

Cutting unnecessary deaths from cervical cancer

Collective effort aims to narrow eleven-fold gap between worst and best in Europe

→ Peter McIntyre

Given how preventable cervical cancer is, setting up robust screening programmes must feature as a key element in Europe's strategy for cutting deaths from cancer. But as this six country initiative is finding out, it takes time, resources and attention to detail. Sharing experiences and learning from the model Finnish screening programme has been key to making progress.

It is ten years since the European Union started to focus attention on fighting inequalities in cancer between countries, using the twin tools of comparison of data and solidarity between country programmes.

Perhaps nowhere has that inequality been shown more clearly than in cervical cancer, where incidence and mortality in some European countries are five times higher than those with the best organised screening programmes. This translates into tens of thousands of extra deaths of women across the whole of Europe, often women in middle age who are active economically and key family members.

What makes this tragedy the more unacceptable is that cervical cancer is in most cases preventable or curable.

Despite the high profile that vaccines against HPV infection have achieved, the missing ingredients are the old-fashioned public health virtues that go to make up population-based screening. The gap is in planning, organisation, training and perhaps political commitment.

There is also lack of knowledge and a sense of distrust on the part of some women that inhibits them from going for check-ups.

The net result is that women are four times more likely to develop cervical cancer over the course of a lifetime in Estonia, Lithuania or Slovakia than in Finland, while in Lithuania and Romania they are eight to eleven times more likely to die from cervical cancer (GloboCan 2008 data – see box, p 60).

The latest stage in a European pro-

gramme aimed at fighting cancer inequalities, EUROCHIP 3, was launched by the European Commission in September 2008, with cervical cancer as a major focus.

The five countries officially included in efforts to transform screening systems are Bulgaria, Estonia, Latvia, Lithuania and Romania. They were chosen not simply because the figures were amongst the worst, but because teams of professionals were already beginning to address the problem, and there was something to build on. Poland, although not included in EUROCHIP 3, is working alongside these countries to improve its own figures.

Together, these countries constitute a base for testing current knowledge on how to implement and manage



A pilot screening programme in Cluj county Romania. *Left:* Women of all ages queue up beside the mobile screening unit in one of the county's 356 villages. *Below:* Local GPs were trained in carrying out smears and breast examinations as part of the pilot; some of them have now taken responsibility for this work, while others are still assisted by the mobile unit. Almost 80% of women in this region aged 25–64 years had never previously had a Pap test



screening programmes to achieve acceptable coverage and quality standards with medium or low levels of healthcare resources.

DEVELOPING EFFECTIVE SCREENING

The key planks for screening programmes are that they invite women in a target age range (usually 30–59 years old) at regular intervals for high-quality Pap smears that are accurately read, and that they follow up women who do not attend or who have unusual smears, and ensure high-quality treatment. To ensure the Pap smears are of good quality and accurately read, screening programmes also require training for gynaecologists, general practice doctors (GPs), nurses and laboratory staff, as well as systematic monitoring and evaluation.

To close the gap in public awareness and promote attendance, public information and advocacy are needed. Some of the countries on this list do not even have a word for screening in their own languages.

Leading this EUROCHIP work package is Ahti Anttila, who is the research director of the Finnish Mass Screening Registry, which has become the system by which the rest of the world judges itself. Finland was the first country to institute a screening programme, in 1962. No-one paid much attention until, in 1976, a paper in the *American Journal of Epidemiology* demonstrated that the incidence of cervical cancer was 80% lower amongst women who had been screened than in the rest of the female population.

Although, the main inequalities in cervical cancer are between 'old Europe' and the countries of central and eastern Europe, Anttila points out that there are also still inequalities within other countries that lack a screening programme. "There are big countries like Germany and Belgium where some of the target population is still missing. Some women have screening much too frequently, whereas there could be a proportion, let us say about 20% of the target population, who are underserved or never screened." It's clear that much more needs to be done to ensure European countries adhere to the current EU recommendations and guidelines on screening, he adds.

