4</sup>

#### TARGET POPULATION AND METHODOLOGY APPLIED

The ongoing programme aims at screening all women living in urban and rural areas.<sup>5</sup> The target population is about 150000 women.<sup>6</sup> Nonetheless, the number of women who are regularly screened for cervical cancer appears to be limited in Cyprus. During the first phase of the programme (i.e. 1998 - 2000), of the 28000 women summoned, 7130 attended.<sup>7</sup> However, during the period an unknown number of women were examined by gynaecologists outside the programme (i.e. out of pocket payment).<sup>8</sup>

<sup>1</sup> Dr Chartini Komodiki ,Chief Health Officer, The Ministry of Health, Nicosia, Cyprus

<sup>2</sup> Ibid.

<sup>3</sup> Hellenic Society of Oncology

<sup>4</sup> Dr Chartini Komodiki ,Chief Health Officer, The Ministry of Health, Nicosia, Cyprus

<sup>5</sup> CINDI (Countrywide Integrated Noncommunicable Diseases Intervention Programme)

<sup>6</sup> Dr Chartini Komodiki ,Chief Health Officer, The Ministry of Health, Nicosia, Cyprus

<sup>7</sup> "Cancer: the 21st century disease", Katya Diogenous, Cypria.com (Cyprus' news portal)

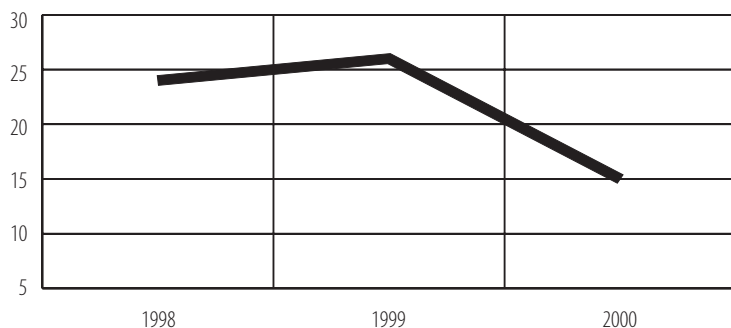
<sup>8</sup> Dr Chartini Komodiki ,Chief Health Officer, The Ministry of Health, Nicosia, Cyprus

## STATISTICS

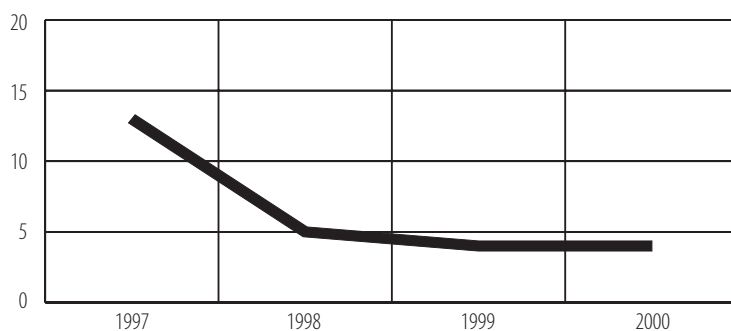
A National Cancer Registry was established in 1990 with the objective of collecting all information regarding the various types of cancer or probable cancer diagnosed in Cyprus, the treatment offered and the results emanating from such treatment.<sup>9</sup>

In 1998, a population based cancer registry was established, under the auspices of at the Ministry of Health. According to the Ministry, information collected from 1998 onwards is considered reliable and it undergoes internal and external quality control exercises.<sup>10</sup> The data contained in the following tables have been issued by the Ministry of Health.

### Number of new cases of cervical cancer registered in Cyprus per year

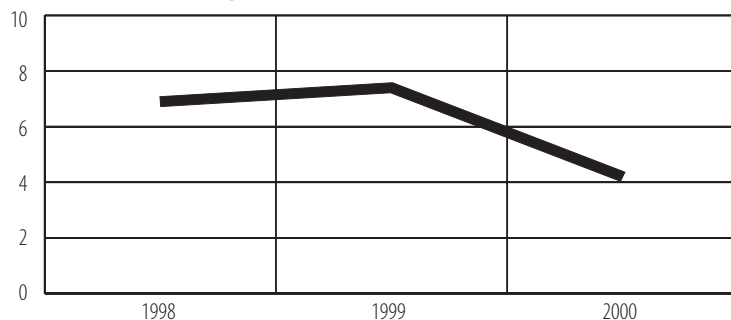


### Number of death reported from cervical cancer in Cyprus per year



According to the Ministry of Health, mortality data on cervical cancer is not considered entirely accurate, due to unreliable data collection methods.

### Incidence rate per 100000 women



<sup>9</sup> The Cyprus Anti-Cancer Society

<sup>10</sup> Dr Chartini Komodiki, Chief Health Officer, The Ministry of Health, Nicosia, Cyprus

# Czech Republic<sup>1</sup>

## COMMENTARY

Cervical cancer in the Czech Republic has, since the 1960's, been recognised as a priority cancer. According to Czech legislation, since 1962, all women in the Czech Republic can annually visit a gynaecologist for primary prevention treatment. A cervical cancer "working group" has been established in a coordinated effort between the Ministry of Health and Czech civil society, to ensure that cervical cancer screening remains a priority.

