

# Policy Brief

## Screening in Europe

by

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# Policy brief

## Screening in Europe\*

*The attack on disease must not be meddlesome; the desire to do something must be guided by sure argument that good will come of it.*  
Gibson AG. *The Physician's Art*. Oxford: The Clarendon Press, 1933

### INTRODUCTION

The concept of screening in health care – that is, actively seeking to identify a disease or pre-disease condition in individuals who are presumed and presume themselves to be healthy – grew rapidly during the twentieth century and is now widely accepted in most of the developed world. Used wisely, it can be a powerful tool in the prevention of disease. But it is essential to observe the long-established principles and criteria and resist the introduction of screening practices that do not meet these requirements.

We begin this summary by outlining the historical background to screening and by looking at some definitions of the practice based on experience in the United States and the United Kingdom but relevant more widely. We go on to examine the criteria for screening and its evaluation and the benefits and disadvantages of the practice. We then consider a number of key issues that are relevant at all stages and to every type of screening in any country. Finally, we look at current screening practices within the European Union (EU), using the United Kingdom as a model, before drawing a number of general conclusions.

### Historical background

The benefits of screening for disease prevention were first demonstrated in the 1940s by the use of mass miniature radiography (MMR) for the identification of individuals with tuberculosis (TB). After the end of the Second World War, when effective treatment for TB was introduced, the use of MMR became widespread in many western countries, including the United States and the United Kingdom.

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\* Based on Holland WW, Stewart S (2005). *Screening in Disease Prevention: What Works?* Oxford: Radcliffe Publishing Ltd in association with The Nuffield Trust and the European Observatory on Health Systems and Policies.



Gradually the concept of screening began to be considered equally applicable to the prevention of other diseases. The United States led the way, and in 1961 Thorner and Reimin of the US Public Health Service published the first comprehensive review of the principles of screening.<sup>1</sup> In 1968, Wilson and Jungner produced their *Principles and Practice of Screening for Disease*, which was published as a World Health Organization monograph.<sup>2</sup> This remains a landmark contribution to the screening literature.

In the late 1960s, screening came to the forefront of the health agenda in the United Kingdom. The Nuffield Provincial Hospitals Trust convened a working party on screening under the chairmanship of Professor Tom McKeown. The report highlighted two main conclusions.<sup>3</sup> First, evaluation of ten screening procedures had revealed that in six of these, at least some of the basic principles and criteria were not being met; second, that the existing research and administrative framework for screening was inadequate and needed to be strengthened. The unmanaged introduction of screening for cervical cancer, for example, illustrated very clearly the need for national planning and coordination before any programme could be introduced into the National Health Service or any other health care system.

In this context, the Ministry of Health created a Joint Standing Committee on Screening in Medical Care but, although this met between 1969 and 1980, its terms of reference were purely advisory and its authority and effectiveness were limited. The establishment in 1996 of the United Kingdom National Screening Committee (NSC) filled this planning gap and created a mechanism to influence the implementation and evaluation of effective national screening programmes and to identify areas for further research. The NSC reports to ministers and represents an important central reference point for all considerations of screening in the United Kingdom.<sup>4</sup> This provides an important model for other countries.

## DEFINITIONS

There have been various definitions of screening over the years and a number of the most commonly used in the United States and the United Kingdom are summarized in Table 1.

Put simply, what we are talking about in screening is seeking to identify a disease or pre-disease condition in apparently healthy individuals. The most recent definition from the UK NSC<sup>7</sup> introduces the risk to benefit concept,

**Table 1: Definitions of screening**

Source	Definition
US Commission on Chronic Illness (1957) <sup>5</sup>	Screening is the presumptive identification of unrecognized disease or defect by the application of tests, examinations or other procedures, which can be applied rapidly. Screening tests sort out apparently well persons who apparently have a disease from those who probably do not.
McKeown (1968) <sup>3</sup>	Screening is medical investigation which does not arise from a patient's request for advice for a specific complaint.
Wilson and Jungner (1968) <sup>2</sup>	Mass screening is the large-scale screening of whole population groups. Selective screening is screening of certain high-risk groups in the population. Multiphasic screening is the administration of two or more screening tests to large groups of people. Surveillance is long-term observation of individual populations. Case-finding is screening of patients already in contact with the health services to detect disease and start treatment. Early disease detection refers to all types of screening.
NSC – First Report (1998) <sup>6</sup>	Screening is the systematic application of test or inquiry to identify individuals at sufficient risk of a specific disorder to warrant further investigation or direct preventive action among persons who have not sought medical attention on account of symptoms of that disorder.
NSC – Second Report (2000) <sup>7</sup>	Screening is a public health service in which members of a defined population, who do not necessarily perceive that they are at risk of, or are already affected by, a disease or its complications, are asked a question or offered a test to identify those individuals who are more likely to be helped than harmed by further tests or treatment to reduce the risk of disease or its complications.

acknowledging that screening can harm as well as help – a response perhaps to the increasing public climate of complaint and litigation. It is important also to distinguish between *population screening* (where people thought to be at risk are invited for screening, as in the national programmes for cancer of the breast and cervix), and *opportunistic screening for prevention or case-finding* (where individuals have sought



**Table 2: Summary of criteria for screening**

<i>Category</i>	<i>Criteria</i>
<i>Condition</i>	The condition sought should be an important health problem whose natural history, including development from latent to declared disease, is adequately understood. The condition should have a recognizable latent or early symptomatic stage.
<i>Diagnosis</i>	There should be a suitable diagnostic test that is available, safe and acceptable to the population concerned. There should be an agreed policy, based on respectable test findings and national standards, as to whom to regard as patients, and the whole process should be a continuing one.
<i>Treatment</i>	There should be an accepted and established treatment or intervention for individuals identified as having the disease or pre-disease condition and facilities for treatment should be available.
<i>Cost</i>	The cost of case-finding (including diagnosis and treatment) should be economically balanced in relation to possible expenditure on medical care as a whole.

medical advice for a specific symptom or complaint and opportunity is taken to suggest various other tests, such as the measurement of blood pressure or cholesterol, appropriate to their age and sex).

### **CRITERIA FOR SCREENING**

The basic criteria to be fulfilled before screening for any condition is introduced have been stated clearly over many years. They are fundamental to the integrity of the screening process in any country. They are reproduced in full on the UK National Screening Committee's web site ([www.nsc.nhs.uk](http://www.nsc.nhs.uk)), and are summarized in Table 2.

Evaluation must also be an integral part of any screening procedure. In 1971, Cochrane and Holland<sup>8</sup> suggested seven criteria for evaluation and these remain as valid today as they were then (Table 3).

### **BENEFITS AND DISADVANTAGES**

The benefits and disadvantages of screening have been fully described over the years and have been elegantly summarized by Chamberlain<sup>9</sup> (Table 4).

**Table 3: Summary of criteria for evaluation of screening**

<i>Factor</i>	<i>Criteria</i>
<i>Simplicity</i>	The test should be simple to perform, easy to interpret and, where possible, capable of use by paramedics and other personnel.
<i>Acceptability</i>	Since participation in screening is voluntary, the test must be acceptable to those undergoing it.
<i>Accuracy</i>	The test must give a true measurement of the condition or symptom under investigation.
<i>Cost</i>	The expense of the test must be considered in relation to the benefits of early detection of the disease.
<i>Repeatability</i>	The test should give consistent results in repeated trials.
<i>Sensitivity</i>	The test should be capable of giving a positive finding when the individual being screened has the condition being sought.
<i>Specificity</i>	The test should be capable of giving a negative finding when the individual being screened does not have the condition being sought.

**Table 4: Benefits and disadvantages of screening**

<i>Benefits</i>	<i>Disadvantages</i>
Improved prognosis for some cases detected	Longer morbidity in cases where prognosis is unaltered
Less-radical treatment which cures some early cases	Overtreatment of questionable abnormalities
Resource savings	Resource costs
Reassurance for those with negative test results	False reassurance for those with false-negative results
	Anxiety and sometimes morbidity for those with false-positive results
	Hazard of screening test itself

Source: Chamberlain.<sup>9</sup> Reproduced by kind permission of the author and publisher.



The benefits are straightforward. Early and accurate diagnosis and intervention will lead to an improved prognosis in some patients. At this stage treatment may need to be less radical. Scarce health services resources will be saved by treating diseases before they progress, and those with true-negative test results can be reassured.

The disadvantages are more complex. There will be longer periods of morbidity for patients whose prognosis is unchanged and there may be overtreatment of non-serious conditions or abnormalities identified. There are also resource costs in finding more illness both in terms of the tests themselves, the personnel costs and the subsequent management of whatever is found. There is the unpalatable certainty that some individuals with false-negative results will be given unfounded reassurance and that some with false-positive results will experience, at the very least, unnecessary anxiety and, at the worst, inappropriate treatment. Finally, there is the possibility, however remote, of hazard from the screening test itself.

There is a need for balance in the screening debate, between the extremes of enthusiasm and scepticism. Two points are particularly relevant here. The first is that there may be public demand (fuelled by vested interests) for the introduction of a screening test that does not meet the established criteria; an example of this is in screening for cancer of the prostate where the current screening test – prostate-specific antigen (PSA) – does not meet the criteria for accuracy or specificity. The second point is that the rhetoric behind the introduction of a screening programme may not match the reality of its implementation in routine practice; this is illustrated in screening for diabetic retinopathy in Glasgow, Scotland, where retention of staff, non-attendance and over-referral of patients with minor defects are some of the practicalities creating problems.<sup>10</sup>

## **KEY ISSUES IN SCREENING**

There are a number of key issues that are relevant at all stages and in every type of screening programme in any country, and are closely interrelated.

### **Genetics**

Genetic screening is an area that has developed very rapidly in recent years with the mapping of the human genome. Many see it as opening up a new era in the prevention, early diagnosis and identification of disease. However, caution is essential.

The two most frequently cited objectives of screening for a recessive carrier state, for example, are to reduce the prevalence of the disorder and to inform the reproductive choices of individuals and couples at risk. Information is thus regarded as worthwhile in itself, regardless of the possibility of prevention or treatment. While this type of screening can certainly help to evaluate risk and may be appropriate in certain high-risk groups, if nothing can be done to alter the finding, the need for and use of such information must be very carefully considered. Is it useful to diagnose without being able to treat?

The main purpose of genetic screening at present is to prevent rather than treat disease. In this it differs from much current screening practice and it must not be allowed to overlook the basic principles and criteria of screening. Open debate on the best way forward is urgent and the ethical and human implications of the use of the human genome must be considered and patient autonomy safeguarded.

## Information

Few would disagree that clear information about the benefits and harms of any screening procedure should be available to all individuals invited to participate in any programme. In practice, however, this often involves nothing more than providing a leaflet and possibly offering a brief discussion with a health professional with the emphasis on achieving a positive response. This is not enough.

Information provided should be based on results from respectable scientific trials in a form that is acceptable, accessible and useful to those receiving it. There must be information about the whole screening process, including follow-up tests, some of which may be invasive and unpleasant. We should also resist the current tendency towards “disease-mongering”, where ordinary and inevitable life processes, such as shyness and baldness, are transformed into medical conditions amenable to treatment by those seeking to promote their products.

Information is thus another central concept in modern health care in general and screening in particular. It must be provided not, as so often in the past, with the purpose of encouraging participation in a programme, but to give a balanced and understandable picture of the options and the possible outcomes, with the end-point being truly informed consent (or refusal) to participate.



## Economics

Economic aspects of screening have come to the fore in the consideration of screening in the last decade. This is partly due to theoretical advances in the application of economic principles in health services but also because it has been realized that some screening procedures require large amounts of resources with little benefit to the population. With the increase in the perception by both policy-makers and the public that stringent criteria must be applied before screening procedures are introduced, economic facts have been increasingly demanded in order to try to quantify the costs and benefits in terms that are more readily understood.

As economic theory has entered the field, it has been increasingly recognized that screening is not a universal panacea and that it may also do harm. All screening procedures involve the examination and testing of large numbers of individuals in order to find the few with an abnormality. There are two main consequences of this.

