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Cervical cancer screening policies and coverage in Europe

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ABSTRACT

The aim of the study was to compare current policy, organisation and coverage of cervical cancer screening programmes in the European Union (EU) member states with European and other international recommendations. According to the questionnaire-based survey, there are large variations in cervical cancer screening policies and inadequacies in the key organisational elements of the programme such as registration and monitoring required for quality-assurance and fail-safe mechanisms. Based on data from available screening registers, coverage of the screening test taken within the population-based programme was below 80% in all programmes, ranging from 10% to 79%. The screening capacity is satisfactory in most EU member states, however, and there is even over-capacity in several countries. There are also countries which do not have an acceptable capacity yet. Control of proper capacity along with education, training and communication among women, medical professionals and authorities are required, accordingly. The study indicates that, despite substantial efforts, the recommendations of the Council of the EU on organised population-based screening for cervical cancer are not yet fulfilled. Decision-makers and health service providers should consider stronger measures or incentives in order to improve cervical cancer control in Europe.

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1. Introduction

Organised screening programmes for cervical cancer, based on the conventional cytological screening test, have been shown to be effective in decreasing mortality and incidence from the disease.[1,2] Also, opportunistic, non-organised screening affects cervical cancer rates, although not to the same magnitude.[1–7] With non-organised activity, a considerable proportion of the population may be totally or partially under-screened, and at the same time there may be appreciable over-use of services among those served most actively.[5,8–11] There are concerns that adverse effects may become more common, if the clinical and diagnostic work-up of abnormal findings is not of a high quality. Hence these activities must be monitored and evaluated.[11–13]

The European Union (EU) currently recommends that cancer screening should only be offered in population-based, organised screening programmes, with quality assurance at all levels.[13,14] There are also some more detailed European recommendations and comprehensive guidelines describing the organisation and implementation, screening policies (recommended target age groups and screening intervals), as well as registration, evaluation and monitoring of organised cancer screening programmes.[13–15]

The aim of the current study was to assess the screening policy and the organisation of cervical cancer screening programmes in the EU member states, and to compare them with European and other international recommendations.

2. Materials and methods

The study is based on two questionnaire surveys. The first survey was performed within an expert network on cervical cancer screening registration and monitoring and the latter survey among respondents from the health authorities of the EU member states. In addition, materials from earlier published studies were searched and several interviews of experts and expert meetings were conducted in order to check and interpret data.

The first questionnaire survey was circulated between September 2005 and February 2008 among experts from 19 EU member states within a collaborative research project entitled 'Registration and monitoring of cervical cancer screening programmes in the European Union'. This project investigated whether organised cervical cancer screening programmes, or planning or piloting of them, were taking place, whether and how screening registration and monitoring was arranged and, finally, aimed to collect the monitoring results. This part of the work was done within the framework of the Cervical Cancer Screening Work Group of the European Network for Information on Cancer (EUNICE), financially supported by the EU. The overall network was coordinated by the International Agency for Research on Cancer (IARC), Lyon. Included in this project were those countries or regions for which the working group identified on-going screening registration, or where registration was being planned during the activity period.

The structured survey questionnaire along with the minimum data tables required for registration were the same as or corresponded closely with those published in the recently revised European quality assurance guideline for cervical cancer screening (Tables A and B of Appendix 2, Chapter 2, of Ref. [11]). A description of the screening data registration, screening policies, diagnostic work-up and characteristics of the programmes was included in the questionnaire. The screening findings together with further performance indicators, based mainly on the routine screening databases and regularly published statistics, and other summary characteristics of the programmes are reported elsewhere in this Special Issue.[16–23]

Emphasis on information collected on screening policy was on: targeted age range, screening interval with normal results, and number of lifetime tests recommended. Information on the target population, invitations and screening attendance (specifying whether after the invitation, or otherwise) were requested. Furthermore, it was requested whether the invitations and screening attendance were registered on an individual basis. One important structural aspect for screening registration and evaluation was to check availability of cancer registries. In this survey the data on cancer registries was collected from the most current edition of Cancer Incidence in Five Continents (CI5).[24] We also enquired with the expert group whether screening and cancer registry data could be linked with each other for evaluation and quality assurance purposes.