## COUNTRY PROFILE

The Czech Republic is the first European country to introduce legislation to incorporate HPV testing as a primary test into its national cervical cancer prevention programme.

However, the national programme of screening for cervical cancer is presently not systematically organised, as it is addressed only through health care legislation<sup>2</sup>. In 2000, the Ministry of Health began to mandate HPV testing in borderline cases, as part of the country's national cervical cancer screening initiative.

The legislation, officially known as Act No. 183/2000 Sb, calls for the full reimbursement of cervical cancer screening by the country's national health insurance programme. This legislation follows guidelines published by the National Gynaecology and Obstetrics Society.

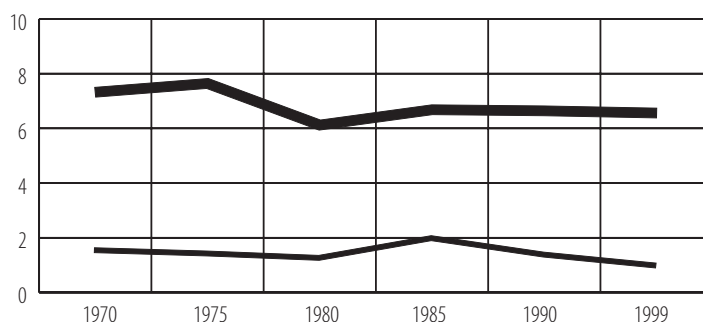
## TARGET POPULATION AND METHODOLOGY APPLIED

The target population of women in the Czech Republic is approximately 4 million. Cervical cancer screening follows the guidelines published by the National Gynaecology and Obstetrics Society, which recommend HPV testing as the primary test for women 35 years of age or over, and as a follow-up test for women under 35.

## STATISTICS

The Czech Republic has a national cancer registry, 'UZIS' (Institute of Health Information and Statistics of the Czech Republic).<sup>3</sup> Annual statistics are available for incidence and deaths from cervical cancer since 1970, as seen in the table below.

## Incidence and death from cervical cancer



<sup>1</sup> Professor Lukas Rob, Head of the Oncogynekology unit, Obstet. and Gynaecology Department at the Charles University in Prague

<sup>2</sup> Ibid.

<sup>3</sup> Institute of Health Information and Statistics of the Czech Republic - [www.uzis.cz](http://www.uzis.cz)



In 1999, the Czech Republic had 392 deaths (the mortality rate was 7.4 Czech standard; 6.2 European standard and 4.5 World standard), and there were 1132 new cases (incidence rate was 21.4 Czech standard; 19.6 European standard; and 15.4 World standard). Statistics for the years 2000 and 2001 are not yet official, but are similar.

Statistical data on cervical cancer is well recorded and accessible in the Czech Republic. Incidence of cervical cancer occurs most prominently in the age group 20 – 35, therefore highlighting the importance of early detection mechanisms.

## Estonia<sup>1</sup>

### COMMENTARY

In the 1990's, Estonia has undergone major political and economic change, transforming from a Soviet republic system to an open-market economy, and the health care system from a centralised state-controlled model to one based on decentralised health insurance schemes.

Over the last thirty years, the incidence rate and mortality rate from cervical cancer has decreased by about 25%, and the major part of this decline occurred prior to 1984. There is no nationwide cancer screening programme in Estonia, and the first pilot project will begin only during the course of 2003.

### COUNTRY OVERVIEW

Nationwide cervical cancer screening has not yet been introduced in Estonia. In 2003, the first pilot project will be started in some regions, and will cover the three largest cities – Tallinn, Tartu and Narva. The Estonian Cancer Society is the body which will manage this pilot project.

As no national cancer screening guidelines exist in Estonia, it has not been clearly established how quality assurance will be guaranteed within the pilot project. The first phase of the pilot project includes teaching personnel the basic techniques of screening.

The Estonian Sick Fund (ESF) pays for reimbursement of Pap smears within routine gynaecological practice for all women. The pilot screening programme will also be funded by ESF.

### TARGET POPULATION AND METHODOLOGY APPLIED

The pilot study in 2003 will target approximately 8 000 women in three cities (see above). There are plans to extend it to cover additional regions in subsequent years. The screening method used traditionally is the Pap smear. The screened population in the pilot study covers women between 25 and 54 years of age and the screening interval is five years.

<sup>1</sup>Tiiu Aareleid, MD, PhD, Director, the Estonian Cancer Registry, North-Estonian Regional Hospital Foundation's Cancer Centre, Hiiu 44, 11619 Tallinn, ESTONIA

## STATISTICS

The Estonian Cancer Registry was founded in 1978, though reliable incidence data has been available since 1968. Annual incidence statistics are available from the registry, regularly published since 1998 and the cancer mortality statistics are routinely provided by the Estonian Statistical Office

(available also in the WHO Cancer Mortality database on the Internet).

The most recently published incidence statistics cover 1999 (published in 2000); the latest mortality statistics available are for 2001. The chart below outlines incidence and mortality data from 1990 to 2000.