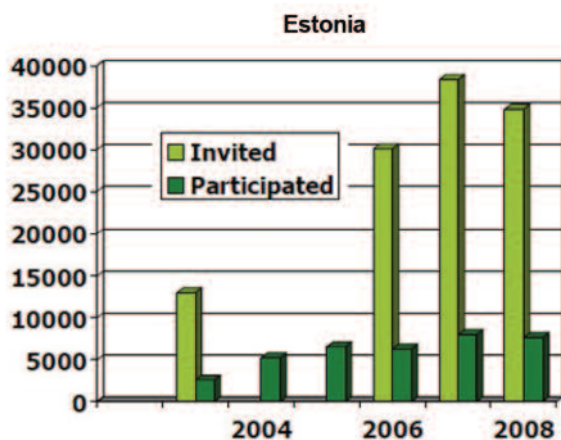
“Some women have screening much too frequently, whereas some are underserved or never screened”

Women wanted a personal letter inviting them to screening and to be able to phone for an appointment

ATTENDANCE IS STILL A PROBLEM

EUROCHIP's Estonian participants have been exploring why attendance rates for cervical cancer screening remain at low levels despite the number of invitations going up

Source: Department of Epidemiology and Biostatistics, National Institute for Health Development, Tallinn, Estonia



Estonia

With a population of 1.34 million, Estonia is the smallest country in the EUROCHIP group, and it was one of the first to get a screening programme up and running, with nationwide screening for women aged 30–59 starting in 2006. Estonia was motivated by a disturbing trend that saw the incidence of cervical cancer double in the 30- to 49-years age group between the early 1980s and 2000–2006.

Pap smears are taken by trained midwives at 19 clinics around the country. However, despite efforts to organise the system, take-up has been disappointing, with only 15% of women attending. Meanwhile about 50% of the target

group of women have had private smear tests outside the screening programme. Anttila points out that, due to the absence of a screening registry, it has not been possible to check on the quality of these smears or what follow-up treatment women have been offered.

Epidemiologist Piret Veerus, from the National Institute for Health Development in Tallinn, has overseen a study to find out why women do not attend.

She found that women wanted a personal written letter inviting them to screening and to be able to phone for an appointment at a time that suited them. Information levels were high amongst the Estonian majority, but fewer than half of the Russian minor-

ity even knew that a screening programme existed.

Veerus would like to see a health education programme in schools to alert young women to the risks of early sex and multiple partners, but says they also have to do more to convince older women to attend. “According to the experience from other countries, we know that only the tests that have been given during organised screening with a proper follow-up of good quality will decrease the numbers of women who are diagnosed with cancer.”

Latvia

Latvia had a ‘compulsory’ system of gynaecological examination in the 1980s, but the incidence of cervical cancer rose once this was abandoned in 1989. Cancer rates are especially high in the rural population and a third of the women who are diagnosed have stage III or IV disease. A quarter of women die within a year of diagnosis.

An opportunistic screening programme was launched in 2005, and a full screening programme in 2009, but so far only a quarter of the women who are invited attend.

Only 1 GP in 50 provides gynaecological care for their patients, and a survey in 2003 suggested that three-quarters of girls and women aged 15–49 did not trust their GPs to do so.

Ilze Viberga, a gynaecologist at Riga

Three-quarters of girls and women aged 15–49 did not trust their GPs to provide gynaecological care

Stradins University, says that this has to change if the Latvian programme is to succeed, and she is currently conducting a study of doctors' knowledge and attitudes.

"The general practitioner is not very interested in this screening programme, because they think it is the job of gynaecologists, and the gynaecologists expect more from the general practitioners," she says, adding, "We have to change this philosophy so that women can go to a general practitioner, because it does not matter who is going to take this test. Taking a smear does not need specialist skills; it is just simple training. If the result is not good, then the gynaecologist has to be involved in the treatment process."