First, those who undergo screening are often understandably anxious while waiting for the result and become even more anxious if they have to undergo further investigation. These further investigations may not be pain- or risk-free and people eventually found to be clear of disease may still have a residual anxiety that something may be wrong.

Second, although most screening tests are simple, relatively cheap procedures in themselves, the actual costs are by no means trivial because of the large numbers involved. Some screening tests that are advocated (often by "for-profit" providers) – for example, whole-body scanning – are expensive. Further investigation of those found to be positive on screening, many of whom will eventually prove negative, is also likely to be expensive.

A screening service provided for one population consumes resources that will be unavailable for use elsewhere. Economic approaches may demonstrate conflicting aspects of policy decisions – for example, increasing efficiency may reduce equity. They may also highlight the differing perspectives of providers, consumers and industry. In all health services, however funded, financial resources are, and will continue to be, insufficient; expert economic analysis and advice must be an integral part of the system and must help to guide policy.

## Ethics

Ethical considerations, such as the harm-to-benefit ratio, must be paramount whenever a screening programme is being put forward for implementation. In all instances there are going to be disadvantages to some members of the population screened. All screening examinations are preliminary and will involve further investigation to verify that those who screen positive really do have the abnormality and require treatment (*true positives*), and to eliminate those who screen positive but do not actually have the abnormality (*false positives*). Those individuals with negative test results will not normally be tested further, although some of them may actually have the abnormality in question (*false negatives*). This obviously has serious implications.

Screening tests, even with all the safeguards, can never be foolproof and are subject to human and technical error and variation so that even with the most thorough quality assurance mechanisms, mistakes will occur. In any assessment of screening in a population an assessment has to be made of the harm-to-benefit ratio.

Any abnormality identified, whether in a national screening programme or in primary care, must be treatable and the investigation itself must not cause harm. Many believe that early diagnosis, particularly of cancer and heart disease, will lead to the possibility of treatment and improvement in prognosis. This is an attractive concept and can lead to a demand for a screening procedure to be introduced, irrespective of whether it has been shown that diagnosis guarantees an improved outcome. The belief that identifying the presence of a condition equates with the ability to alter its natural history may beguile the public but is unfortunately false.

Through advances in technology, the potential for testing – particularly in the field of genetics – is immense. However, the technical ability to perform a screening procedure does not guarantee its ethical acceptability, as many experiments in other areas of science and medicine illustrate. More than ever before it is vital that the key principles on which screening should be based remain in sharp focus.

## Audit, evaluation and quality control

In any screening programme, as with any other service programme, adequate steps must be taken to ensure that the original objectives are being met and that the methodology meets appropriate standards.



The ideal method for evaluating a screening programme is the randomized controlled trial in which individuals in a population are allocated, at random, either to a group that is screened or to a group that receives only its normal medical care. Randomized controlled trials are expensive and difficult to manage and may also be ethically questionable in situations where the control group is denied treatment for the condition in question. Despite this, the UK National Screening Committee will only recommend the introduction of any new screening programme after assessing the findings of a properly conducted randomized controlled trial. The Committee also keeps all screening programmes under regular review to ensure that they continue to perform in the way intended and continue to be effective.

The components of an effectively organized screening programme have been described by Hakama<sup>11</sup> and are summarized in Box 1.

The importance of maintaining the quality of screening programmes should never be underestimated. Evaluation, audit and quality control should be an integral part of any screening programme to ensure that it is achieving what it has set out to do in a way that is acceptable to those involved.

## CURRENT SCREENING PROGRAMMES IN THE UNITED KINGDOM

We recommend the following screening programmes at each stage of the life-cycle based on our experience in the United Kingdom. The situation varies throughout the EU, as we illustrate in the next section.

### Antenatal and neonatal screening\*

Two issues should be emphasized in the context of *antenatal screening*. The first is that care must be taken not to medicalize this usually normal stage of life where most pregnancies have a successful outcome. The second is that there must be full, balanced and understandable information available for pregnant women and properly trained health professionals with time to provide and/or explain it. This is important for all pregnant women but particularly for those who experience difficulty and defect.

Our recommendations for screening in the antenatal period are summarized in Table 5.

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\* Key references: [www.healthforallchildren.co.uk](http://www.healthforallchildren.co.uk); [www.nelh.nhs.uk/screening/child](http://www.nelh.nhs.uk/screening/child)

### ***Box 1: Components of an effectively organized screening programme***

- The target population should be identified.
- Individuals in the population who are to be screened need to be identified.
- All those eligible for screening should be encouraged to attend – for example, by issuing a personal invitation, and offering suitable timing of screening examinations to suit the needs of those involved.
- There should be adequate premises, equipment and staff to ensure that the screening examination is done under pleasant circumstances and is acceptable to those attending.
- There should be an appropriate, satisfactory method of ensuring the maintenance of the best standards of the test(s) by:
  - i initial and continuing training of the personnel conducting the test(s);
  - ii demonstration (by appropriate records) of the maintenance standards of equipment used in the examination – for example, calibration of X-ray machines in mammography;
  - iii routine checks of the validity of the tests performed – for example, random duplicate measurements for biochemistry, cytology, and reading of X-rays.
- There should be adequate and appropriate facilities for the diagnosis and treatment of any individual found to require this. There should be as little delay as possible between the screening attendance, advice that the screening test was negative, advice that the screening test result required further investigation, and referral to the appropriate centre for further investigation or treatment. A timetable should be established for these different procedures and there should be continuous monitoring to ensure that the time intervals between the various stages are complied with.
- There should be regular checks to ascertain the satisfaction level of those who have undergone the screening process – those investigated, the screen-negatives and those invited who have not participated.
- Finally, regular periodic checks should be made of the records of the screened individuals to ascertain their adequacy.



**Table 5: Our recommendations for screening in the antenatal period**

**Routine**

Anaemia Blood group and RhD status Hepatitis B HIV Risk factors for pre-eclampsia Rubella immunity Syphilis	Blood test	Early in pregnancy with effective follow-up for any abnormalities identified
Asymptomatic bacteriuria	Urine test	As above
Fetal anomalies Anencephaly Spina bifida	Ultrasound and blood test, if indicated	Between 18 and 20 weeks with effective follow-up
Chromosome abnormalities Down syndrome	Quadruple serum tests, ultrasound	Second trimester with effective follow-up

**High risk only**

Thalassaemia/sickle cell disease  
Tay-Sachs disease

**Under research review**

Duchenne muscular dystrophy  
*Chlamydia*  
Gestational diabetes  
Fragile X syndrome  
Hepatitis C  
Genital herpes  
HTLV1  
Streptococcus B

Screening procedures in the *neonatal period* can be divided into those that are part of routine screening for all newborn babies either by clinical examination or biochemical tests and those procedures for conditions such as hearing loss that will require separate testing. Our recommendations are summarized in Table 6.

The UK National Screening Committee aims to produce a single coordinated Antenatal and Neonatal Screening Programme throughout the country and, while considerable progress has been made, much remains to be done to improve the organization and equity of services for this life stage.

**Table 6: Our recommendations for screening in the neonatal period**

<i>Condition</i>	<i>Comment</i>
<b>Routine</b>	
<i>Bloodspot</i>	
Phenylketonuria	
Congenital hypothyroidism	Must be properly evaluated
Cystic fibrosis	In process of introduction for all neonates
Sickle cell disease	
<i>Physical examination</i>	
Congenital heart disease	Adequate training programmes in physical examination must be developed
Congenital cataract	
Cryptorchism	
Congenital dislocation of the hip/ developmental dysplasia of the hip	Use of ultrasound as primary screening test to be evaluated
Other congenital malformations	
<i>Other tests</i>	
Hearing impairment	Implementation ongoing
<b>Under research review</b>	
Biotinidase deficiency	
Congenital adrenal hyperplasia	
Duchenne muscular dystrophy	

### **Screening and surveillance in childhood and adolescence\***

Screening and surveillance (or observation) in childhood are important in following up difficulties already identified and in diagnosing disorders for which effective treatment is available. It should be a seamless extension of antenatal and neonatal care and provides the opportunity for establishing a basis for good health in later life with appropriate advice on healthy eating, home and road safety, and immunization. All reasonable steps should be taken at this early stage to promote good health and prevent illness.

Our recommendations for screening in childhood are summarized in Table 7.

Childhood is the time to build on the care given in the antenatal and neonatal periods that should have identified any major problems and instigated treatment where appropriate. Vigilance to find any abnormalities not previously detected is important, but since the vast majority of children

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**Table 7: Our recommendations for screening in childhood**

<i>Condition</i>	<i>Comment</i>
Hearing impairment	<ul style="list-style-type: none"><li>• Follow-up on neonatal programme where indicated</li><li>• School entry “sweep” test to continue</li><li>• Case-finding to identify late onset or progressive impairment</li><li>• Investigation of any children with educational or behavioural problems</li></ul>
Amblyopia and impaired vision	<ul style="list-style-type: none"><li>• Orthoptist screening in 4–5-year-olds</li><li>• Attention to be paid to children who miss this test for any reason</li></ul>
Dental disease	<ul style="list-style-type: none"><li>• School dental screening mandatory and should continue, but should be kept under research review</li><li>• Early contact with dentists to be encouraged</li><li>• Problems include shortage of dentists and lack of parental compliance, especially among the more deprived</li></ul>
Congenital hip dysplasia/ developmental dysplasia of the hip (CHD/DDH)	<ul style="list-style-type: none"><li>• Children identified by neonatal screening to be reviewed</li><li>• Parental observations and concerns to be investigated</li></ul>
Deprived, disadvantaged or socially isolated children	<ul style="list-style-type: none"><li>• Need to identify such children and instigate screening/case-finding where relevant</li></ul>

are healthy, the focus should be on laying good foundations for maintenance of that health in the future. The growing problem of childhood obesity is not at present a matter for screening, although advice on weight control, exercise and healthy eating should be available in primary care and in school. Since weight/height measurements are taken regularly at various ages by GPs and in schools, action should be taken on the results to try to improve the diet of children and encourage their participation in games and exercise rather than submitting them to a “screening” test.

The more deprived and disadvantaged children and those who have recently arrived from abroad as refugees or asylum seekers may have missed out on earlier medical and dental checks and strenuous efforts should be made to identify them to make sure that any omissions or inequities are minimized.

**Table 8: Our recommendation for screening in adolescence and early adulthood**

<i>Condition</i>	<i>Comment</i>
<i>Chlamydia</i>	Opportunistic screening of those aged 25 and under who access sexual health services or primary care

Screening in adolescents and young adults is another crucial area that needs to be approached with sensitivity. This is a period of life when formal contact with the health service is infrequent for most individuals. But it is also a time when individuals are coping with profound physical and emotional changes and seeking their independence, but often lack the experience and judgement to use it wisely.

The margins between childhood and adolescence are becoming blurred with many children appearing to mature earlier, physically, if not emotionally. It is a difficult period of adjustment towards adulthood and one that is poorly understood, partly due to the difficulties of communication. The focus of screening and surveillance at this sensitive stage should take account of what adolescents and young adults themselves feel they require and how it can be most effectively provided. Among their main needs are:

- accessible confidential health services;
- greater involvement in planning services;
- health education that reflects their experiences, especially about drugs and alcohol;
- specialized advice centres for those with drug problems.

The most constructive approach in this age group is opportunistic case-finding in primary and community care with sensitive and confidential advice, support and health education provided in a way and at a place that is acceptable and helpful to young people to enable them more successfully to bridge the difficult gap between childhood and maturity.

The only screening programme that we would consider appropriate in adolescence and early adulthood is the opportunistic programme for *Chlamydia*, as detailed in Table 8.



## Screening in adults

Screening in adults is potentially big business. Media interest in health is insatiable, and anyone who reads the newspapers, watches television or listens to radio can hardly fail to be aware of the various diseases that may be lying in wait for them. Of course, it is of benefit if potential health problems can be identified early and treated, or at least alleviated. But society must beware of turning health into an obsession and must resist both the increasing medicalization of life and the growing politicization of medicine. Above all, before any further national screening programme is introduced, it must be clear that the long-established screening criteria are satisfied and that the evidence base exists.