The second questionnaire was sent to the representatives of the national governments of the EU member states in Brussels and was designed to assess the status of cancer screening programmes in the EU.[25] It aimed to clarify broader aspects than screening policies alone, and information on other screening programmes than the cervix (e.g. breast, colo-rectum) was also solicited. Experience and definitions developed in the first survey were instrumental in developing the second questionnaire. The information collected on cervical cancer screening policies in this second survey was used in the current report. The information on screening policies was checked against the data obtained from the expert group of the first survey – who were mostly from countries with national cervical cancer screening coordination committees or national monitoring and evaluation units.

2.1. *Screening volume and coverage*

Different definitions affect the applicability of the concept of coverage.[11,26] Invitational coverage, defined as the proportion of target population invited during a screening round, is a meaningful measure among those programmes which invite all women in the target population or in the eligible target population. In addition, the proportion of women tested at least once within the recommended interval (women covered by the test) is a useful measure which can be computed on the basis of individual-level information from screening registries.

In addition to the smears taken within a programme, spontaneous or diagnostic smears were reported by a few centres. Due to a paucity of information, these could not be included in detail for all member states. For those countries which record all smears of any type, the proportion of women tested at least once during the recommended interval was

calculated from the register-based data or, respectively, on an annual basis. The current report includes coverage estimates as available from those screening registers which were able to convert their data into the requested guideline tables (Tables B1 and B2 of Ref. [11]). For those countries which record only the smears of the invitational programme, corresponding estimates can be derived from questionnaire studies among women, but reliability of that information was considered to be limited.

Information on the overall number of screening tests was also included in the second questionnaire. This information came from screening registries, if available, or from ad hoc databases. This was useful information in order to check completeness of screening registration. In addition, the overall volume of screening tests can be used to assess the screening capacity by comparing the number of tests performed with the number of women in the respective targeted populations. This assumes that the screening tests are evenly distributed within the target population during a screening round, which is, however, frequently not true.

Table 1 – Cervical cancer screening policy and programme features in the 27 European Union member states.

Country[a]	Type	Status	Eligible age in years[b]		Screening interval in years	Estimates number of tests in lifetime
			From	To		
Austria	Non-population-based	Nationwide	18+	Not specified	1	50+
Belgium	Non-population-based	Nationwide	25	64	3	14
Bulgaria	Non-population-based[c]	Nationwide	31	65	2	21
Cyprus	No programme	No programme	No data	No data	No data	No data
Czech Republic	Non-population-based	Nationwide	25	69	1	45
Denmark	Population-based	Nationwide	23	65[b]	3 in age 23–50; then 5[d]	Approx. 13
Estonia	Population-based	Nationwide, rollout ongoing	30	59	5	6
Finland	Population-based	Nationwide	(25) 30	60 (65)	5	7–9
France	Non-population-based	Nationwide	(20) 25	65	3	14
	Population-based	Local/Regional pilot	(20) 25 (50)	65 (74)	3	14 (9)
Germany	Non-population-based	Nationwide	20	Not specified	1	50+
Greece	Non-population-based	Natiowide	20	Not specified	1	50+
Hungary	Population-based	Nationwide	25	65	3	14
Ireland	Population-based	Regional; nationwide planning	25	60	3 in age 25–44; then 5	10
Italy	Population-based	Nationwide, rollout ongoing	25	64	3	14
Latvia	Non-population-based	Nationwide	20	70	3	17
Lithuania	Non-population-based	Nationwide	30	60	3	11
Luxembourg	Non-population-based	Nationwide	15	Not specified	1	50+
Malta	No programme	No programme	No data	Not specified	No data	Not specified
Netherlands	Population-based	Nationwide	30	60	5	7
Poland	Non-population-based	Nationwide	25	59	3	12
	Population-based	Local	25	59	3	12
Portugal	Population-based	Nationwide, planning	25	64	3	14
	Population-based	Regional, rollout ongoing	25	64	3	14
Romania	Population-based	Nationwide, piloting	25	65	5	9
Slovak Republic	Non-population-based	Nationwide	18	Not specified	1	50+
Slovenia	Population-based	Nationwide	20	64	3	15
Spain	Non-population-based	Regional	(18) 30 (35)	59 (65)	3 or 5[e]	5–15
	Population-based	Regional	(25) 30	(50) 65	3	9-15
Sweden	Population-based	Nationwide	23	60	3 in age 23 to 50; then 5	12
UK	Population-based	Nationwide	(20) 25	(60) 64	3 and 5[f]	12