### Cancer of cervix uteri in Estonia 1990-2000<sup>2</sup>

YEAR	INCIDENCE			MORTALITY		
	Number of new cases	Crude incidence rate per 100000	Age-standardised <sup>3</sup> rate per 100000	Number of new cases	Crude mortality rate per 100000	Age-standardised <sup>3</sup> rate per 100000
1990	176	21.1	15.1	69	8.3	5.2
1991	160	19.3	14.1	100	12.0	7.3
1992	158	19.3	13.8	81	9.9	6.4
1993	191	23.9	16.7	110	13.6	8.5
1994	154	19.6	13.8	72	9.0	5.6
1995	166	21.5	14.7	70	8.8	5.1
1996	190	25.0	17.4	76	9.7	6.3
1997	161	21.4	14.9	98	12.6	7.2
1998	158	21.2	14.6	78	10.1	6.1
1999	144	19.4	14.1	66	8.6	5.4
2000	162	22.0	15.5	72	9.8	5.8

<sup>2</sup> Mortality rate: 1990–1999: WHO Mortality Database Incidence rate: 1990–2000, mortality 2000: Estonian Cancer Registry

<sup>3</sup> Standardised to the world standard population

# Hungary<sup>1</sup>

## COMMENTARY

Cervical cancer screening in Hungary began towards the end of the 1950's. In the late 1990's, it was decided to introduce organised screening into the health care system. A nation-wide screening programme for cervical cancer is being included in a medium-term national public health programme. Implementation of the programme is expected to start in autumn 2003.

Hungary is a member of the European Cervical Cancer Screening Network (ECCSN), which has partners from twelve member states and two accession countries, including Slovenia. This membership is led by the Department of Pathology of St John's Hospital in Budapest. Hungarian activity and future plans in the field of cervical cancer coincide with the ECCSN's projects, which are co-ordinated by the Cytological Institute of the Bavarian Cancer Society.

## COUNTRY OVERVIEW

During the 1980's, opportunistic screening resulted in approximately 1.3 million consultations per year. However, for confidentiality reasons, no information on the number of women screened and those who have not been screened is available, but the proportion of those who have been screened is estimated at 30%.

In 2000, the Ministry of Health, with funding from the World Bank, published national screening guidelines in Hungary. A comprehensive quality assurance programme, regulating both internal and external quality control, is included in the guidelines.

Pap smears in Hungary are fully reimbursed by the national health insurance system. Reimbursement policies also exist for the HPV test, but as part of a clinical trial only.

## TARGET POPULATION AND METHODOLOGY APPLIED

The target population of screened women in Hungary is approximately 2.8 million, between 25 and 65 years of age.

The screening method used is the Pap smear, which includes colposcopy, at a screening interval of 3 years.

## STATISTICS

The National Cancer Registry has been in operation since 2000, and publishes population based statistics. Data on mortality rates are published annually by the Central Statistical Bureau (KSH).

According to the International Association of Cancer Registries (IARC), the incidence rate of cervical cancer in 1995 was 26.7 per 100000.<sup>2</sup> In 2001, The National Cancer Registry reported 1133 cases of cervical cancer in Hungary. In the same year, 539 deaths were reported, and a mortality rate of about 10.1 per 100000 has been recorded.

Only rough estimates of comparative statistics regarding incidence rates are available, and the National Cancer Registry has not as yet published age standardised incidence or mortality rates. Mortality rates have presently been estimated at 10 per 100000.

<sup>1</sup> Miklós Bodó MD, University of Pécs; PhD, Hungarian Academy of Sciences; DSc, Budapest. Chair, Onco- and Cytopathology, Semmelweis University; Chair, Dept of Pathology, St. John's Hospital, Budapest, Hungary

<sup>2</sup> International Association of Cancer Registries (IARC) - Comprehensive Cancer Monitoring Programme in Europe "Europe 95"

# Latvia<sup>1</sup>

## COMMENTARY

Cervical cancer has, since 1969, been placed on the list of priority cancers in Latvia. This was initiated through an organised network of women's screening centres and cytological laboratories throughout Latvia. The Welfare Ministry of Latvia recommends that all women (between 18 and 70 years of age) should have a Pap smear test once a year.

## COUNTRY OVERVIEW

Cervical cancer screening in Latvia was established in 1969 on a spontaneous and opportunistic basis. It proved successful and reached a large portion of the female population. As a result, the cervical cancer incidence rate, as well as mortality rate, fell.

However, in 1993 there was a change in the health care system, whereby funds for cervical cancer screening were eliminated. This change resulted in a decreased number of women having a Pap smear test, and therefore cervical cancer cases were often diagnosed at a late stage, and the number of deaths increased.

In response to this, a regulation was adopted by the Health Department, whereby every woman from the age of 18 has a right to free gynaecological treatment, and a Pap smear test once a year.

A national cervical cancer screening programme does not, as yet, exist in Latvia and organised cervical cancer screening has not been achieved. However in 1999, the Welfare Ministry commissioned a group of specialists, with funding from the International Bank for Reconstruction and Development, to present a detailed pro-

posal (including figures and organisations involved) to establish an organised mass screening programme for cervical pathology in all the separate regions of Latvia. This however has not yet been established.

## TARGET POPULATION AND METHODOLOGY APPLIED

The Welfare Ministry recommends that all women (between 18 and 70 years of age) should have a Pap smear test once a year. From 1970–1987 it was estimated that about 78%–82% of all the female population in Latvia, from the age 18 had had a Pap smear test every year.