The national programmes for breast and cervical cancer should be continued but kept under review with an emphasis on quality control and on providing balanced and understandable information to enable women to make a truly informed choice without pressure from health professionals on whether or not to participate. Efforts must also be made to improve coverage of those at highest risk.

A national programme of screening for colorectal cancer by faecal occult blood testing in adults aged from 50 to 74 years has been agreed in the United Kingdom but it is essential that adequate diagnostic, treatment and follow-up facilities are in place before it is introduced.

Screening for risk factors of coronary heart disease and stroke should be carried out in the primary care setting with advice, treatment and follow-up as appropriate.

In the case of abdominal aortic aneurysm, it now seems clear that ultrasound screening in men aged 65 years and over would reduce mortality from this condition, although the benefit for those aged over 75 years has been questioned. As with colorectal cancer, however, national implementation should await the certainty that adequate facilities and resources are available.

In the case of screening for diabetic retinopathy, close attention must be paid to audit and the need to be absolutely clear about how, when and where to screen. Anecdotal evidence from Scotland suggests that the size of the problem may have been underestimated and that the reality of implementation does not match up to the rhetoric.

**Table 9: Our recommendations for screening in adults**

<i>Condition</i>	<i>Comment</i>
Breast cancer	National programme should be continued but kept under close review with emphasis on quality control, staff training and good information.
Cervical cancer	National programme should be continued with review of alternative types of tests and of age range of those eligible and frequency of screening. Good information to be a priority.
Colorectal cancer	National screening programme by faecal occult blood testing for adults aged 50–74 years.
Abdominal aortic aneurysm	Ultrasound screening of men aged 65 and over seems a reasonable proposition provided the necessary resources are in place.
Diabetic retinopathy	National programme of screening for all diabetics aged over 12. It is essential to be quite clear about how, when and where screening should happen to ensure effective implementation.
Risk factors for coronary heart disease (CHD)/stroke Blood pressure Cholesterol Smoking cessation	Weight surveillance/case-finding approach in primary care.

Screening in adults is an area ripe for exploitation from private and commercial sectors. It is essential that there is respectable scientific evidence of benefit before any further programmes are introduced. Skrabanek's contention that "medicine has no mandate to be meddlesome in the lives of those who do not need it"<sup>12</sup> remains valid.

Our recommendations for screening in adults are summarized in Table 9.

### **Screening in the elderly**

Society is facing a major challenge in how best to maintain health and quality of life in populations where the proportion of people aged over 60 years now outnumbers those aged under 16 and the number of individuals aged over 85 is rising.



**Table 10: Our recommendations for screening in the elderly**

<i>Physical assessment</i>	<i>Mental assessment</i>	<i>Social assessment</i>
Hypertension Early heart failure Hearing loss Vision loss Incontinence Lack of physical activity Foot problems Review of medication	Depression Alcohol use	Falls Undernutrition Isolation

A system of regular surveillance and case-finding in primary care would seem to be the most appropriate form of screening, particularly in those aged 75 and over, but the resource implications of this must be confronted. Several simple tests, such as identifying difficulties with sight or hearing or problems with feet, can make a huge difference to the comfort and quality of life. Depression is another area where identification and treatment could improve well-being. Social and community support are also vital in enabling older people to enjoy as independent and contented a life as possible.

The emphasis in screening at this stage of life should be on improving quality of life and preserving function and independence, rather than on providing “heroic” treatments to prevent mortality.

Our recommendations for screening of the elderly in primary care are summarized in Table 10.

## **SCREENING PRACTICE WITHIN THE EU**

In this section we review briefly the position on screening in 28 countries, with regard, where relevant, to cervical, breast and colorectal cancers, phenylketonuria, Down syndrome, spina bifida, HIV, TB and *Chlamydia*. Detailed information on screening in the original 15 countries of the EU can be found in Annexe 1; information on screening in the New Member States and the Candidate Countries of Turkey and Bulgaria is provided in Annexe 2.

The screening situation across Europe is generally very different from that in the United Kingdom because of the differing structures and financing of health services. Few other countries have a single national body to review

screening practice and policy, and population registers for recall and follow-up of patients are also comparatively rare. Screening tends to be targeted at individuals rather than populations and not all countries adhere to the criteria summarized in Table 1. In many countries health service provision is devolved to local or regional government and screening practice in different areas can vary widely as a result.

### **Antenatal screening: Down syndrome and spina bifida**

The situation in relation to screening in the antenatal period in the United Kingdom has been described in the previous section and summarized in Table 5. Elsewhere in Europe screening at this stage of life seems to focus on Down syndrome and spina bifida.

In Denmark, from September 2004, pregnant women have had the option of undergoing an examination to indicate risk of Down syndrome and of having a test for spina bifida.

In Finland, participation in the screening of Down syndrome and spina bifida is voluntary. Almost all municipalities offer ultrasonic scanning for pregnancy in weeks 13–14 and 16–19. Amniocentesis and serum screening are provided for women between 35 and 40 years of age (the age limit depends on the municipality – for example, in Helsinki the age limit is 40 years).

In France, Down syndrome is systematically screened for in prenatal examinations. A blood test is offered to every pregnant woman. Amniocentesis is systematically offered to women considered to be at risk: mothers aged 38 years or over, those who have had abnormal blood test results, defects detected in previous pregnancies, or where there are chromosomal anomalies in parents. Spina bifida is detected by ultrasound in week 17 of pregnancy.

In Greece, pregnant women aged 35 years and over are offered amniocentesis.

In Italy, guidelines are very vague but a test for Down syndrome is recommended to all women at risk and for those aged over 35 years. The take-up of antenatal screening varies across regions.

In the Netherlands, tests for Down syndrome and spina bifida (triple tests) are recommended for all women aged over 35 years at three months of pregnancy.



In Spain, antenatal screening is performed either in primary care or in hospital. The guidelines for monitoring a normal pregnancy include: triple screening for Down syndrome and spina bifida, virus serology for hepatitis B, Rh incompatibility, virus serology for rubella and serology for *Toxoplasma gondii*. Amniocentesis is highly recommended for women over the age of 35 years.

In Sweden, all pregnant women are offered one ultrasound scan in the second trimester (gestational weeks 15–20) and 97% of women comply. Women aged 35 years or older are given more detailed information by a physician and are offered amniocentesis routinely.

In Bulgaria, a selective national antenatal screening programme is in place. Amniocentesis is offered free of charge to all pregnant women over 35 years of age, to women who already have a child suffering from any congenital malformation, and to those referred by a genealogist.

In the Czech Republic and Estonia, testing for spina bifida and Down syndrome is part of basic screening during the prenatal period. Genetic testing is part of routine prenatal care for pregnant women over 37 years of age and where indicated among younger pregnant women. Two ultrasounds are also part of the routine management of all pregnancies.

In Hungary, ultrasound examination for Down syndrome is carried out in week 12 of pregnancy.

In Latvia, tests for Down syndrome are provided for pregnant women considered at high risk in weeks 11 and 17 of pregnancy. High-risk groups include women over 35 years of age; father over 45 years of age; one or both parents previously affected by radiation; or those women who have had an acute viral infection during the first trimester of pregnancy.

In Lithuania, screening for Down syndrome is performed only on those considered at risk, or if specifically requested. All pregnant women aged 35 and over, those who have previously had babies with congenital abnormalities, and those who request it are sent to the Human Genetics Centre for a triple test which is performed during weeks 14–15 of pregnancy. Routine ultrasound examinations are performed during weeks 18–20 and 30–32 of pregnancy.

### **Neonatal screening: phenylketonuria**

The situation in relation to screening in the antenatal period in the United Kingdom has been described in the previous section and summarized in Table 6. The UK Newborn Screening Programme Centre was established in 2002 with a remit to monitor and improve the quality of newborn bloodspot screening procedures and their outcomes for parents and their babies.

In France, neonatal examination is routine for neonates. This includes blood testing for phenylketonuria, congenital hypothyroidism, adrenal hyperplasia, haemoglobinopathies/sickle cell anaemia and cystic fibrosis.

Screening for phenylketonuria is recommended in all countries belonging to the EU before May 2004, except Finland, where screening of the native Finnish population is not considered necessary (screening is done, however, if both parents are of western European, American, or Jewish, Kurdish or Yugoslavian origin). In the new Member States and Candidate Countries, screening for phenylketonuria is recommended in Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia and Slovenia.

### **Breast cancer**

The situation in relation to screening for cancer of the breast in the United Kingdom has been described in the previous section and is summarized in Table 9.

In Belgium, based on the directives developed by Europe Against Cancer, the three Communities and the Federal Government signed a protocol, in October 2000, to organize and finance a national campaign of breast cancer screening for women aged 50–69 years. The responsibility for the coordination of the campaign rests with 11 recognized screening centres. There are five centres in Wallonia (one per province), five in Flanders (in the four Flemish universities and in Bruges) and one in Brussels. The screening centres are responsible for making information available to the target group, sending out the invitations, retesting where necessary, recording data and reporting to the referring doctor. In Flanders the campaign started on 15 June 2001, and in Wallonia and Brussels a year later.

In Denmark, screening programmes for breast cancer are established in two of the 14 county councils (Funen and H:S) for women aged 50–69



years. These two screening programmes cover 20% of the target population.

In Finland, under the terms of the Public Health Act, women between the ages of 50 and 59 years are invited every two years for breast screening.

In France, screening for breast cancer, previously limited to some *départements* (32 at the end of 2002), has been extended since January 2004. Every woman between 50 and 74 years (except for those in Guyana) is invited for a free breast screening every two years. A strategic objective of the Public Health Act, which came into force in August 2004, is to "reduce the percentage of late-stage breast cancer detected in women, notably by increasing the screening coverage rate up to 80% in women aged between 50 and 74 years". The Act calls for specific programmes to target isolated, disabled or deprived women who might be reluctant to participate. This has been partly achieved by the production of audiovisual materials for people suffering from visual or hearing deficiencies, and by the translation of brochures into community languages. Several campaigns at national and local levels are also planned. Patients' and women's associations are involved in this information/distribution effort.

In Ireland, Phase 1 of BreastCheck, a national breast screening programme, started in February 2000 and already offers screening in several areas, with coverage expected to extend nationwide by the end of 2007. Breast screening outside the BreastCheck programme is available to all women if they are referred by a GP.

In Italy, screening policies for breast cancer have been included in the package of essential levels of care provided by the national health system (Essential Level of Assistance) by Decree "DPCM 29/11/2001". All national health plans have set targets for these areas of prevention. Registers are managed at regional level, however, and screening programmes are more widespread in northern and central Italy. There is usually a system for targeting and recalling patients, but the target population varies according to regional health plans so the position is varied.

In the Netherlands, there is a national programme for breast cancer screening.

In Spain, since 1990 breast cancer detection programmes have been implemented in all Autonomous Communities. The programmes' target

population varies across regions but in most it includes women aged 50–65 years.

In Sweden, national guidelines from the National Board of Health and Welfare recommend mammography screening for early detection of breast cancer for women aged between 40 and 74 years. Examination intervals are 18 months for women under 55 years, and 24 months for women over 55.

Among the new Member States, a pilot programme for breast cancer screening has started in Cyprus and covers women aged 50–69 years.

In Estonia, there is a screening programme for breast cancer, financed and administered by the Estonian Health Insurance Fund. The target population is women aged 45–59 years, and the screening interval is three years.

In Hungary, mammography screening was introduced in 2002 for women aged 45–65 years, and the procedure is repeated biannually with a good participation rate.

In Latvia, screening for cancer is included in the prophylactic programme for adults and covered through the health care budget. For breast cancer, women aged 50–69 years are recommended to undergo one mammography every two years.

In Slovakia, breast cancer screening is provided by the State and paid for by health insurance companies. The target population is women aged 40–60 years and the method is periodic mammography.

## **Cervical cancer**

The situation in relation to screening for cancer of the cervix in the United Kingdom has been described in the previous section and is summarized in Table 9.

In Denmark, screening for cervical cancer is available in all 14 county councils. Women in the age group 23–59 years are invited to participate, except in Copenhagen, where coverage is limited to those aged 25–45 years.