Lithuania

In Lithuania, where screening started in 2004, the response has been a little better, but still less than half of women (44%) attended the first round of screening, with the lowest returns in rural areas. Ruta Kurtinaitiene, a gynaecologist at Vilnius University, says there is a need for a centralised system of call and recall, with a personalised letter to every woman.

"I think we have a problem with lack of knowledge and a psychological barrier. I think a woman is scared to come to a gynaecologist. She does not understand that you need a Pap smear every three years even if you do not have any disorders or problems with gynaecology. Our early study shows that if you send a private letter to the woman, the attendance rates double."

Research conducted by her colleague Jolita Rimiene for her doctoral dissertation indicated a need for better training in how to do a Pap smear. She found that 5%–12% of Pap smears were evaluated as 'inappropriate content' or 'inadequate' for cytological evaluation, and that up to half the cells



Quality control. Jolita Rimiene demonstrated the need for better training in Lithuania, as up to 12% of Pap smears were too poor to be evaluated

collected from the patient never get onto the slide and are discarded with the test instrument.

Bulgaria

With a population of 7.6 million people, Bulgaria is as big as Estonia, Latvia and Lithuania put together, and with a larger population, screening becomes even more of a challenge. The old Bulgaria had a strong tradition of prophylactic health checks, but no organised screening programme, and when the country began to suffer economic hardship in the 1980s and 1990s, even this fell apart. Until the late 1980s cervical cancer mortality rates were comparable with many EU countries, but incidence doubled between 1984 and 2004 for women aged 30–49, and the mortality rates rose 2.5 times.

In May 2009, a national Campaign for the Early Detection of Cancer was

approved, under which a million women would be reached with information and 200,000 women tested throughout the country in 2012. However, the economic crisis has stalled moves towards a truly national programme.

Yulia Panayotova, from the Bulgarian Health Psychology Research Centre, says there is still a lack of political commitment, but she is optimistic that a national programme may begin in two to three years. This early detection programme includes 'STOP and GO for a Check-up', designed to improve infrastructure, increase capacity and prepare society for population-based screening programmes for cervical, breast and colorectal cancers. Improving capacity will include establishing a screening registry and a call-recall system.

Panayotova still feels some frustration at the delays. "Every day a woman is dying from cervical cancer in our country. It is obvious that the best way is to have an organised programme. There are many people who are taking it seriously but unfortunately we still don't have a programme, which means that the policy makers are not taking it seriously enough."

Romania

Romania has the highest death rate from cervical cancer in the whole of Europe. In 2006, the crude mortality rate was 20.9 per 100,000 women.

Florian Nicula, Head of Epidemiology at the I Chiricuta Oncological Institute in Cluj-Napoca, received the Pearl of Wisdom award, along with his colleagues, for a regional pilot screening programme in Transylvania. This saw screening coverage increase from less than 1% to 20% in Cluj county, and similar improvements in another five districts.

This programme has produced a 'proven in Romania' model that can be introduced into the rest of the country.

His team rang to say that they would have to stay overnight in the village, because the queues were so long

In particular, it has demonstrated that women in rural areas – always the most difficult to reach – do indeed want high-quality screening.

Nicula recalls how he sent out a mobile team to a village in a local rural area where staff visited women community leaders, convincing them to back the screening initiative. These women agreed to encourage the women in the community to attend a mobile screening unit, and took a lead by being the first to attend. Later in the day he took a phone call from his team to say that they would have to stay overnight in the village, because the queues were so long outside the van.

Even so, the 20% success rate is still far too low says Nicula. “The women responded very well, but we couldn’t invite all the women we should, because of logistical and financial problems. The national programme was supposed to start last year as a roll out of the regional pilot programme, but because of the resources crisis we had to delay the start.”

A report on Romania produced for the European Cervical Cancer Association points to a lack of political will. “The project has made good progress in raising the political priority of cervical cancer prevention in Romania... However, the majority of politicians still do not understand the complexity of the programmes required to achieve good results nor the resources that must be committed to the implementation of these programmes.”