The Latvian Gynaecology and Oncogynaecology Association recommends cervical cancer screening for women between 25 and 70 years of age, with a three-year interval after two consecutive normal Pap smears.

## STATISTICS

The Latvian Cancer Registry was established in 1993, building on the existing population-based registration system which was introduced in the country in 1965 (this was the first registration system in the USSR – established simultaneously with Estonia and Lithuania). The Cancer Registry is a voting member of the International Agency of Cancer Registries (IACR), coordinating on all cancer related issues, including cervical cancer.

<sup>1</sup> Aivars Stengrevics, Head of the Latvian Cancer Registry

As indicated in the figures below, incidence rates of cervical cancer initially decreased, though in 1993, following changes in the health care system and the withdrawal of funds for cervical cancer screening,

incidence rates increased. Today rates are once again falling as cervical cancer screening is again back on the health agenda.

### Cervical Cancer in Latvia, 1980-2000

YEAR	INCIDENCE	MORTALITY
'80-'84	13.3	5.2
'85-'89	11.2	5.0
'90	8.4	4.7
'91	10.4	-
'92	8.6	-
'93	9.5	-
'94	9.3	-
'95	10.2	5.1
'96	10.7	-
'97	8.8	-
'98	9.7	-
'99	11.2	-
2000	10.1	6.3

Source: Aivars Stengrevics, Head of the Latvian Cancer Registry

### Cervical Cancer deaths, 1980-2000

YEAR	ABSOLUTE NUMBER	CRUDE RATES
'80-'84	120	8.8
'85-'89	114	8.0
'90-'94	116	8.4
'95-'99	115	8.7
2000	137	10.7

## Lithuania<sup>1</sup>

### COMMENTARY

Lithuania was a pioneer in initiating cervical cancer screening when part of the USSR. However, screening is still evolving in the country and, at present, there are only a few isolated, small pilot programmes being carried out, either at the regional level or by universities.

### COUNTRY OVERVIEW

There is still no cervical cancer screening programme at national level but pilot studies

have been implemented in certain regions. Cervical cancer screening is formally part of the Lithuanian National Health programme. Since 1992, small pilot studies have been regularly sponsored under the auspices of this programme. In addition, several universities carry out their own scientific studies. Opportunistic screening by gynaecologists is also rapidly increasing.

Pilot studies sponsored by the National Health programme are run mainly by the Vilnius University Institute of Oncology. In order to guarantee quality assurance, all the

<sup>1</sup> Background information made available by the Lithuanian Institute of Material Science and Applied Research

centres and departments of pathology need to go through a process of accreditation that follows EU guidelines and standards. The healthcare authorities are currently working on establishing national screening guidelines.

In Lithuania there are no reimbursement policies for Pap smear tests taken by private doctors. However, the national healthcare system provides for a free Pap smear on a yearly basis. HPV testing is only reimbursed within the context of the few isolated, small pilot programmes being carried out, either at the regional level or by universities.

### **TARGET POPULATION AND METHODOLOGY APPLIED**

There are no exact data available on the size of the target population of women screened within the context of the various programmes.

The screening method used is the Pap smear. In addition, as mentioned above, molecular and HPV screening studies are carried out for scientific purposes by some universities. The screened population includes women aged 35-60 years. There is no specific screening interval being recommended.

### **STATISTICS**

The registration of cancer incidence in Lithuania began in 1957. The Department of Epidemiology of the Institute of Oncology was made responsible for the

collection and interpretation of statistical and epidemiological data. Attempts were made in 1975 to establish a Cancer Registry with a computerised database. In 1984, the Minister of Health issued the order to establish a national cancer registry (the Lithuanian Cancer Registry), which was set-up in 1990 within the Oncology Centre. The Cancer Registry is responsible for supplying the Ministry of Health with annual reports, which are regularly published.<sup>2</sup>

From the period 1978–1982, cervical cancer incidence decreased from 15.4 per 100000, to 12.9 per 100000 in 1993–1997. An increase was observed up to 17.4 per 100000 in 1998–1999.

During 1978–1992 cervical cancer mortality rates have not decreased despite the reduction of incidence (6.8, 7.0 and 6.8 cases per 100000 in 1978–1982, 1983–1987 and 1988–1992 respectively). Starting from 1993, there was an increase in the number of new incidence cases, but mortality rates did not appear to be subject to changes (7.6 and 7.7 cases per 100000 in 1993–1997 and 1998–1999 respectively.) The higher increase in incidence and mortality was observed among women below 50 years of age.<sup>3</sup>

<sup>2</sup> Lithuanian Oncology Centre

<sup>3</sup> Cervical cancer: recent trends of incidence and mortality in Lithuania, Lithuanian Oncology Centre, Birutė Aleknavičienė, Giedrė Smailytė, Badri Elaawar, Juozas Kurtinaitis, Clinic of Obstetrics and Gynaecology, Kaunas University of Medicine, Lithuania

# Malta

## COMMENTARY

The Maltese Government provides a comprehensive health service to all Maltese residents free of charge, which provides regular free cervical cancer screening through its primary health care centres since the 1990's. It is based on the use of Pap smears.