Source: European Commission (DG SANCO); IARC (EUNICE and ECN projects, see Methods); and von Karsa et al.[25]

a Multiple entries for some countries due to dual implementation status.

b Regional variation within parentheses. Neither including age range of optional attendance after regular invitation ceases, nor age range of women especially invited or tested in some programmes because recent history of normal test results is lacking.

c Prophylactic activity on-going mainly among certain risk groups.

d From new national guidelines (31 December 2007); former guideline recommended screening every 3 year up to the age of 59 years.

e Regional variation also in the interval.

f Targeted age and screening interval vary by region: England 3-yearly screening in ages 25–49 and 5-yearly in ages 50–64; Northern Ireland 5-yearly in ages 20–64; Scotland 3-yearly in ages 20–60; and Wales 3-yearly in ages 20–64 years.

3. Results

3.1. Recommended age groups and screening intervals

Table 1 shows the screening policies in the EU member states. Cytology is largely the recommended primary screening test. Screening usually starts at an age between 20 and 30 years and stops at age 60 to 70. Austria, Luxembourg, Slovak Republic and Spain responded that they start screening at ages below 20 in all or some programmes. The activity was reported as non-population-based in these countries and it is likely that a similar screening activity, though not reported in detail, was also taking place in some other countries in the presence of population-based programmes.

Four countries (Estonia, Finland, The Netherlands and Romania) recommend a uniform 5-year interval for those screened negative. This results in approximately six to nine invitations during a lifetime, depending on the age of starting and stopping screening activities. In fourteen countries 3-yearly or a combination of 3- and 5-yearly intervals were recommended. The lifetime number of tests is then considerably higher, approximately 12–17. In nine countries the interval was less than 3 years or it was not specified.

The evident large variation in the lifetime number of screening tests between countries mainly reflects the opportunistic screening policy in several member states (for example, in Austria, Bulgaria, Cyprus, Czech Republic, Germany, Luxembourg, Malta, Slovak Republic). Recommendations in these countries usually permit a 1-year interval between negative tests. In several other countries with spontaneous screening the lifetime number of tests may have been underestimated, because of concurrent spontaneous screening activity.

3.2. Screening registration, evaluation and monitoring

Table 2 shows the available information on registration, monitoring and evaluation of cervical cancer screening. According to the data collected, in 15 out of the 27 member states, regular screening registration systems have been developed or are being developed, either nationally or regionally. Regular monitoring tables are routinely published in eight countries and they are under development in several other regions or countries. Planning or decisions to establish screening registration have also been forthcoming in several member states after collection of the currently reported data.

Validated regional or national cancer registration systems are already operating in 22 member states. Screening registry data, if existing, could in principle be linkable to cancer registries in most cases, providing a basis for comprehensive quality assurance and evaluation.

3.3. Screening volume and coverage

Table 3 shows the estimated numbers of women invited to screening and actually screened with respect to the number of women in the target population, as well as overall volume and average capacity compared with the policy recommended by the EU. The information was provided mainly by the national authorities in the second survey, and the table includes only those countries which reported numbers of screened women. Reported values are in most cases for the entire nation. The screening capacity is satisfactory in most member states and there is over-capacity in several of them. Nevertheless, in some countries the overall volume is still far from the level which would permit screening of the entire target population.