In Belgium, a programme of cervical cancer screening has been running since 1994, when the Flemish Government decided to reorient the



organization of secondary prevention of cervical cancer according to the European guidelines. The programme targets women aged between 25 and 64 years, who are invited for a Pap smear every three years. The programme is administered and evaluated by the Scientific Institute of Public Health in collaboration with the Communities. Despite scientific support, no formal screening programme is organized in the French Community.

In Finland, the Public Health Act states that women aged 30–60 years should be invited for screening for cervical cancer every five years.

In France, cervical cancer screening is offered to women aged 25–69 years every three years. A recent study estimated that 35% of women in the target age group have never, or only rarely, been screened. Targeted messages will be used to reach these women and coverage could be increased by the participation of GPs (96% of Pap tests are currently carried out by gynaecologists). The 48th objective of the Public Health Act of 2004 is “to continue the annual 2.5% decrease of cervical cancer incidence, notably by increasing screening coverage rate to 80% for women aged 25–69 and HPV [human papillomavirus] test utilisation.”

National screening programmes for cervical cancer are available also in Germany (for the statutory health insured) and the Netherlands.

In Italy, screening programmes for cervical cancer are similar to those for breast cancer. Registers are managed at regional level and screening policies are more widespread in northern and central Italy.

In Ireland, Phase 1 of a National Cervical Screening Programme, which offers free cervical screening to women aged 25–60 years in the Mid-Western Health Board (MWHB) area, has recently started.

In Spain, cervical cancer screening through cytology is offered to all women aged 35 years and over, but there are regional differences. In Catalonia, for example, there is a personalized register of all target individuals (women aged 20–64 years). Cervical cancer screening (Pap smear) is recommended every three to five years. In the Balearic Islands, screening for cervical cancer prevention is opportunistic rather than population-based.

In Sweden, organized cervical cancer screening has been implemented since the mid-1960s. Guidelines for recommended screening are every third year for women aged 23–50 years and every fifth year for women aged 51–60.

In Bulgaria, a national strategy for prophylactic cancer screening (2001–2006) was approved in 2000. Given the scarce resources available for this strategy, however, it only recommends preventive examinations for cervical cancer as part of regular gynaecological examinations.

In Cyprus, there is a national policy on screening for cervical cancer based on the population register and covering all women aged 25–65 years.

In Hungary, a gynaecological cervical screening programme was launched in 2004. It is based on Pap smear testing of all women aged 25–65 years every three years.

In Latvia, women aged 20–35 years are recommended to have an oncological test every three years. For women aged 35–70 years, the test is carried out annually.

Since July 2004, in Lithuania a cervical cancer prevention programme has been financed by the Compulsory Health Insurance Fund. The programme targets women aged 30–60 years and screening is performed every three years.

In Slovenia, there is a national policy on screening for cervical cancer that includes all women between the ages of 25 and 64 years. There is active follow-up through a central surveillance system, and the screening interval is three years, after two initial smears over six months have proved negative.

## **Colorectal cancer**

The situation in relation to screening for colorectal cancer in the United Kingdom has been described in the previous section and is summarized in Table 9.

In Denmark, a trial for colorectal cancer has started in two of the county councils where men and women aged 50–74 years are invited to participate.

In Finland, a pilot project for colorectal cancer screening of people between the ages of 60 and 69 years was introduced in 2004 in several municipalities.

In France, colorectal cancer screening is the 53rd objective of the 2004 Public Health Act and is currently the subject of trials in 22 *départements*.



People aged 50–74 years are invited for a faecal occult blood test (FOBT) every two years. If the result is positive, a colonoscopy is carried out. The programme will be assessed shortly to define the national strategy for 2007. Initial results showed an increasing rate of participation (up to 50% in some *départements*) because of active participation by GPs.

### **HIV screening**

In the United Kingdom, HIV screening is offered to all women in the early stages of pregnancy with clear referral paths for positive cases (Table 5), and is compulsory for blood and organ donors.

Elsewhere in the EU, HIV screening tends to be targeted at vulnerable social groups. It is more common among the new Member States and Candidate Countries.

In the Czech Republic, for example, HIV screening is compulsory for donors of blood, organs or any biological material, and for pregnant women. In Estonia, it is compulsory during pregnancy, on entering the military service and for prisoners. In Latvia, the target population includes pregnant women, individuals to be recruited for military service, those involved in the national armed forces and international peace maintenance, and prisoners. In Slovenia, HIV screening is performed on pregnant women, patients with a newly established diagnosis of syphilis, and on all donors of blood or organs. In Turkey, it is compulsory for blood donors, registered sex workers (once every three months), illegal migrant sex workers, men recruited for military service, any patient undergoing a blood test at a public health unit, pregnant women, patients before undergoing surgery and couples intending to marry.

HIV screening programmes are also offered to all pregnant women in Finland and France, although it is not compulsory. Screening is compulsory, however, for donors of blood, organs, sperm or milk.

### **Tuberculosis screening**

Screening for TB is not at the moment recommended as a national programme in the United Kingdom although it was originally the earliest screening programme introduced with successful results.

Screening for TB is performed in several European countries and particularly in the new Member States and Candidate Countries. In Hungary, for example, TB screening is based on a defined population register with a system for targeting and recalling individuals (aged 18 years and over), on an annual basis. In 2003, 134 fixed and 48 mobile pulmonary screening stations were operating, and 3 717 518 screening examinations were carried out (43% of the adult population was screened).

A massive TB screening programme is in place also in Romania. Thousands of people are screened by X-ray examination: soldiers, recruits, teachers in schools (every year), children entering kindergarten and their parents, couples before marriage and prisoners. All individuals who work in the food industry or those who are handling food also require an annual X-ray examination.

In Turkey, there is a national policy for screening, monitoring and treating TB. This is based on a defined population, which includes primary school children (between 7 and 11 years of age), registered sex workers (once a year), and men conducting their compulsory military service (20–41 years). TB screening is also a procedural requirement for all job applications associated with joining any of the existing insurance schemes.

The key points on screening in the European Union are summarized in Box 2.

## CONCLUSIONS

On the basis of this brief account, it is evident that screening programmes and practices vary widely across the countries of the EU and will continue to do so for many years to come. This is inevitable given the differing structures and financing of health services, and differing demographic features of the population. There are, however, key objectives to strive for. These include having one national body per country responsible for practice and policy, scrupulous adherence to the long-established screening criteria, accurate population registers, greater uniformity of access across different areas of a given country and across different socioeconomic groups, and sound research evidence on which to base practice.

The wide variation in practice in Europe illustrates the complexity of screening. Some lessons, however, stand out:



### **Box 2: Screening in the EU: key points**

- Antenatal screening programmes for Down syndrome and spina bifida are performed only in a few countries and are mainly optional. They are often only recommended to women at high risk.
- Neonatal screening for phenylketonuria is systematically recommended in all countries belonging to the EU before May 2004, except Finland.
- Breast cancer screening and cervical cancer screening programmes are recommended in some European countries.
- HIV screening is more common among the new Member States and three Candidate Countries and covers specific vulnerable groups, such as pregnant women and blood donors.
- TB screening is performed in a few European countries, especially central and eastern European countries, such as Hungary, Romania and Turkey.
- Not all the countries follow the basic criteria for screening. A population register to allow recall and follow-up of patients is often missing. A single national body for reviewing tests and practice is rare.

- the need for greater consideration to be paid to the effectiveness of screening;
- the need for more attention to be given to evaluating the processes of screening;
- above all, an imperative to involve participating individuals in decisions on screening and to give them clear and understandable information about what it involves.

Arguably, the most significant development in the screening field in the United Kingdom in the last 15 years has been the establishment in 1996 of the National Screening Committee (NSC), and this could be used as a model for organizing screening in other countries. The NSC now has overall responsibility for screening policy and for identifying screening procedures that should be provided by the National Health Service. It has accepted the long-established criteria for the assessment of appropriate tests and has been effective in both commissioning good quality research where required and in maintaining continuing surveillance and review of existing programmes.

Accurate population registers are essential to facilitate adequate call/recall systems, which are crucial for the effectiveness of any screening procedure.

Screening must also be adapted to the particular needs of differing local populations. There must be rigorous checking of the quality of screening services and their evaluation, including medical audit. There should also be a coordinated and measured approach to screening with a gradual roll-out of programmes to ensure effective implementation and to avoid overloading the health services.

There remains a need for good research on which to base recommendations for screening, but funding is difficult to find. Screening research in the United Kingdom is subsumed under the title of Health Services Research but it is expensive to carry out; large numbers of subjects are needed, and it takes a long time to produce results. Precedence in funding tends to be given to studies of greater political significance, such as waiting-list targets, where results can be expected more quickly.

Although there is increasing concern with the strength of evidence before a particular screening test is introduced and greater emphasis on possible adverse effects, the dilemma as to whether a specific test should be provided, even if it has not met the criteria, has not been satisfactorily solved. This can be illustrated by the demand for PSA testing in the United Kingdom where the Prostate Cancer Risk Management Programme has been introduced in primary care to provide advice and testing for those who request it, rather than providing a national screening programme for which there is currently insufficient evidence of benefit.

## Challenges

Screening today faces a number of challenges in the EU as elsewhere.

The first of these is the growth of private screening and full-body checks, and the increased demand from the public in the mistaken hope that screening will ensure future good health. This trend is currently more apparent in the United States and the United Kingdom than in Europe as a whole but is likely to spread. A recent survey of screening in the consumer magazine *Which?* asked two screening experts to give a verdict on the information and tests provided by five private full-body screening services.<sup>13</sup> They concluded that information provided about the likely benefits, harms and limitations of the tests was in most cases inadequate, or even misleading, and expressed major misgivings about the value of paying for full-body scans. It was of interest, however, that the two lay people interviewed for the survey were enthusiastic about screening, highlighting the gap between professional and public perceptions.



Screening provided by national health services may not be perfect but it has been introduced on the basis of sound scientific evidence, is subject to ongoing scrutiny and provides continuity of care and follow-up. This is not necessarily the case in the private sector.

Second, we must continue to work on providing honest and comprehensible information about the various programmes and tests, and train or re-train those providing it in how to communicate clearly and without bias. It is essential that those invited to participate in screening are able to make an informed choice and are fully aware of all the implications. This will not be easy, particularly, for example, with long-established programmes such as cervical cancer screening where in some places it is still perceived that women should agree to screening when invited.

It must also be acknowledged that some of the tests involved are extremely unpleasant. Faecal occult blood testing for colorectal cancer is relatively simple and non-invasive; colonoscopy, the next step after a positive result, most certainly is not.

Third, there is still great variability in the take-up of screening between different geographical areas and different socioeconomic groups. It is worrying that the more affluent members of the population who are generally at lower risk are more likely to accept invitations for screening, while those in the more deprived sectors at higher risk do not. Strategies for improving equity of access must be devised and implemented.

Finally, there is a major task to educate and inform the media and the public as to what screening can and cannot do. Screening is not and can never be a universal remedy but, used selectively and on the basis of sound research evidence, it can continue to be a good use of resources. Provided it remains open to constant review and critical evaluation and is capable of change in the light of new evidence, screening will remain a powerful tool in the fight against disease and its impact for the foreseeable future.