## COUNTRY OVERVIEW

The Government Health Centres, established in 1977, have offered cervical cancer screening on a regular basis since the beginning of the 1990's. The Health Centres are the hub of the primary health care services provided by the Government. Alongside the general practitioner and nursing services, various specialised health services are provided.<sup>1</sup>

Several health promotion programmes aimed at increasing awareness and early detection of cervical cancer has been performed in the last few years for medical practitioners and the general public. However, an organised cervical cancer screening programme does not exist and there are no national screening guidelines.<sup>2</sup>

Cervical cancer screening is offered free of charge at the public Gynaecology Specialist Health Centre Clinics for whomever wishes to use the service. There are no formal invitations issued to women to attend.<sup>3</sup> The

test used for cervical screening is the Pap smear.<sup>4</sup> This service is managed by the Gynaecology Department at St. Luke's Hospital (SLH). An internal quality control programme is practiced at the Cytology laboratories of SLH. Two cytotechnologists examine each smear and queries are referred to a cytopathologist. After two consecutive negative smears taken a year apart, the following recommended interval prior to the next smear test is three years. All events are logged and a six-monthly report is issued to all professionals concerned.

To date, HPV testing is only performed within the context of research projects. The HPV test is not currently available for regular clinical use.<sup>5</sup>

The Ministry of Health promotes the above-mentioned health care services and the necessary monitoring and control mechanisms.

## TARGET POPULATION AND METHODOLOGY APPLIED

The screening method used is the Pap smear, which is usually targeted at women from 25 to over 65 years of age, which potentially represents over 124000 women.

<sup>1</sup> [http://www.health.gov.mt/health\\_services/phc.htm](http://www.health.gov.mt/health_services/phc.htm)

<sup>2</sup> First National Health Interview Survey, [www.health.gov.mt/ministry/dhi/survey/his.htm](http://www.health.gov.mt/ministry/dhi/survey/his.htm) - Cytology laboratories, St. Luke's Hospital

<sup>3</sup> Ibid.

<sup>4</sup> Dr.Miriam Dalmás, National Cancer Registry of Malta

<sup>5</sup> First National Health Interview Survey, [www.health.gov.mt/ministry/dhi/survey/his.htm](http://www.health.gov.mt/ministry/dhi/survey/his.htm) - Cytology laboratories, St. Luke's Hospital

## STATISTICS<sup>6</sup>

Malta has a National Cancer Registry that began to operate on a national population basis in the early 1990's.

According to the National Cancer Registry there have been 103 new cases of cervical

cancer reported for the period 1993 – 2001, and 47 deaths reported.

Age-standardised incidence and mortality rates are available from 1960 – 1993.

### Age-standardised incidence rates per 100000: Maltese Islands 1960-93<sup>7</sup>

AGE	<25	25-34	35-44	45-54	55-64	>65	TOTAL
1967-71	0	2.69	10.99	14.92	19.24	16.76	6.36
1972-76	0	0.80	8.25	14.03	1.59	9.35	3.49
1977-81	0	0.69	9.01	12.14	18.55	23.89	6.30
1982-86	0	5.47	6.36	18.40	14.84	17.82	6.67
1987-91	0	4.39	13.99	11.07	11.44	14.46	6.95
1992-93	0	5.76	8.82	17.04	21.86	8.88	7.59

### Age-standardised mortality rates per 100000: Maltese Islands 1960-93

AGE	<25	25-34	35-44	45-54	55-64	>65	TOTAL
1967-71	0	1.79	3.00	6.2	12.4	11.6	3.24
1972-76	0	0	3.19	3.51	8.56	12.47	2.62
1977-81	0	0.69	1.00	2.21	11.42	13.28	2.72
1982-86	0	1.37	4.77	3.07	8.66	10.02	3.04
1987-91	0	0	2.10	2.01	5.72	15.43	2.91
1992-93	0	1.92	1.76	8.52	5.47	2.22	2.44

<sup>6</sup> Cervical carcinoma in the Maltese population, Savona-Ventura C., <http://www.geocities.com/hotsprings/2615/epidemiology/cervix.htm>

<sup>7</sup> Ibid.



# Poland

## COMMENTARY

Although cervical cancer is recognised by the Polish Government's Ministry of Health as a priority cancer, the country has limited funds available to pursue a wide scale screening operation. However, pilot cervical cancer screening programmes have been developed in cooperation between the Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology in Warsaw and the United Nations Development Programme (UNDP).<sup>1</sup>

Cervical cancer takes third place, after breast and lung cancer, in the classification of the most frequently registered malignancies in Polish women. Furthermore, mortality rates of cervical cancer in Poland area-mongst the highest in European countries, testifying to the "low effectiveness of the national diagnosis programme".<sup>2</sup>

## COUNTRY OVERVIEW

Efforts to introduce cervical cancer screening in Poland were made in the 1950s with the support of the Ministry of Health and the medical community. A nationwide cervical cancer screening programme was developed in 1988 and implemented in several Polish cities in 1989. When the cervical cancer screening was installed in many screening centres, the National Breast and Cervical Cancer Screening Programme was developed in 1999. This programme was approved by the Minister of Health, under the patronage of the Polish Government.