Invitational and screening coverage estimates were assessed from screening registers. Table 4 shows these data obtained by the expert network. Screening data were also reported for Estonia, Hungary and Poland, but were not included in the table, due to substantial numbers of smears performed outside the programme and not included in the register. Values refer to the target population of the respective areas. Therefore, denominators can differ from those in Table 3 that are nationwide in some cases. Invitational coverage approached 100% in Finland and England. Invitational coverage was low in some countries because only women who were not spontaneously screened were invited.

Coverage of the smear test was below 80% of the target population in all programmes, with the reported range from 10% to 79%. The documented smear test coverage was 70% or more in the programmes in five regions (Alsace, France, England, Finland, The Netherlands and Sweden). The estimates are not completely comparable, due to variations in the screening interval and inclusion of tests performed in opportunistic practice.

4. Discussion

The EU currently recommends that cancer screening should only be offered in population-based organised programmes with quality assurance at all levels.[13] The current study indicates that although a population-based policy for screening has been adopted by several EU member states, key elements of the comprehensive recommendations on programme implementation have yet to be fulfilled by many European countries.

The present study has been completed approximately 9 years after publication of a previous Special Issue of the *European Journal of Cancer,* in which the status of cervical cancer screening programmes in the EU15 was reported, and approximately 5 years after a similar study on screening policies published elsewhere.[27,28] Despite discernible progress in implementing organised, population-based cervical cancer screening in recent years, the extent to which the policies recommended by the Council of the EU have been adopted still leaves room for substantial improvement.

The most severe inadequacy relates to the continued unavailability of population-based, systematically organised screening programmes to women who may benefit from screening. There are also shortcomings in the registration, monitoring and evaluation required for systematic quality assurance and implementation of fail-safe mechanisms. In some member states, excessive numbers of smears are recommended in a lifetime due to short screening intervals and offering screening to young women. Neither of these policies are in agreement with the current edition of the European Guidelines for quality assurance in cervical cancer screening which recommend an age range beginning at

Table 2 – Monitoring of cervical cancer screening in the 27 European Union member states.

Country	Screening registration								Cancer registration	
	Screening registry available	Regular monitoring tables		Other data available	Available items included in reports				Available	Linkable with screening register
		Published	Pilot or developing		Invitations sent	Screening tests taken	Screening test results	Histology		
Austria	No	No		Yes	No	Yes	No	No	National	
Belgium	No	No		Yes	No	Yes	Yes	No	Regional	
Bulgaria	No	No		Yes	No	No	No	No	National	
Cyprus	No	No		No	No	No	No	No		
Czech Republic	No	No		Yes	No	Yes	No	No	National	
Denmark	National, under development	No	Yes	Yes	No	Yes	Yes	Yes	National	Yes
Estonia	National, under development	Yes		Yes	Yes	Yes	Yes	Yes	National	Yes
Finland	National	Yes		Yes	Yes	Yes	Yes	Yes	National	Yes
France	Local/regional, under development	No	Yes	Yes	No	Yes	Yes	Yes	Local/regional	Yes
Germany	No	No		Yes	No	Yes	Yes	Yes	Regional	
Greece	No	No		Yes	No	No	No	No	National	
Hungary	National	No		Yes	Yes	No	No	No		
Ireland	Regional, under development	No	Yes	Yes	Yes	Yes	Yes	Yes	National	Yes
Italy	Regional, under development	Yes		Yes	Yes	Yes	Yes	Yes	Regional	Yes
Latvia	No	No		Yes	No	No	No	No	National	
Lithuania	Yes, under development	No		Yes	No	Yes	Yes	Yes	National	
Luxembourg	No	Yes		Yes	Yes	Yes	Yes	No		
Malta	No	No		Yes	No	Yes	No	No	National	
Netherlands	National	Yes		Yes	No	Yes	Yes	Yes	National	Yes
Poland	Local; National under development	No	Yes	Yes	Yes	Yes	Yes	Yes	Local	Yes
Portugal	Regional, under development	No		Yes	No	No	No	No	Regional	Yes
Romania	Regional, under development	No	Yes	Yes	No	Yes	Yes	Yes		
Slovak Republic	No	No		Yes	No	No	No	No	National	
Slovenia	National	Yes		Yes	Yes	Yes	Yes	Yes	National	Yes
Spain	No	No		Yes	No	No	No	No	Regional	
Sweden	Regional, under development	Yes		Yes	No	Yes	Yes	Developing	National	Yes
UK	National	Yes		Yes	Yes	Yes	Yes	Yes	Regional	Yes