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# **ANNEXE 1**

## **Screening tables: the EU before *May 2004***



Table A1.1 TB, HIV, Chlamydia

<p><b>Austria</b></p>	<p><b>Tuberculosis</b> Owing to the relatively low incidence of TB in Austria, no general plan on screening is in place. Until 2000, the general vaccination plan recommended inoculation against TB. Now only specific risk groups (e.g. hospital employees) are vaccinated.</p> <p><b>HIV</b> There is no national policy on screening for HIV. Some 1.2 million people in Austria have an HIV test done every year, 500 000 of them when making a blood donation. For prevention of HIV infection, general information brochures ensure continuity in the dissemination of basic information about this disease. Target-group-specific publications and campaigns are addressed to certain age groups (e.g. young people) or people who indulge in certain forms of high-risk behaviour (people who frequently change sexual partners, sex tourists, prostitutes and their customers). The duty of the Federal Minister of Health to implement measures to educate people about HIV and the prevention of HIV infection is embedded in the Austrian AIDS Act, 1985.</p> <p>In addition to its central information activities, the health department supports the regional AIDS help institutions and a number of self-help institutions. The continuous information and consultation activities of the AIDS help institutions range from carrying out anonymous HIV antibody tests and associated advisory talks, right up to the psychological care of HIV-positive people and those with full-blown AIDS.</p> <p>The Federal Ministry for Health and Women publishes statistics on incidence and deaths, differentiated by risk groups and provinces, on a monthly basis.</p>	<p><b>Chlamydia</b> No information available.</p>
<p><b>Belgium</b></p>	<p><b>Tuberculosis</b> In the French Community all new cases of TB must be declared to the provincial health inspector. The Foundation for Respiratory Conditions and Health Education (Fondation contre les Affections Respiratoires et pour l'Éducation à la Santé: FARES) processes the register of active cases of TB for the Walloon district and the metropolitan district of Brussels. In the Flemish Community the recording is in the hands of the health inspection of the Preventive and Social Health Care Division. All data are brought together in the Belgian tuberculosis register. This policy is financed by the Communities.</p> <p><b>HIV</b> In Belgium there are seven AIDS-reference centres with eight reference laboratories, recognized and financed by the federal government. One of their tasks is to implement confirmation tests on sera found positive at a detection test. Since only these seven reference centres are qualified to run these tests, the recording gives a complete picture of the total number of persons with HIV. The reference centres also try to collect basic epidemiological facts. For this a standardized form is sent to every doctor who diagnoses HIV, requesting information on sex, age, nationality, possible manner of contagion and clinical stage at the point of diagnosis. This registration is financed by the federal state and data are analysed by the Scientific Institute of Public Health.</p> <p><b>Chlamydia</b> Chlamydia is one of the organisms that have to be reported by the 115 sentinel microbiology laboratories representing 59% of all recognized private or hospital microbiology laboratories in 2004. It must be reported to the Scientific Institute of Public Health, which follows the trends in numbers of isolates of different organisms reported to the network in order to carry out surveillance of infectious diseases. This registration is financed by the federal state.</p>	

## Denmark

### Tuberculosis

World Health Organization (WHO) and the International Union Against Tuberculosis and Lung Disease (IUATLD), advise every country to have a national programme on tuberculosis, whereby every case is reported to the authorities. In Denmark cases are reported to the medical officer of health. Treatments are offered at pulmonary units, which ensure that treatment is carried out, medication is taken as prescribed, and that the patient is cured. The same units also make sure that the environment around every infectious case is examined closely. Every member of the patient's family is X-rayed and Mantoux tested.

In 1986 the prevalence of TB was the lowest ever at 299 cases. Since then it has nearly doubled, primarily due to immigration from areas with a high prevalence. There are only a few recorded cases of TB transmitted from immigrants to native Danes.

## Finland

### Tuberculosis

The national policy on screening for TB is opportunistic i.e. it is based on identified cases. A physician is responsible for notifying every TB case to the national register of infectious disease administered by the National Public Health Institute. There are about 500 new TB cases in Finland annually.

### HIV

Screening for HIV is opportunistic. Tests are available, and free of charge, at every GP surgery and at larger hospitals throughout the country, where anonymous testing and counselling are available. Information about the testing options is promoted in high-risk populations, especially among the homosexual population.

### Chlamydia

As with all other sexually transmitted diseases (STDs), testing for *Chlamydia* is offered at every GP surgery and at larger hospitals. Whether the present screening option should be changed to a strategy where all young people in the age group 16–25 years are offered a yearly home test is under consideration. A home test will also be offered to partners when known. This strategy is intended to reduce the frequency of *Chlamydia* and the number of urogenital infections, infertility, ectopic pregnancy and chronic abdominal pain. The strategy will be cost-effective after the fourth year of screening. Because of concerns about stigmatization, home tests are generally well accepted by the target group, who should have immediate access to information and advice.

All three diseases are being kept under surveillance by the State Serum Institute. The screening tests and, if needed, the treatment, are free of charge with costs covered by the county councils.

### HIV

Screening for HIV for pregnant women was started in 1993. Except for pregnant women, the screening system for HIV is opportunistic. The National Public Health Institute maintains an HIV laboratory, which follows, predicts and tries to prevent new HIV cases. In the period 1980–2003, 1625 HIV cases were identified in Finland. The Finnish municipalities, which organize and finance maternity clinic services, organize the screening programme for HIV for pregnant women.

### Chlamydia

The national screening policy for *Chlamydia* is opportunistic. Only Finnish Student Health Services (YTHS) organize systematic screening for *Chlamydia* for first-year university students and for students making gynaecological visits. For first-year university students screening is undertaken in conjunction with a physical examination. Finnish Student Health Services are financed mainly by the National Social Insurance Institute (KELA in Finnish) and students.



Table A1.1 cont.

France	Tuberculosis	HIV screening is systematic and compulsory for health insurance in the presence of indicative complaints or symptoms. Screening is encouraged in pregnancy and recommended in “risk groups” by professional guidelines but is subject to the decision of the physician and patient (“opportunistic”).	Chlamydia
<p>No information available.</p> <p>blood, organ, sperm or milk donors. It is systematically suggested in prenatal and prenatal examinations and often to people undergoing surgical procedures.</p> <p>If someone wishes to benefit from HIV screening, there are two possibilities:</p> <ol style="list-style-type: none"> <li>Attendance at special centres (Consultations de Dépistage Anonyme et Gratuit: CDAG), where tests are free and anonymous. There is at least one centre per “department”.</li> <li>Consultation with a GP or specialist, who will prescribe an HIV test. The test is performed in a laboratory and fully reimbursed.</li> </ol>	<p>In 2003, the Ministry of Health asked the National Agency for Evaluation in Health Care (ANAES) to evaluate the opportunity to set up a national policy for <i>Chlamydia</i> screening. ANAES recommended the adoption of an opportunistic strategy for screening, targeting the population at risk in centres for birth planning and education (Centres de planification et d'éducation familiale), in centres for free and anonymous screening (CDAG), in anti-venereal diseases dispensaries (Dispensaires anti-vénéériens: DAV), in centres for abortion, and in centres for mother and child care. <i>Chlamydia</i> screening should be offered to males and females under the age of 30 who are sexually active, who have changed sexual partner in the last 12 months, or whose partner may be infected with a sexually transmitted disease. Particular attention should be given to people who do not have regular contact with the health care system.</p> <p>ANAES also recommended pilot studies in general practice to evaluate the prevalence of the <i>Chlamydia</i> infection, and to actively promote the use of condoms in the general population. The reduction of <i>Chlamydia</i> prevalence (and other STDs) is one of the 100 objectives of the Public Health Act of August 2004, but the means of achieving this goal are not described.</p>		
Germany	Tuberculosis	HIV and Chlamydia	<p>There is no national policy on screening for HIV or <i>Chlamydia</i>. Case-finding for HIV or <i>Chlamydia</i> infections is paid for by statutory health insurance in the presence of indicative complaints or symptoms. Screening is encouraged in pregnancy and recommended in “risk groups” by professional guidelines but is subject to the decision of the physician and patient (“opportunistic”).</p> <p>With regard to HIV there is a national policy not to encourage testing, but to focus on practical protection messages (condoms, risk-prone situations, negotiation skills, as well as solidarity with those affected). Many other countries use both voluntary counselling and testing strategies. The German and Dutch public education systems, for example, encourage voluntary counselling and are silent about testing to try to avoid a reduction in safe behaviour. For the same reason, testing was even proactively discouraged among homosexuals in the early and mid-1990s. In general, written education materials are provided and balance testing is recommended if long-term partners want a child or want to choose another contraceptive. There is extensive information about test validity, test characteristics, the window period and recommendations for support and future behaviour.</p> <p>HIV and <i>Chlamydia</i> were never defined as “sexually-transmissible infections” (STIs) in a legal sense since this would have meant until 1999 that legal options to perform compulsory testing and treatment could have been applied to “non-compliant” STI patients under treatment or to “promiscuous people suspected of spreading the disease”. The Infectious Diseases Act of 2000 abolished the 1956 compulsory regulations for all STIs, which, in practice, had rarely been applied.</p>

## Greece

### Tuberculosis

According to Presidential Decree / GNG 262<sup>A</sup> /1950, the reporting of TB in Greece is compulsory. Cases should be reported within one week of diagnosis by the clinicians in charge. National hospitals provide the tuberculosis bulletin and ask the patient to fill in all the relevant information concerning the status and severity of his or her disease.

The International Union Against Tuberculosis and Respiratory Diseases (IUALATD) and WHO have launched guidelines to promote anti-tuberculosis campaigns in favour of vaccine programmes. Emphasis is placed on the vaccination of the following high-risk groups:

- immigrants;
- neonates whose mothers have been infected with HIV;
- children with Mantoux (-) (negative), and a family member with recognized tuberculosis;
- Rom people.

In accordance with the WHO guidelines (WHO/WER 2004, 79:25–40), Members are invited to develop a monitoring and evaluation system for recording TB cases and collecting reliable epidemiological data.

A significant reduction in recorded cases of TB is observed in Greece, in comparison with the rest of the EU Member States. In 2002 Greece maintained one of the lower rates among EU countries with 6.6 cases per 100 000 people, while the EU average was 11.55.

### HIV

In Greece several policies have been implemented to control, monitor and prevent the HIV epidemic. The Hellenic Centre for Infectious Disease Control (KEEL) is responsible for HIV/AIDS case reporting and has established a reliable monitoring network of nine AIDS Laboratories Reference Centres and 17 HIV/AIDS clinics in public and private hospitals.

AIDS case reporting was implemented in Greece in 1984. It is anonymous, confidential and mandatory by law A1/6122/199-1986. The first two characters of the name as well as the patient's date of birth are used as personal identifiers to prevent duplication.

The reporting of HIV cases was initially implemented in Greece in 1998. It is anonymous, confidential and mandatory by law B1/5295/7-8-1998. The new surveillance system for monitoring HIV infection was implemented at European level in January 1999. KEEL is responsible for collecting and monitoring data on HIV and other infectious diseases. Reporting is obligatory and all hospitals and health centres are obliged to report treated cases. KEEL presents the collected information every six months. A pre-specified standard format is used in order to ensure homogeneity of the reported data.

According to the "Half-Year" edition of KEEL (30 June 2004), the number of HIV positive persons (including AIDS cases) reported in Greece over the first half of 2004, was estimated to be 6923 cases, and around 221 were new HIV infections. The percentage of men reporting HIV infection was on average 4 times higher than that of women.

Data on newly diagnosed HIV infections should be interpreted with caution because they may not represent incidence and because they depend heavily on varying patterns of HIV testing and reporting.

### Chlamydia

There are no data available on *Chlamydia* in Greece. On the basis of several interviews conducted by our team at the University of Athens with officials at the Ministry of Health and KEEL, it was reported that KEEL is in the process of developing a registry of sexually and communicable diseases including *Chlamydia*, known as Sexually Communicable Diseases Surveillance.

The aim is to develop a monitoring system for *Chlamydia*, financed exclusively by KEEL.

A pilot project is designed and will be implemented in the near future at the Andreas Sygros Hospital in Athens as well as at the Aphrodisiac Hospital in Thessalonica.