During the years 2000-2002, six model cervical screening centres were established as part of the Breast and Cervical Cancer Screening Demonstration Programme. This project focused on the two most frequent female cancers: cancer of the breast and cancer of the cervix uteri. The Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology provides national coordination of the National Breast and Cervical Cancer Screening Programme.<sup>3</sup>

The Polish Society of Colposcopy and Cervical Pathophysiology have issued cervical cancer screening guidelines, which are overseen by the Ministry of Health and provides recommendations with quality assurance. The traditional Pap smear is reimbursed by the Regional Health Fund and the Ministry of Health, though only when screening takes place in the context of organised programmes.

## TARGET POPULATION AND METHODOLOGY APPLIED

Of the total Polish population, about 40% (some 8 million women) between the ages of 30 and 60 years are targeted for cervical cancer screening. The cervical cancer screening interval is every three years.<sup>4</sup>

<sup>1</sup> Prof. Zbigniew Wronkowski, Dr Maria Zwierko. Department of Mass Screening - The Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology

<sup>2</sup> Dybikowska, A et al.(2001)'HPV detection in cervical cancer patients in northern Poland', *Oncology Reports* 9: 871-874, 2002

<sup>3</sup> Prof. Antoni Basta, Jagellonian Krakow University, Poland

<sup>4</sup> Prof. Zbigniew Wronkowski, dr Maria Zwierko. Department of Mass Screening The Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology

## STATISTICS

The National Cancer Registry keeps records of annual cancer statistics in Poland, together with sixteen regional population-based cancer registries.<sup>5</sup>

The tables below depict incidence and mortality rates from cervical cancer in Poland, as well as the age-standardised incidence rate.<sup>6</sup>

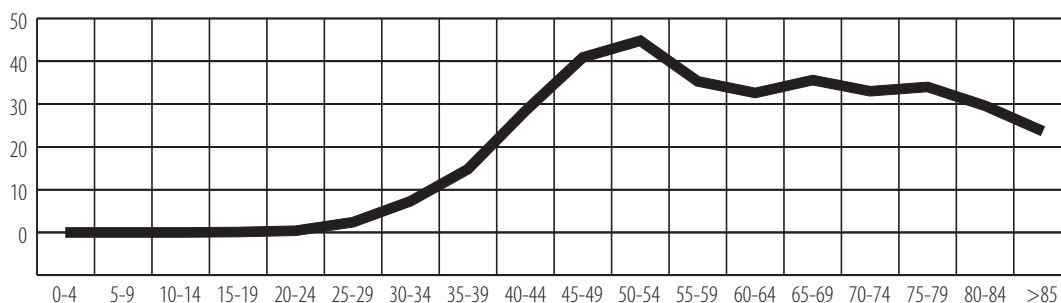
### Cervical cancer incidence in women, Poland 1963-96

YEAR	ABSOLUTE NUMBER	%	INCIDENCE RATE/100000		RANK
			CRUDE	STANDARDISED	
1963	4846	24.9	30.6	28.7	1
1973	4427	15.2	25.8	22.8	1
1983	3612	10.9	13.3	16.0	2
1993	3903	8.1	19.8	15.5	2
1996	3890	7.6	19.6	15.0	2

### Cervical cancer mortality in women, Poland 1963-96

YEAR	ABSOLUTE NUMBER	%	INCIDENCE RATE/100000		RANK
			CRUDE	STANDARDISED	
1963	1051	6.0	6.6	6.2	6
1973	1889	8.3	11.0	9.2	4
1983	1946	7.0	10.4	8.1	4
1993	2028	6.3	10.3	7.5	4
1996	2025	6.0	10.2	7.2	4

### Age-specific incidence rates/100000 in Poland, 2000



<sup>5</sup> International Association of Cancer Registries (IARC) -Comprehensive Cancer Monitoring Programme in Europe, Europe 95

<sup>6</sup> Prof. Zbigniew Wronkowski, dr Maria Zwierko. Department of Mass Screening The Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology

# Slovakia<sup>1</sup>

## COMMENTARY

Cervical cancer in Slovakia has, since the early 1950's, been recognised as a priority cancer, and since 1952, documentation of cancer cases and deaths has become obligatory. Both incidence and mortality rates decreased until the mid-1970's. However, as in other developed countries, the number of cervical cancer cases and deaths has increased due to the disease becoming more evident in younger women. Monitoring and prevention has therefore extended beyond the traditional Pap smear and acknowledgement of other secondary prevention methods, including HPV testing.

## COUNTRY OVERVIEW

In Slovakia, cervical cancer screening began in the mid-1950's. A national cervical cancer screening programme was initiated, but was never very effective. This was because the number of in-situ cases increased very slowly, and it was only from the mid-1970's when the first in-situ cases were notified. In fact the ratio of invasive to in-situ cervical cancer is 2:1, and the number of screened women is decreasing. In relation to other European countries, the incidence and mortality rates of cervical cancer in Slovakia are relatively high.

A working group in the Ministry of Health manages quality control and management of cervical cancer screening, lead by the chief gynaecologist. Although national screening guidelines exist, there is a lack of funds to implement them and put them into practice.

Reimbursement of a yearly Pap smear is available to women in Slovakia. Reimbursement is also available for the HPV testing, but this method is performed only in three or four highly specialised and oncological hospitals.