Building on this regional success, Romania has appointed the Cluj team as the National Management Unit

with responsibility to coordinate 21 county units across the country and responsible for quality control for the entire programme.

Daniela Coza, epidemiologist at the I Chiricuta Oncological Institute, says that this needs to be a national priority. “It is a huge problem for Romania, as we have the highest number of new cases and mortality in Europe and one of the highest in the world. It affects women of active ages and women in middle- and lower-income groups. We have been struggling with this matter for a long time. Romania has to do something for the most at-risk women.”

Poland

Taking action alongside EUROCHIP is Poland, which with its population of 38.1 million aims to screen 3 million women a year. However, even after three years, the National Cervical Cancer Screening Programme attracts only a quarter of the women who are invited.

Arkadiusz Chil, from the Kielce Oncology Centre, says, “Every year, cervical cancer is diagnosed in 4000 women in Poland and half of them die because of it. These numbers speak for themselves, which is why we set up our cervical cancer programme. The real problem is that cervical cancer is diagnosed too late in advanced stages.”

Magdalena Bielska-Lasota from the Independent Unit of Oncological Education, at the Maria Skłodowska-Curie Institute of Oncology in Poland, says that Polish women lack confidence in the system. “The programme is organised very well from an administrative point of view and it is supposed to work,

but the failure of the screening is that we have a very low attendance.

“There are a few reasons in my opinion. One is that there is a crisis with trust in the system and trusting the doctors. Women are scared because they may have an examination which does not have good quality assurance and may give false-negative or false-positive results. My message to women is to press our government and the doctors to keep the quality to the levels set by the European guidelines.”

There has been a big effort to train doctors, midwives and nurses. By 2010, 7900 professionals had been trained, as well as 1284 ‘opinion leaders’ who, it is hoped, will convince women to attend.

Lack of faith in the system is not just a problem for Poland, but a common theme in these countries. EUROCHIP, in collaboration with the European School of Oncology, organised media training for key staff in each country to help specialists become more comfortable in developing and delivering key messages through the media.

HPV VACCINATION

The complicating factors for countries trying to set up screening services now are the HPV vaccines which hold out such promise for the next generation, but also have the potential to demobilise efforts for improving existing screening services. The cost of the vaccines in the first few years of their availability has also been a constraint in the new member states, where resources are particularly stretched.

If given to girls before sexual activity begins, they have the potential to

Going for a check-up. This mobile unit covers the villages of Swietokrzyskie province in Poland, providing both breast and cervical cancer screening. The system is well organised but more work needs to be done on building awareness and trust, in order to improve take-up rates

dramatically reduce the incidence of HPV and therefore cervical cancer.

One problem is that it is unlikely that the benefits will start to be felt for 15–20 years, and the full population-wide impact would take 50 years or more. Implementing an HPV vaccination programme is no substitute for organising an effective screening system. The vaccine is of little value to the population of women who have already become sexually active, as it cannot eradicate the virus where it is already present, or stem the growth of an incipient cancer. And despite very impressive results in clinical trials, they have not yet proven themselves in country programmes.

Romania decided to provide the vaccines free for girls aged 11 years old, and started a school-based campaign of vaccination. But the European Cervical Cancer Association reported that the take up was as low as 4% – well below even the worst screening programme results.

Florian Nicula accepts that the vaccine could in theory prevent almost all the cervical cancers if it reached enough girls at the right age. In practice, however, in



Romania they have been left with stockpiles of the vaccine, which they are now trying to use through a new information campaign. “The parents did not agree to their daughters having the vaccine,” he said. There is clearly a need to investigate the public health aspects of the HPV vaccines; including which implementation models would be best for a high coverage and acceptance.

Arkadiusz Chil from Poland sees the vaccine as a distraction from the main challenge. “The vaccine is not an alternative to cytology. We cannot fight cancer without regular cytological examination and that must be clearly stated.”