Source: EUNICE work group on screening registration and monitoring of cervical cancer screening; European Commission (DG SANCO); IARC (ECN project, see Methods); and von Karsa et al.[25]

Table 3 – Annual volume and capacity of cervical cancer screening in the EU – nationwide or regional estimates for 17 member states.

Country or region	Age-eligible national or regional population			Screening programme				Non-programme/all tests		
				Personally invited per year		Screened per year				
	Eligible age (years)	Women (×1000)	Screening interval (years)	Women (×1000)	% of Target population assuming the scheduled interval	Women (×1000)	% of Invited	Non-programme tests (×1000)	All tests (×1000)	Capacity (%) assuming the scheduled interval[a]
Bulgaria	31–65	1890	2	–	–	246	–	–	246	39
Denmark	23–59[b]	1310[b]	3[b]	–	–	300	–	–	451	103
Estonia	30–59	290	5	30	52	6	20	70	76	131
Finland	(25)30–60(65)	1290	5	270	105	190	70	–	460[c]	178
France	(20)25–65	16,300	3	–	–	4684[d]	–	–	4684[d]	90
Germany	20+	34,100	1	–	–	15,800	–	6000	21,800	192
Hungary	25–65	2950	3	690	70	45	7	960	1005	102
Ireland, regional	25–60	90	3 & 5	6	27	20	–	–	20	89[e]
Italy	25–64	16,500	3	2900	53	1120	39	4880	6000	109
Luxembourg	15+	200	1	–	–	230	–	–	230	345
Netherlands	30–60	3670	5	750	102	491	65	260	788	107
Poland	25–59	9740	3	–	–	370	–	–	370	11
Portugal except regional	25–64	2510	3	–	–	–	–	266	266	32
Portugal, regional	25–64	480	3	30	19	100	–	41	141	88
Romania	25–65	6080	5	–	–	8	–	28	36	3
Slovak Republic	18+	2180	1	–	–	–	–	679	679	93
Slovenia	20–64	630	3	90	43	200	–	–	200	95
Sweden	23–60	2240	3 & 5	–	–	390	–	315	705	126
UK[f]	(20)25–(60)64	14,970	3 & 5	4370	107	3400	78	634	4032	108

Source (unless otherwise specified): European Commission (DG SANCO); IARC (EUNICE and ECN projects, see Methods); Karsa et al.[25] and EUNICE work group on registration and monitoring of cervical cancer screening. Member states not shown, and other missing values (blanks) not shown for countries or columns for which data was not available to the authors.

a Estimated using the following equation: (number of tests × screening interval)/number of women in the target population. For Bulgaria, Germany, Luxembourg the capacity was estimated for screening once per 3 years and for Ireland, Sweden and UK once per 4 years. The capacity estimate within organised screening does not consider preferred screening attendance.

b Calculated for screening policy before 2007.

c *Reference*: Monto and Nieminen.[44]

d Number of smears with a re-imbursement (Ref. [45]).

e Does not include tests taken outside the programme, because the estimated number of all tests is not available.

f Excluding data for Scotland.

Table 4 – Coverage by invitation and by screening test of cervical cancer screening programmes in the EU – nationwide or regional estimates from screening registers from 12 member states, reported by the EUNICE working group.