## TARGET POPULATION AND METHODOLOGY APPLIED

The size of the target population of screened women is about 1.6 million, in the age group of 20 to 65 years. The main screening method used is the PAP smear, however specialised oncological institutes and hospitals also provide the HPV test.

According to the cervical cancer guidelines, screening should start at the age of 25 and end at the age of 65. However, there is a tendency to start at the age of 20 because of the increasing number of cases in younger women.

The screening interval is once yearly from age 25, but if the result is repeatedly normal (over 2-3 years), it is possible to increase this interval.

## STATISTICS

Cervical cancer statistics are available and date back to 1968. The National Cancer Registry is population-based, and was established in Slovakia in 1976. Data on cancer mortality rates are collected and recorded by the Statistics Office of the Slovak Republic. Annual statistics for incidence and mortality rates from cervical cancer are printed annually in an annual publication "Cancer Incidence in Slovakia".

In 1995 the age-standardised incidence rate of cervical cancer in Slovakia was 22.2 per 100000. For the same year, the age standardized mortality rate was 7.6 per 100000.<sup>2</sup>

In 1999 Slovakia had 535 invasive cases (96.8% microscopically confirmed) and 288 in-situ cases of cervical cancer. This resulted in a total of 220 deaths during the course of 1999.

<sup>1</sup> Dr. Ivan Plesko, National Cancer Registry of Slovak Republic in Bratislava, Slovakia

<sup>2</sup> International Association of Cancer Registries (IARC) - Comprehensive Cancer Monitoring Programme in Europe "Europe 95"

# Slovenia<sup>1</sup>

## COMMENTARY

In most regions of Slovenia, opportunistic screening was introduced in regular gynaecological practice in the 1960's. Since 1998, a regular gynaecological examination, including a Pap smear and colposcopy, was made available to all women from the age of 20 and is reimbursed by national health insurance. According to a number of surveys, 50-60% of women attend regular screening, however most of the women screened have received a higher level of health education.

## COUNTRY OVERVIEW

In 2002, a cervical cancer screening programme was integrated into the existing health care system, whereby organised screening by invitation was introduced and has made the programme more efficient. The programme works on the basis that primary health care gynaecologists invite women for a gynaecological examination, which includes the traditional Pap smear. Coordination of the cervical cancer screening programme is carried out by the Ljubljana Institute of Oncology, together with the central smear registry.

National cervical cancer screening guidelines have been issued by the Ministry of Health, and quality assurance is guaranteed through national standards.

The traditional Pap smear is reimbursed in Slovenia, and in the case of abnormal or borderline Pap smears, HPV testing is also reimbursed.

## TARGET POPULATION AND METHODOLOGY APPLIED

The size of the target population of screened women is about 634000 between ages 20 and 64, which comprises 32% of the total population.

The screening method used is the Pap smear with a screening interval of 3 years, after two consecutive negative Pap results in one year.

## STATISTICS

The national cancer registry has existed since 1950. The incidence rate of cervical cancer increased from 22.5 per 100000 in 1950 to 34 per 100000 in 1962 and then decreased to 14 per 100000 in 1979, when the incidence was at its lowest. From 1979 to 1993 there were no major fluctuations in the incident rate of cervical cancer, but in 1994 the incidence rate began to increase again. Furthermore, an increase of the invasive cancer incidence in the younger age groups (30-39) has been observed. In the period 1994-1998, the age specific incidence rate in the age groups 30-34 and 35-39 was nearly the same as in the period 1959-1963, at the start of the opportunistic screening.

Each year there are about 200 cases of cervical cancer. The age adjusted incidence rate of cervical cancer in 1996 was 19.2 per 100000.

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# Conclusions AND RECOMMENDATIONS

## Conclusions

### COMMENTARY

The evidence is clear that the introduction of screening programmes in west European countries between 1960 and 1998 has led to a significant decline in the cervical cancer mortality rates in all countries with the exception of Ireland. In that country, there has been no cervical cancer screening programme and we see that mortality from the disease has been rising since the early 1980's.

In Eastern Europe, some reduction in the rates has been observed in Hungary and Poland while cervical cancer trends have been on the increase in other countries including Romania and Bulgaria, not covered in this Audit. In all of these countries absolute rates remained significantly higher than in most of Western Europe.

Major geographical variations in cervical cancer incidence can be observed within Europe where cervical cancer incidence varied by

over a factor of seven between the highest rates registered in Hungary (26.7 per 100000 in 1995) and the lowest in Finland (3.8 per 100000 for 1999) albeit for different years. Within the EU, the variation was over six-fold with the highest rates registered in the central region of Portugal (significantly higher than anywhere else in the EU at 24.27 per 100000 for 1993) and the lowest in Finland, again for different years.

The falling mortality rates across Europe from cervical cancer underline the importance of the adoption of organised screening programmes, with specific urgency in Eastern Europe. Scientists writing in the *European Journal of Cancer*<sup>1</sup> estimate that the gross cervical cancer mortality still observed in Eastern Europe is largely attributable to inadequate screening implementation in these countries and underlines the importance of rational and organised screening programmes in this part of Europe. Incidence rates exceeding 15 per 100000 can be found in all of the ten accession countries. These rates are significantly higher than within the EU.