Table A1.1 *cont.*

<p><b>Ireland</b></p>	<p><b>Tuberculosis</b> There is a TB vaccination programme, the BCG injection, which is administered to all children in Ireland in the first few months of life. It is not opportunistic.</p>	<p><b>HIV</b> The Department of Health and Children introduced a policy of voluntary antenatal HIV screening in Ireland in April 1999. As part of this programme, HIV screening is offered to all women who attend for antenatal services.</p>	<p><b>Chlamydia</b> No national screening policy.</p>
<p><b>Italy</b></p>	<p><b>Tuberculosis</b> With the introduction of the decree of 29 July 1998, all diagnosed cases of TB and mycobacteriosis must be notified to the health authorities. Screening is carried out at regional level. For example, the ASR of Emilia Romagna has developed software for monitoring and surveillance of TB. During 2003, 31.4 cases of TB in the adult population (over 14 years old) were reported in this region, of which 25% waited for a month before contacting a doctor, and 50% had a delay in diagnosis greater than two months.</p>	<p><b>HIV</b> Recently, the Ministry of Health has established a National Commission for HIV ("Commissione Nazionale per la lotta contro l'AIDS") which is intended to devise educational and preventive strategies and to promote continuing education for doctors in the field of infectious diseases. The commission will also monitor the spread of HIV both at national and international level, with particular emphasis on high-risk categories. It will promote and monitor research in HIV and audit the level of care provided for HIV patients. Moreover, the commission will update guidelines for certain types of treatment and verify DGRs tariffs for infectious diseases.</p>	<p><b>Chlamydia</b> Routine screening for asymptomatic infection is recommended for adolescent women who are sexually active and for women at high risk of infection. However, this is left to local health authorities and, ultimately, to the decision of individual doctors.</p>
<p><b>Netherlands</b></p>	<p><b>Tuberculosis</b> No information available.</p>	<p><b>HIV and Chlamydia</b> There is no national screening programme for HIV or Chlamydia. However: <ul style="list-style-type: none"> <li>• all pregnant women can undergo an HIV test as part of antenatal and postnatal screening;</li> <li>• the local public health agencies (GGDs) are in charge of HIV testing of specific risk groups.</li> </ul> </p>	<p>However, the GGDs have set up voluntary HIV screening for men and women in high-risk groups (homosexuals, drug addicts, prostitutes).</p>

## Portugal

### Tuberculosis

Screening is opportunistic. Neonates are vaccinated. All TB-related services are financed by the national health service (individuals are exempt from any sort of payment). Children in contact with TB patients are given treatment.

Some types of TB are within the system of compulsory notification of disease.

### HIV

Screening is opportunistic. Notification of HIV became compulsory in 2004. Drugs for AIDS patients are fully reimbursed by the state; patients are exempted from user charges in the NHS; but HIV-positive patients pay for drugs outside hospital.

There are guidelines for testing pregnant women, with the aim of improving detection and early treatment.

### Chlamydia

Screening is opportunistic. Chlamydia is not specially targeted in the national programmes, but is treated within the group of sexually transmitted diseases. Screening is usually done through the Pap test, with guidelines on frequency of testing.

There is no population register to allow for targeting and recalling patients, nor do current information systems allow for that.

## Spain

### Tuberculosis

Regional governments have responsibility for TB control and prevention programmes. Guidelines were provided in a consensus document on TB prevention and control. This document outlines the need for cooperation between the Ministry of Health and the Departments of Health of the regional governments in order to create a practical and efficient network for control and prevention of TB. In 1995, with the creation of the national Network for Epidemiological Surveillance, respiratory tuberculosis was included in the national registry of compulsory notification diseases. In 2002 all types of TB were included in the registry. In 1996 only 82% of the Autonomous Communities had developed a regional programme for TB prevention and control. Although TB notification is obligatory, in 1999 only 78% of the cases detected in Zaragoza were actually registered, and this percentage varied from 45% in Valencia in 1990–1993 to 94.5% in Castellon in 1997–1999.

### HIV

Responsibility for AIDS is shared between the central government and the Autonomous Communities, although the Ministry of Health is the key sponsor of the National Plan Against AIDS (the first one was approved in 1997, and was followed by a new one in 2001). A multisectoral approach (community participation, coordination of central/regional/local administration, interdisciplinary approach), strategies of proven effectiveness and equity (human rights, tolerance and solidarity; equal opportunities and non-discrimination; reduction of vulnerability) are some of the principles governing the New Plan (2001–2005). Action in this area is directed towards better knowledge and analysis of the reality of the epidemics; the development of prevention programmes (information campaigns, needle exchange, prevention of sexual transmission, methadone substitution programmes); training and support programmes for health care staff; recommendations on treatment; screening, etc.

### Chlamydia

There is no specific *Chlamydia* screening programme. However, the control and prevention of sexually transmitted diseases is included among the objectives of the HIV infection and AIDS Multisectoral Plan 2001–2005.

“Intensify activities for prevention, early diagnosis and treatment of infections associated with drug use, hepatitis, tuberculosis and STDs, as well as HIV, from health centres and drug abuse treatment services” (“Prevention in intravenous drug users”, HIV infection and AIDS Multisectoral Plan 2001–2005).

“Offer comprehensive care to women that includes early detection of STDs (herpes, *Chlamydia* and HPV) and cervical cancer”



Table A1.1 cont.

## Spain cont.

**Tuberculosis**

Some examples of regional TB control and prevention programmes: The Department of Health of Castilla y León has developed a programme for prevention and control of TB (1999). It defines the target population (people with clinical history compatible with TB; relatives and people who have been in contact with TB patients; high-risk population), the objective (to reduce TB prevalence by 2007) and the actions to be taken.

The TB control and prevention programme of the Department of Health of Valencia gives responsibility for TB detection to public health professionals in primary care settings. These agencies aim to actively control high-risk populations (HIV infected, drug addicts, prisoners and institutionalized mentally ill, immigrants, the police force and medical personnel). Treatment is provided by specialists. Public health administration is responsible for registry, information and health knowledge initiatives.

**HIV**

Recently, AIDS patients were included in the group which pays a reduced charge for medicines. The HIV tests can be carried out in Spain free of charge and confidentially throughout the National Health System.

Since 1983 there has been a National HIV Registry and since the end of the 1980s all Autonomous Communities have had their own Regional HIV Registry.

HIV surveillance consists of periodic surveys aimed at representative groups of the general population as well as target population groups as defined in the HIV Infection and AIDS Multisectoral Plan 2001–2005 (adolescents and young people, intravenous drug users, commercial sex workers, homosexuals, women, prisoners, immigrants and ethnic minorities).

**Chlamydia**

In 1990 a *Chlamydia* screening programme was implemented in the Family Planning Centre “Miguel Servet” in La Coruña. The main objective of the programme was to reduce the prevalence of *Chlamydia* in the area (at that time the prevalence rate among women was 5.1%). Specific aims included the reduction of the prevalence by 50% during the first year (1990–1991) and then by an additional 50% during the next two years (1992–1993) to reach a prevalence rate of 1.2–1.3%.

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## Sweden

### Tuberculosis

There is no national screening programme for TB.

In Sweden, general vaccination ceased in 1975, and since then children have been protected by means of targeted action. In every case of TB, an analysis of the infection is carried out for survey purposes, and children who have come into close contact with the sick person are vaccinated. Vaccination is also recommended for all children of immigrants from countries where TB is more prevalent than in Sweden, as well as for children travelling to such countries, and those who will be living in close contact with the local population.

All asylum seekers are also offered PPD testing at their first health check-up, as are pregnant women if their history suggests that they might be considered at risk. The National Board of Health and Welfare released guidelines in 1990 on preventive measures concerning TB but these are currently under revision.

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## United Kingdom

### Tuberculosis

No national screening programme.

### HIV and Chlamydia

HIV testing is offered to women in early pregnancy. Testing is compulsory for blood and organ donors. Opportunistic screening for *Chlamydia* is offered to those aged 25 and under who access sexual health services or primary care.

### HIV and Chlamydia

National strategies for the entire area of health and sexuality are presently lacking and will be developed by the National Institute of Public Health. In addition, work has been initiated on establishing an action plan for the prevention of unwanted pregnancies.

This is based on preventive work carried out under provisions of the Communicable Diseases Act, the Health and Medical Services Act and the public health policy of the National Institute of Public Health with respect to HIV and STIs, as well as within the framework of various regional/local programmes.

Currently, screening for *Chlamydia* and HIV is opportunistic with pregnant women being offered tests, as are those displaying risk behaviours.

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**Table A1.2 Cervical cancer, breast cancer, colorectal cancer, PKU, Down syndrome and spina bifida**

### Austria

#### Cervical cancer, breast cancer, colorectal cancer

There are two major systems in place with regard to screening for the above-mentioned forms of cancer. Every Austrian over the age of 19 is entitled to attend a voluntary precautionary check-up once a year, free of charge. This examination consists of a standard part for both sexes (blood test, urine test, stool test, clinical examination of the body including the breast and the rectum, personal session with the doctor) and a gynaecological part for women consisting of a general gynaecological examination and a smear test. In 2002 about 1 million precautionary check-ups at a cost of about €62 million were carried out. One million check-ups correspond to 13.6% of all those eligible. Of these, 65% were male and 35% female. The concept of the precautionary check-up is currently being revised. Besides some new examinations, the main focus of the "Vorsorgeuntersuchung – Neu" lies in healthy lifestyle advice. In order to increase participation in the precautionary check-up an invitation programme (Call/Recall Scheme) is planned. People between 19 and 40 will get an invitation every three years, and those over 40 every two years. People over 50 will be informed about intestinal cancer, and women over 40 about the possibility of having a mammography every two years.

Besides the precautionary check-up, women are asked to attend a gynaecological routine control appointment on a yearly basis when a smear test is carried out.

Currently there is no call and recall system established but this is being developed.

### Belgium

#### Cervical cancer

A programme of cervical cancer screening has been running since 1994 when the Flemish Government decided to reorient the organization of secondary prevention of cervical cancer according to European guidelines. Since then, early detection of cervical cancer has moved gradually from the strictly opportunistic to more organized screening. It targets women between the ages of 25 and 64, who are invited to have a Pap smear taken once every

#### PKU, Down syndrome, spina bifida

In the course of the "Austrian Early-recognition programme for inherited metabolic disorders" every newborn child is screened for PKU.

There is no universal compulsory system of screening for Down syndrome in place. Physicians are obliged to inform an expectant mother about the possibility of voluntary screening for the condition.

The possible incorporation of screening for Down syndrome and other prenatal examinations into the mother-child pass is currently under discussion.

There is no systematic screening for spina bifida.

#### PKU, Down syndrome, spina bifida

The detection of PKU falls under the Communities' programme of mass screening of congenital metabolic disorders. The Communities fix the conditions which the centres for the detection of congenitally metabolic deviations must fulfil. Normally a blood sample is taken on the fifth day after birth.

Down syndrome: during pregnancy, at least three ultrasound examinations can be reimbursed by national health insurance. This is usually carried out as a routine examination to follow the normal

## Belgium cont.

### Cervical cancer

three years. The programme is administered and run by the Scientific Institute of Public Health in collaboration with the Communities. Despite scientific support, no formal screening programme is organized in the French Community. According to the 2001 health interview survey, 70% of women between 25 and 64 had a Pap smear taken in the previous three years. New screening methods will be evaluated by the Scientific Institute of Public Health.

### Breast cancer, colorectal cancer

centres. Eleven screening centres have been identified: five in Wallonia (one per province), five in Flanders (in the four Flemish universities and one in Bruges) and one in Brussels. The screening centres are responsible for identifying the target group, sending invitations, the second reading, recording of data and for reporting to the referring doctor. In Flanders the campaign started on 15 June 2001; and in Wallonia and Brussels, in June 2002.

There is no specific government policy on screening for colon and rectal cancer.

### PKU, Down syndrome, spina bifida

development of the fetus. Between weeks 10 and 14 of pregnancy a specific ultrasound into abnormal accumulation of liquid in the neck of the foetus can be conducted. On the basis of this research, Down syndrome can be identified. The presence of a chromosomal abnormality can only be confirmed by an additional test such as an amniocentesis. These forms of antenatal diagnosis are only offered to couples with an increased risk.

Spina bifida can also be detected during the pregnancy through a blood test, an ultrasound or an amniocentesis.

## Denmark

### Cervical cancer

There is now (a recent development) a free screening programme in every one of the country's 14 county councils. The programmes are based on the regions' population registers used for call and recall. Women are invited for a Pap smear every third year by their GP. Typically, two reminder letters are sent if no appointment has been made after the first letter. Women aged 23–59 are invited, except in Copenhagen county councils where the invitation is extended only to those aged 25–45. Some county councils are also targeting women aged 60–74.

### Breast cancer, colorectal cancer

Screening programmes for breast cancer are established in two of the 14 county councils (Funen and H:S). These cover 20% of the population. In those areas women aged 50–69 are invited for screening. There has been considerable debate on breast cancer screening in Denmark with some county councils arguing that the evidence of benefit is inconclusive.