Country or region	Resident women ×1000) [in target age group] (in years)	Screening interval (years)	Coverage by invitation (%)	Coverage by screening test (%)[a]	Comments on screening coverage
Denmark	1310 [23–59]	3	Not available	69	Target age range applicable in year of available data: 2006
Finland	1290 [30–60]	5	98	>70	70% Based on smears taken subsequent to invitation of targeted age groups, including 25–29 and 61–65 years in some regions. Questionnaire surveys suggest over 90% based on all smears
France, Alsace	483 [25–65]	3	33[b]	71	
Ireland South-Western region	89 [25–60]	5	68[c]	62	66% in Eligible target population
Italy active regional programmes	11,363 [25–64]	3	76	>59	Based on conservative estimate of non-programme smears, which account for at least one-half of all smears
Lithuania	750 [30–60]	3	68[d]	53	39% if only programme smears are considered
Netherlands	3670 [30–60]	5	Not available	77	
Portugal Central region	480 [25–64]	3	Not available	58	62% within the eligible target population
Romania Cluj region	355 [25–65]	5	Not available	10	
Slovenia	630 [20–64]	3	19[b]	68	
Sweden	2240 [23–60]	3 or 5	Not available	73	Overall coverage based on 3- or 5-yearly interval depending on target age group
England	13,600 [25–64]	3 or 5	Not available	74[e]	Estimated for 5-year interval; 79% in eligible target population

a Estimate based on smears taken inside or outside the programme for any reason.
b Invited only the women who had not taken the test within the recommended screening interval.
c With regionally variable invitational modes (e.g. invited all women in some regions and women without a recent smear in some regions).
d Invitation includes mainly informing women, the invitation system is decentralised.
e Invited all eligible women excluding those who have 'opted out'.

20–30 years and extending to 60–65 years, with a 3- or 5-year screening interval.[15] As pointed out elsewhere, adopting the recommended age ranges for cervical cancer screening in the respective programmes could avoid a considerable volume of unnecessary screening examinations. This, in turn, could improve the balance between harm and benefit, reduce the expenditure in human and financial resources, and increase the cost-effectiveness of screening.[25,26]

The disadvantages of cancer screening include psychosocial consequences among women screened positive or treated for cancer precursors, complications and risk of pre-term delivery among women treated for precursors, and also false reassurance or a delayed investigation or treatment among women with false negative test results or with non-compliance to confirmation and treatment.[11,29,30] Quality-of-life and potential adverse aspects should be investigated more thoroughly than done thus far and they should be taken into account when planning for screening policies. These issues are all the more relevant when considering that evidence on the validity of new test methods such as testing for Human Papillomaviruses (HPV) is accumulating, also in primary screening. For primary HPV screening, an organised approach to programme implementation including proper age group definitions and long screening intervals will be even more essential than for cytological screening.[15,22]

Incidence and mortality rates from cervical cancer can be reduced by up to 80% through well-organised cytological screening.[1,2] In the majority of European regions and countries, the age-adjusted historical decrease in the trends of cervical cancer are smaller, typically 40–70%.[2,11,18,31,32] There are also countries where no substantial decrease in the cervical cancer burden has occurred yet or where the rates are substantially increasing. There are no good historical data on screening intensity and quality or on differences in the background risk factors thereby making it difficult to assess the impact of screening in the trends. Substantial additional decreases in cervical cancer rates are still possible through the introduction of organised screening throughout the EU.