A final word: due to the steady decline of cervical cancer incidence in Europe it might be tempting to relegate this disease to a lesser priority among cancers, but one of the tragedies revealed in the Audit is that cervical cancer is either rising among young women or has not declined, depending on the country due to rising sexual activity. This trend, we believe requires an update of existing screening technologies to make sure that cervical cancer is identified as early as possible.

## **THE MOVE TOWARDS HPV TESTING: THE WAY FORWARD**

It was in the 1970's that the first organised nationwide screening programmes were introduced in the Nordic countries and The Netherlands, and that it became possible to first detect the human papillomavirus (HPV). At the same time, opportunistic screening programmes which were adopted in France, Germany and Italy also appear to have had a relevant impact on cervical cancer rates particularly in younger women.<sup>2</sup> It took until the 1990's for organised screening programmes to gain ground in Southern Europe.

In the meantime, the causal link between cervical cancer and HPV was proven during the 1980's, so by 1993, with the publication of the *European Guidelines for Cervical Cancer Screening*, tests were detecting HPV DNA in 99.7% of cervical cancer specimens from 22 countries worldwide.<sup>3</sup> Approximately 90 types of HPV have been identified and the list of high risk HPV types is still growing.

EIWH believes that such strong evidence of the causal role of HPV in the development of cervical cancer should have been taken into account in screening strategies. Sadly, this has not happened. As mentioned in the introduction, national screening programmes in Europe still rely on the Pap smear, which though more than sixty years old, has successfully reduced the number of deaths from cervical cancer. However, 12817 women in the EU still die needlessly every year from this disease. Pap smears do

<sup>1</sup> Cervical Cancer mortality in young women in Europe, patterns and trends, F Levi et al., *The European Journal of Cancer* 36 (2000) pp 2268

<sup>2</sup> Quoted in Cervical Cancer mortality in young women in Europe, patterns and trends, F Levi et al., *The European Journal of Cancer* 36 (2000) pp 2268 sourcing this information to Relative and attributable risk for cervical cancer, a comparative study in the US and Italy

<sup>3</sup> *The European Journal of Cancer* 36 (2000) pp 2272 sourcing: i) Prevalence of human papillomavirus in cervical cancer: a worldwide perspective, Bosch FX, Manos Mu\_oz N, ii) Human papillomavirus is a necessary cause of invasive cervical cancer worldwide, Walboomers JMM, Jacobs MV, Manos MM et al.

not reveal the presence of HPV but rather the presence of abnormal cells.<sup>4</sup> The inherent subjectivity of this testing method means that its accuracy in detecting the disease ranges on average from 50 to 70% depending on the European country. Indeed a comparative study from the 1980's between the US and Italy on the relative and attributable risk of cervical cancer estimated that inadequate screening could account for 80% of all cervical cancers in Italy.<sup>5</sup>

The HPV test can raise detection rates up to 100%<sup>6</sup> and is one of the exciting developments in the fight to prevent cervical cancer which also includes a potential breakthrough with regard to a vaccine, though it is at least five years away from being available. Equally important to our commitment to improving screening techniques is our belief that information empowers women to take responsibility for their own health. It is essential that women

are better informed about the disease, its cause, the preventive measures available and of the many success stories.

As our first recommendation we would therefore call on the European Commission to incorporate this information into its planned integrated EU health information system (to be launched under the EU Public Health Action Programme.)

<sup>4</sup> RJ Black et al. *European Journal of Cancer* 33 (1997) pp 1075-1107

<sup>5</sup> Quoted in *Cervical Cancer mortality in young women in Europe, patterns and trends*, F Levi et al., *The European Journal of Cancer* 36 (2000) pp 2268 sourcing this information to Relative and attributable risk for cervical cancer, a comparative study in the US and Italy

<sup>6</sup> Human papillomavirus testing in primary screening for the detection of high grade cervical lesions, C Clavel et al., *British Journal of Cancer* (2001) 89 (12) 1616 - 1623

## Recommendations

As a slow-growing cancer and with full understanding of the link between HPV and cervical cancer, we have it in our grasp to eliminate this wholly preventable disease.

To achieve this effectively, the EIWH makes the following recommendations:

- for the governments of the EU member states and ten accession states to begin the process of systematically compiling annual, comparative statistical data on all aspects of incidence, mortality and other data on cervical cancer, at the national and European levels;
- for the European Commission to make sufficient funds available from the EU structural funds to launch a systematic information campaign to inform women in the accession countries about this wholly preventable disease and about the exciting new developments which continue to be made in the field of detecting cervical cancer;
- for the European Commission to make sufficient funds available from the EU structural funds to provide technical knowledge and know-how to provide the health ministries of the ten accession countries with the support they need to be in a position to address the cause and effect of cervical cancer;
- to immediately introduce and implement national screening programmes in those countries both within the EU and in the accession countries where they do not currently exist;
- for EU member state governments and the governments of the ten accession states to consider HPV testing in conjunction with the Pap smear, as a primary, cervical cancer screening test.
- A further recommendation would be the development and funding of health promotion programmes targeting women of all ages to create awareness of how cervical cancer can be prevented, and how screening can save lives.





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