Colon and rectal cancer: a team of experts from the National Board of Health has recommended screening for colorectal cancer and a trial is taking place in two of the county councils. Men and women aged 50–74 are invited to participate and the service is free.

### PKU, Down syndrome, spina bifida

Every child born in Denmark is offered a routine examination for PKU. The examination is made via a blood test carried out in the first week after the child is born, which makes the disease preventable. It is the responsibility of the midwife to ensure that the test is carried out on the child's fifth day of life (in practice this is done between days 4 and 10), regardless of whether the child is delivered at home or whether the mother has been discharged from hospital. The same test is used to screen for lowered metabolism.

Down syndrome and spina bifida: in September 2004 The National Board of Health changed the guidelines on embryo diagnostics from automatic selection criteria (e.g. age), to individual choice. Pregnant women are given the option of an examination that indicates a risk of Down syndrome, as well as a test for spina bifida. There will also be more information available on help and support.

Table A1.2 *cont.*

<p><b>Finland</b></p>	<p><b>Cervical cancer</b> Screening for cervical cancer was started at the beginning of the 1960s. According to the Public Health Act, women aged 30–60 years are called every fifth year for screening. The Finnish municipalities are responsible for organizing and financing screening and the Finnish cancer organizations have proposed that it should be extended to include 25-year-old women. In 2003, a total of 157 cervical cancer cases were found.</p> <p><b>Breast cancer, colorectal cancer</b> Screening for breast cancer was introduced in 1987. According to the Public Health Act women between the ages of 50 and 59 are called every second year for screening. The Finnish municipalities are responsible for organizing and financing this screening. The Finnish cancer organizations have proposed that it should be extended to include the age group 60–69. In 2003, 3779 breast cancer cases were found. A pilot project for screening for colon and rectal cancer in men and women aged 60–69 was introduced in 2004 in several municipalities.</p>	<p><b>PKU, Down syndrome, spina bifida</b> Screening of PKU for the native Finnish population is not considered necessary. If both the mother and father are of western European, American, or e.g. Jewish, Kurd or Yugoslav origin, a PKU test is performed on neonates. Participation in the screening of Down syndrome is voluntary. Almost all municipalities offer ultrasound scanning in weeks 13–14 and 16–19 of pregnancy. Amniocentesis and serum screening is provided to women between 35 and 40 years of age (the age limit depends on the municipality, e.g. in Helsinki the age limit is 40 years). In municipalities which offer screening, all pregnant women in the age category are invited for the test. Participation in spina bifida screening is voluntary. Almost all municipalities offer ultrasound scanning in weeks 13–14 and 16–19 of pregnancy.</p>
<p><b>France</b></p>	<p><b>Cervical cancer</b> Cancer screening strategies are an important part of the National Cancer Plan implemented in 2003 for the 2002–2006 period. National technical groups have been created to develop screening programmes. Cervical cancer screening is offered to women aged 25–69 every three years. The participation rate, estimated in five regions, is 2.5%, and the plan targets are 80%. The French National Agency for Accreditation and</p> <p><b>Breast cancer, colorectal cancer</b> Breast cancer screening, previously limited to some départements (32 at the end of 2002), has been extended nationwide since 1 January 2004 (except for Guyana): every woman aged between 50 and 74 is invited for a free breast screening every two years. Breast screening programmes in France are administered by management teams in each département, which sends invitations to targeted women. Breast cancer screening is performed mainly by independent professionals (90% of screenings) and jointly financed by general councils and health insurance funds.</p> <p><b>PKU, Down syndrome, spina bifida</b> Down syndrome is systematically sought in prenatal examinations. A blood test is offered to every pregnant woman. Amniocentesis is systematically offered to patients at risk: mothers aged 38 or older, those with a “positive” blood test, or in whom a defect has been detected in a previous pregnancy, and where there is evidence of a chromosomal defect in parents. The cost of the blood test is</p>	

## France cont.

### Cervical cancer

Evaluation in Health (ANAES) assessed the benefits of the Human papilloma virus (HPV) test and did not recommend its systematic use in association with the Pap test. However, the HPV test was included in the professionals' fee schedule in December 2003 and has been reimbursed in cases of suspicious Pap test results since January 2004. A recent study estimated that 35% of women aged 25–69 have never, or rarely, had a Pap test. Targeted messages will be used to reach these women and the uptake of Pap tests could be increased by the participation of GPs (96% of Pap tests are currently carried out by gynaecologists).

### Breast cancer, colorectal cancer

Cancer screening examinations are exempted from the users' participation of €1.

Colorectal cancer screening has been the subject of trials in 22 départements. Preliminary measures were needed to resolve problems related to the payment of physicians and to the postal transporting of Hemocult® tests. In this programme, men and women aged 50 to 74 are invited every two years for a faecal occult blood test (FOBT). If this is positive, a colonoscopy will be carried out. The programme will be evaluated at the end of 2005 to define the national strategy for 2007 (this is the 53<sup>rd</sup> objective of the Public Health Act of 2004). The first results showed an increasing rate of participation (up to 50% in some départements) thanks to strong participation by GPs. The trial includes a comparative assessment of two tests (Hemocult II® versus Magstream).

### PKU, Down syndrome, spina bifida

reimbursed by social security if carried out between the 15th and the 18th weeks of pregnancy. The patient has to sign a consent form. Amniocentesis is also reimbursed.

Neonatal examinations are routine for newborns and include blood testing for PKU, congenital hypothyroidism, adrenal hyperplasia, haemoglobinopathies/sickle cell anaemia, and cystic fibrosis.

Spina bifida is detected by ultrasound in week 17 of pregnancy.

## Germany

### Cervical cancer, breast cancer, colorectal cancer

There is a national programme for breast cancer, cervical cancer and colorectal cancer for SHI-insured individuals. Private health insurers will pay for opportunistic screening.

Opportunistic screening for breast cancer used to be widely practised. Breast cancer screening has been recently reorganized towards a systematic screening programme, at least in women aged 50–69 who are invited regularly. The screening is subjected to tight, evidence-based quality assurance measures. The screening programme is organized separately from the disease management programme for (the treatment of) breast cancer, introduced in 2003.

For cervical and colorectal cancer as well as prostate cancer directives of joint committees define the target groups, the screening interval and type of intervention that is paid for by SHI. Directives also specify quality assurance requirements for physicians who seek reimbursement from sickness funds. Those insured are encouraged to participate via health journals and celebrity-led campaigns, but are not invited individually.

### PKU, Down syndrome, spina bifida

PKU testing is part of the routine neonatal examinations for babies and is financed by SHI.

There are national screening policies for pregnancy within SHI, but as yet there are no specific national screening policies for Down syndrome or spina bifida. Testing for Down syndrome and spina bifida, as part of two ultrasounds for case-finding during pregnancy, is paid for by SHI.

Table A1.2 *cont.*

## Greece

### Cervical cancer, breast cancer, colorectal cancer

There is no national policy on screening for cervical cancer, breast cancer or colon and rectal cancer in Greece. There have been several sporadic initiatives developed by the Anti-Cancer Society but there is no well-defined and specific policy for screening. We have conducted interviews with:

1. Ministry of Health and Social Solidarity
2. KEEL
3. Anti-Cancer Society (nongovernmental organization).

### PKU, Down syndrome, spina bifida

In Greece the prevalence of PKU has been estimated at 1 per 7700 children in 2002. PKU can be diagnosed early in the neonatal period.

Down syndrome: pregnant women are asked to undergo a blood test and those over 35 years of age are offered an amniocentesis.

No information is available for spina bifida.

## Ireland

### Cervical cancer

Phase 1 of a National Cervical Screening Programme offers free cervical screening to women aged 25–60 years in the Mid-Western Health Board area who are invited to register with the programme.

The Irish Cervical Screening Programme (ICSP) aims to ensure that women on the register are invited by letter, over a five-year screening period, to attend for a free cervical smear test. Women who have never had a programme smear can contact one of the ICSP Registered Smeartakers (doctors and nurses) to discuss having a free smear test.

### Breast cancer, colorectal cancer

BreastCheck is Ireland's national breast screening programme. The aim of the programme is the early detection and treatment of breast cancer in women who show no symptoms of the disease. Phase 1 started in February 2000 and is in operation in the Health Service Executive (HSE) Eastern Area, HSE Midland Area and HSE North Eastern Areas.

In February 2003, the Minister for Health and Children announced the extension of BreastCheck in the east to counties Wexford, Kilkenny and Carlow. Screening started in Wexford in March 2004 and in Carlow in April 2005. It is expected to follow in Kilkenny in early 2006.

In May 2005 the minister announced plans for the development of a further two BreastCheck clinics to cover the southern and western regions of Ireland. It is expected to be available nationally towards the end of 2007.

Breast screening outside the BreastCheck programme is available to all women if they are referred by a GP. It is included within outpatient public hospital services and women are not charged for screening if referred by a GP. In private hospitals, they have to pay for the service. Colorectal cancer is not currently screened for in the general population in Ireland. Certain individuals are, however, more at risk and may request to be screened.

### PKU, Down syndrome, spina bifida

A National Newborn Screening Programme was instigated in Ireland in 1966 with initial screening for phenylketonuria.

Screening tests for Down syndrome and spina bifida are not offered routinely but only in cases considered to be at high risk.

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## Italy

### **Cervical cancer, breast cancer, colorectal cancer**

Screening policies for these diseases have been included in the package of essential levels of care provided by the SSN (IEA) by Decree "DPCM 29/11/2001". All National Health Plans have set targets for these areas of prevention. Registers are managed at regional level. In the past, they were often started independently and only subsequently inserted into regional health plans. Screening policies are more widespread in northern and central Italy. There is usually a system for targeting and recalling patients although the target population varies according to region. In Umbria, for breast cancer, the target population includes women aged 50–59; for cervical cancer 25–64, for colorectal cancer women and men aged 50–59.

Each year, there are 270 000 new cancer cases, with 150 000 deaths. Cancer is the second largest cause of death and incidence is constantly increasing. Since 2000, the government has adopted a series of measures aimed at promoting the widespread and uniform adoption of screening policies at national level. The main recent policies are the following:

- The Budget (Financial) Law for the year 2001 ("Legge Finanziaria" art. 85) set exemptions from copayment (ticket) mammographic exams (one every two years for women aged 45–69); cervical-vaginal cytological examinations (one every three years for women aged 25–69); colonoscopy (every five years, for men and women aged over 45 and the population defined as at risk by Ministry of Health decrees).
- In 2004 an agreement between the state and the regions was signed that includes in the PPA (Piano di Prevenzione Attiva) cancer screening, as defined by the EU Parliament resolution, as one of the four strategic targets.
- Law n.138 (published in the Official Bulletin – G.U. – on 26/5/2004) art. 2bis, contains a commitment to close the gap between the target population and the screened population, allocating €50 million for this target.
- The Department of Health is striving to implement an effective cancer screening and information programme at national level.

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## Netherlands

### **Cervical cancer, breast cancer, colorectal cancer**

There is a national policy on screening for cervical and breast cancer, but not for colorectal cancer. These two programmes (cervical and breast cancer) are based on a defined population of women; their addresses are taken from the municipal population registers. Payment is based on the Exceptional Medical Expenses Act (AWBZ) (which is a universal social health insurance scheme) and the programmes are eligible for all women in the defined age group.

### **PKU, Down syndrome, spina bifida**

Each region has its own regulations.

Antenatal screening is recommended by doctors to women at risk. Pregnant women get routine ultrasound examinations (at a frequency which varies between regions) but genetic testing is usually offered only to women at risk.

There is no national policy. There are five specialized spina bifida centres in Italy that promote information and prevention.

### **PKU, Down syndrome, spina bifida**

PKU: there are blood tests for all newborn children in the first week after birth.

Down syndrome and spina bifida: a triple test is available for all women over 35 after three months of pregnancy. Payment is based on the Exceptional Medical Expenses Act (AWBZ).



Table A1.2 cont.