According to internationally recognised recommendations, screening with intervals from 3 to 5 years is acceptable among women with normal findings in cytological screening, and a shorter interval should be discouraged.[2,15] The duration of a pre-cancerous phase is usually quite long, averaging 10–12 years if progressing to cervical cancer. Within the above

recommended limits there is no major difference in programme effectiveness.[1,2,11] There is evidence of a substantial historical decrease in cervical cancer burden in countries with a 5-year interval recommended for screening and a high proportion of women actually tested.[33–36]

Concerning countries with opportunistic screening only, annual test coverage has been reported between 30% and 50% indicating a high level of over-use of services.[8,9,19,20,37–40] The proportion of underserved eligible women has been reported at 24% in Austria (women aged 20 to 69 years reported never to have had a smear in their lifetime), 18–30% in Malta (women aged 25–44 and 45–64 years, respectively, who never received a smear test), and 33% in Belgium (women of targeted age who had not had a smear during the previous 5-year period). In Belgium, which is lacking an organised, population-based screening programme, smear capacity is sufficient to cover more than 100% of the target population over the time span of a 3-year screening interval.[39] Our study suggests similar patterns of inefficient, non-organised screening activity in many affluent countries.

All of the new member states of the EU (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia) have historically been without an organised screening programme. Several of these countries have a very high current burden of cervical cancer. Some of these countries have in recent years already started nationwide organised programmes (Estonia, Hungary, Poland and Slovenia), one country (Romania) responded as having started a pilot programme, and several other countries are planning for the activity.[20,23] In most instances a rather large number of screens per lifetime have already been recommended in piloting and early implementation phases. This, in turn, reflects financially and technically demanding programmes. One problem in such a policy seems to be that the actual number of tests taken in the organised programme, as well as the coverage, has remained low. In some of these countries the current capacity of the screening test also seems low (e.g. in Romania and Poland), whereas large-scale, non-population-based screening activities have often been on-going (Estonia, Hungary, Slovakia and the Czech Republic). The validity of the current diagnostic activity should be investigated further in these countries using register linkage studies.

Collaboration between member states, along with coordination and planning of capacity-building, education, training and communication among women, medical professionals and authorities is required to overcome the barriers to successful implementation of cervical cancer screening programmes. An essential recommendation for the healthcare systems in new EU member states is to plan and test the feasibility of population-based screening programmes in the initial phase of quality-controlled programme implementation. Given limited screening resources, programmes may be started with rather few age groups, provided that high coverage is being prioritised.[11] There is also a need to prioritise across potential screening and prevention programmes for various cancer sites, taking into account adequately evaluated cost-effectiveness and decision-making analyses. Pilot and demonstration studies should be subsequently started on a limited scale, in order to demonstrate that the programme works well enough in the respective context.[25] Quality-controlled rollout towards national implementation can take place gradually, keeping pace with appropriate development of professional and organisational training and infrastructure including programme managerial capacity. It is also important to assess in these countries whether screening efficacy can be improved by applying new technologies.

Information systems for organised screening are rapidly evolving. The EU can provide essential support by enhancing legislative frameworks in order to build-up these systems. Register-based evaluation and monitoring systems need to be established whenever screening tests are in use, irrespective of the programme type. Such systems should be an integral part of the accreditation and certification schemes and should include all elemental requirements as defined by the European quality assurance guidelines.[25] The same rigorous standards should be applied to monitoring and evaluating of existing programmes, or introduction of new screening or diagnostic techniques or other options for cervical cancer prevention.

The results of the presently reported surveys are consistent with recent resolutions of the European Parliament and conclusions of the Council of the EU adopted under the recent Slovenian EU Presidency.[41,42] These documents have emphasised the importance of further efforts to implement the Council Recommendation on cancer screening in the expanded EU. A recent report of the European Commission was based in part on data collected in the presently reported surveys.[43] The European Commission also emphasises the need for greater efforts to implement or improve population-based screening programmes. Substantial added value may be expected from support for such efforts.

In conclusion, despite the discernible, laudable efforts, the recommendations of the Council of the EU on cancer screening are not yet fulfilled in the EU. There are large variations in cervical cancer screening policies and in the organisation of existing programmes. In many member states, screening policies and registration and monitoring essential to quality assurance and fail-safe mechanisms throughout the entire screening process are still in need of substantial improvement. Decision-makers and health service providers should consider stronger measures or incentives than those adopted with current recommendations in order to improve successful cervical cancer control in Europe.

Conflict of interest statement

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