IT TAKES TIME TO GET IT RIGHT

There are no short cuts to establishing effective screening programmes, says Ahti Anttila – careful planning and attention to

detail are important at every stage.

“Even in small country, it takes about two years to plan everything, taking into account the current activities in health-care and how the screening could be integrated. One cannot go directly to full national screening in a short time because it is so complicated to get all the parts of the chain into the right order.”

The bigger the country, the greater the challenge. Romania, has a target population of 6 million women, and even if they were only invited for screening every five years, that means 1.2 million invitations a year, probably resulting in a million screening tests and 30,000 colposcopies [an investigative diagnostic procedure usually performed where abnormalities have been revealed by the smear test]. Staff have to be trained at every step of the way, expanding from

“My message to women is to press our government and the doctors to keep to the European quality guidelines”

In Romania they have been left with stockpiles of the vaccine, which they are now trying to use

pilot areas, so that they in turn become reference centres to coordinate training and organisational activity in other regions. “For small countries like Estonia, Latvia and Lithuania one could do everything in 5–10 years. For a large country like Romania it could be even more than 10 years.”

Anttila points out that even in Finland they still do monitoring and evaluation. “The Finnish programme started in 1962 and has continued for almost 50 years, but every year we still collect data. The cancer burden is extremely low when screening works well, but this systematic monitoring

and learning has to be part of it.” The Finns are also proactively studying potential new methods for cervical cancer prevention, such as HPV screening or HPV vaccinations.

With the EUROCHIP work package due to conclude at the end of 2011, the organisers are to ask the European Commission for more time to address screening problems, which would allow time for Bulgaria and Romania to further develop their pilot schemes. Andrea Micheli, leader of EUROCHIP from the Italian Istituto Nazionale Tumori in Milan, believes the work constitutes a vital step towards reduc-

ing cancer inequalities across Europe and so reducing the overall burden of cancer.

Anttila says they should not step back now. “We do not yet have screening programmes of high quality. We cannot say we have them, and it has not been adequately resolved. I don’t think the EU would want to give up.

“All these countries have made a start and need to consider what more to do. Then, political commitment will come, as we’ve seen happen in countries like England, and everything will work very effectively. Maybe it takes even more than 10 years, but I think the information that EUROCHIP has shared in the countries and scientific communities takes us one step further.”

Screening is a major focus of the recently launched European Partnership for Action Against Cancer, he adds, which reinforces the political will to make progress on this front at the highest political level of the Union.

Micheli also believes that the data and experiences being provided by these countries is like gold dust. “The most precious element we had in EUROCHIP was the availability of data to allow comparisons amongst all the countries of Europe. Through solidarity and networking, countries are now sharing experiences on best practice and developing screening programmes at lower cost than if they were tackling this alone.”

MORE ON CERVICAL CANCER AND EUROCHIP

- Further details about the state of cervical cancer screening in the countries covered by the EUROCHIP cervical cancer programme can be found in: F Nicula et al. (2009) Challenges in starting organised screening programmes for cervical cancer in the new member states of the European Union. *Eur J Cancer* 45:2679–2684
- Articles on the cervical cancer status of each EUROCHIP country can also be found on the *Tumori* website at http://www.tumorionline.it/index.php?archivio=yes&vol_id=516
- The huge gap in cervical cancer incidence and mortality between the original 10 EU member states and the 15 that joined later was first documented by Marc Arbyn and colleagues in 2007, using data from 2004 (*Ann Oncol* 18:1708-1715; available in full online at <http://annonc.oxfordjournals.org/content/18/10/1708.full>)
- Updated incidence and mortality figures, from 2008, were published last year: J Ferlay et al. *Globocan 2008, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10* [Internet]. International Agency for Research on Cancer (2010). <http://globocan.iarc.fr>
- Progress in the EUROCHIP 3 work on cervical cancer can be found at <http://www.tumori.net/eurochip/wp.php?page=4>

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