## Portugal

### Cervical cancer

Screening is opportunistic. There are guidelines for women to take yearly smear tests. National Program of Prevention and Control to Oncology Diseases targets for screening of cervical cancer, breast cancer and colon and rectal cancer are 60% of the target population by 2010. Cancer patients are exempted from the payment of user charges; there are no charges for hospital treatment; and drugs for cancer treatment are totally reimbursed by the state. Nevertheless, cancer patients might pay for consumption of other drugs.

### Breast cancer, colorectal cancer

Screening is opportunistic and is detected mostly through mammography. There are guidelines for women to take yearly mammography. Screening for colorectal cancer is opportunistic. There is no national policy for this type of cancer.

### PKU, Down syndrome, spina bifida

Screening for PKU and Down syndrome is compulsory for neonates in the first week of life; these tests are free of charge.

We have no information on spina bifida.

## Spain

### Cervical cancer

Cervical cancer screening through cytology is offered to all women aged 35 and over. It is financed by public insurance.

In the Balearic Islands cervical cancer screening is opportunistic. In Catalonia, there is a personalized register of all target individuals (women aged 20–64). Cervical cancer screening (Papanicolaou technique) is recommended every three to five years.

Among the main objectives of the Navarre Health Plan 2001–2005 are those related to early detection of cervical cancer, breast cancer and colorectal cancer. The cervical cancer programme is based on occasional

### Breast cancer, colorectal cancer

Since 1990 breast cancer detection programmes have been implemented in all Autonomous Communities.

The programmes' target population varies across regions. In most of the regions the target population includes women aged 50–64/5. In three Autonomous Communities the target population is extended to all women between the ages of 45 and 69 (Madrid, Navarre and Valencia). In Catalonia and Murcia women between 50 and 69 can benefit from the programme. In Castilla y León the programme covers women aged 45–64/5. The total target population in 2003 rose to 3 869 662 and 97.3% were actually covered by the programmes. Free mammography is provided every two years, as well as additional medical and laboratory examinations when needed.

Lack of knowledge and social acceptance make the detection of colorectal cancer uncommon. There are pilot screening programmes in Catalonia. The viability

### PKU, Down syndrome, spina bifida

There are neonatal screening programmes for endocrine-metabolic diseases (PKU and hypothyroidism) in all Autonomous Communities. These programmes started in 1968 in Granada and were implemented in Barcelona and Madrid a few years later. Since the 1980s these programmes have been extended to the rest of the Autonomous Communities. Today the neonatal screening programmes cover practically 100% of neonates. The recommendation is to obtain blood from babies between the 5th and the 10th day of birth. The analyses are conducted in any of the 20 Clinical and Molecular Genetics Laboratories.

Antenatal screening is performed in primary care settings or in hospitals. The guidelines for monitoring a normal pregnancy include a series of tests to detect certain pathologies, such as triple screening for Down syndrome and spina bifida, the O'Sullivan test for diabetes, virus serology for hepatitis B, tests for Streptococcus

## Spain cont.

### Cervical cancer

screening of the at-risk population and calling of high-risk individuals. The plan also envisages the development of a programme for prevention and early detection of colorectal cancer.

### Breast cancer, colorectal cancer

of regional screening programme is still to be evaluated. The proposed screening programme includes three types of tests (rectal exploration, transrectal ecography, and prostate-specific antigen test) for individuals aged 50–69 that should be performed every five to ten years.

### PKU, Down syndrome, spina bifida

agalactiae, Rh incompatibility, virus serology for rubella, and serology for *Toxoplasma gondii*. The triple screening (a blood test that measures alpha-fetoprotein, human chorionic gonadotropin and unconjugated estriol) is performed on all pregnant women. Amniocentesis is highly recommended for women over 35.

## Sweden

### Cervical cancer

Organized cervical cancer screening has been implemented in Sweden since the mid-1960s.

A marked decline in cervical cancer incidence could be attributed to the start of screening.

Squamous cell carcinoma has declined by 60%, whereas adenocarcinoma has increased.

About 950 000 Papanicolaou (Pap) smears are taken annually. Only 31% of the smears are taken in the organized screening programme.

As of 1998, the guidelines for recommended screening are: every third year, for

### Breast cancer, colorectal cancer

Mammography screening is carried out for early detection of breast cancer, according to the National Guidelines from the National Board of Health and Welfare, a government agency.

Screening women in the age group 40–74 with mammography can reduce the risk of mortality from breast cancer. Effects vary with age and are greatest for women aged 50–69. Medical examination with mammography is recommended for this age group throughout the nation.

For women aged 70–74 the effects are considered to be good and an increasing demand can be expected. Therefore, it is cost-effective to offer screening to this age group as well. Details must be adjusted to local conditions.

For women aged 40–49 the positive effects outweigh other considerations, even if current information is unclear as to the risk of side-effects and overtreatment. The low incidence of cancer means that the absolute gain is less compared to older age groups; this is compensated for by the fact that younger women have more life-years to gain. Screening with mammography is, therefore, recommended also for these women. The form and scope should be determined in accordance with local conditions.

Examination technique, projections and intervals should be individually adapted to the woman's breast tissue character, current

### PKU, Down syndrome, spina bifida

General screening for PKU was introduced in Sweden in 1965. A blood sample is taken from all neonates on the third day after delivery and analysed for phenylalanine. Even children born at home or abroad are included in the screening wherever possible. If PKU is suspected the definitive diagnosis is achieved by analysis of the blood level of amino acids and the urine level of pterines. In some cases gene analysis is also carried out in order to detect the gene for phenylalanine hydroxylase.

Screening for Down syndrome: ultrasound examination during pregnancy was introduced nearly 25 years ago.

All pregnant women are offered one ultrasound scan in the second trimester (gestational weeks 15–20) and the offer is accepted by 97% of women. Midwives with special training in ultrasonography usually perform the examination. Aims of the routine ultrasound are to: estimate gestational age, localize the placenta, screen for multiple pregnancies and detect structural malformations.

All pregnant women are also given information (by the midwives) on the possibility of having an amniocentesis performed in order to detect chromosomal abnormalities



Table A1.2 cont.

## Sweden cont.

**Cervical cancer**

23–50 and every fifth year for those aged 51–60.

However, health care in Sweden is organized by autonomous counties and there are about 30 different regional autonomous cervical cancer screening programmes in Sweden.

For about 80% of Sweden, computerized files of organized and spontaneous Pap smear usage by each individual are collected, but these files are not combined to generate nationwide data on screening usage and are not used for linkage with cancer registries to determine whether the screening has the desired effects of reducing incidence of, and mortality from, cervical cancer.

**Breast cancer, colorectal cancer**

medication etc. In other cases 18 months for women under 55 and 24 months for women over 55 is recommended.

For high diagnostic accuracy, double checking of mammograms is recommended. However, in the near future new electronic devices may be available to support this process, which has to be adjusted accordingly.

The National Health Act states that the quality of health care should be systematically developed and improved for safety.

The National Board of Health and Welfare has issued regulations and general advice on quality assurance systems in health care. These regulations apply to screening with mammography.

In the expert report indicators are defined and current threshold values are given for quality criteria.

If a public health service delegates the task of implementing a screening programme with mammography to a secondary provider, the delegating health service must be assured that the provider follows these regulations.

Authorization is required from the National Radiation Protection Institute (SSI) for all facilities utilizing ionizing radiation.

There is no national screening programme for colorectal cancer in Sweden. The National Board of Health and Welfare are currently working on new guidelines for colorectal cancer, breast cancer and cancer of the prostate planned for publication in 2006.

Faecal occult blood test, sigmoidoscopy and colonoscopy have all been considered as screening tests for colorectal cancer.

**PKU, Down syndrome, spina bifida**

in the fetus. Foetal screening for chromosomal abnormalities is primarily aimed at detecting Down syndrome (being the most common one).

Women aged 35 or older are given more detailed information (by a physician) on this subject and routinely offered amniocentesis.

Screening methods available on request but not routinely used are:

- First trimester serum screening with analysis of PAPP-A and  $\beta$ -HCG are biochemical methods of estimating the risk of the foetus having Down syndrome.
- Second trimester maternal serum analyses of alpha-fetoprotein (AFP), HCG and unconjugated estriol and inhibin-A levels.

Screening for spina bifida: The Swedish Registry of Congenital Malformations was started in 1964 as a trial and established in 1965. In 1999 a special reporting system was started to include fetuses with congenital malformations. The aim is to continuously follow the development of serious congenital malformations and quickly to detect changes in the occurrence of different malformations. Serious congenital malformations are reported within six months after birth. There are about 1700 reports a year.

## United Kingdom

### Cervical cancer

National Cervical Cancer Programme: cervical screening is offered to women aged 25–49 every three years and to those aged 50–64 every five years. It is offered to those aged 65+ only if they have never been screened or if they have previously had a suspect result.

The age group for cervical screening in Scotland is 21–60.

### Breast cancer, colorectal cancer

National Breast Cancer Screening Programme: women aged 50–70 are invited for mammography every three years.

Women over 70 can be screened on request.

As a result of pilot studies, a national programme of screening by faecal occult blood test for colorectal cancer has been agreed for men and women aged 60–69 every two years.

Implementation is currently being planned and screening will be introduced in phases starting in April 2006.

### PKU, Down syndrome, spina bifida

There are routine neonatal bloodspot screening tests for PKU, CH, CF and sickle cell disease.

Down syndrome: quadruple serum tests and ultrasound are carried out in the second trimester of pregnancy.

Spina bifida: ultrasound screening takes place between 18 and 20 weeks of pregnancy with blood test if indicated.



# **ANNEXE 2**

## **Screening tables: New Member States and Candidate Countries**



Table A2.1 TB, HIV, Chlamydia

## Bulgaria

### Tuberculosis

Given the increasing prevalence of cases of TB in the last 10–15 years (the TB morbidity rate has doubled in only eight years; from 25.1 in 10 000 in 1990 to 50.0 in 100 000 in 1998), the Ministry of Health developed a National Programme for Prevention, Early Diagnosis and Treatment of Tuberculosis (2000–2003) in 2000. Among the goals of this programme is early TB diagnosis.

Fluorographic check-ups of populations at risk (people living in regions with TB morbidity rates higher than the country average; prisons; psychiatric and community establishments, etc.) have been introduced. The programme is also considering the development of a common computerized system for registering all new TB cases and the results of their treatment.

The relative success of this programme is evident from the fact that the TB incidence rate in Bulgaria has declined slightly over the last few years and remained below 50 in 100 000 people (48.8 and 47.8 in 100 000 people in 2001 and 2002, respectively).

A new National Tuberculosis Control Programme (2004–2006) has been in place since 2004. This new programme set some specific quantitative objectives (described above) and is fully financed by the National Health Insurance Fund.

### HIV

A National Programme for Prevention and Control of HIV and other sexually transmitted diseases (2001–2007) has been in place since 2001. It is not opportunistic. The main objectives, broadly defined, of this programme are:

- to establish the basis for a steady process of eradicating the factors that contribute to the spread of HIV, paying special attention to the vulnerable groups of the population;
- to ensure a tolerant and supportive social environment and access to health care for those suffering from HIV or sexually transmitted diseases;
- to reduce the risk of transmitting HIV and other blood-borne infections by introducing good medical practices and standards according to the directives of WHO and the European Council.

The programme is not uniform throughout the country. Nineteen of the 27 municipalities contain the highest percentages of the target population: 90% of the intravenous drug addicts; 67% of the prostitutes; 50% of the gypsy minority; and 67% of young people (66% of those in secondary education and 82% of those in university education).

The programme classifies the municipalities in three groups:

1. six municipalities with higher risk exposure, where the programme cover all four vulnerable groups in the population (intravenous drug addicts, prostitutes, the gypsy minority, and young people);
2. three municipalities where the programme covers three of the four vulnerable groups (intravenous drug addicts, prostitutes, and young people);
3. ten municipalities where the programme covers only one of the four vulnerable groups.

The programme is financed by the Global Fund to fight AIDS, TB and malaria.

The financial contribution received from the Fund amounts to US\$ 6 894 270 for the period 2003–2005.

However, most of the tests for detection of HIV or other sexually transmitted diseases are paid directly by the patients. There is one ONG that provides HIV tests free of charge.

### Chlamydia

Chlamydia is not explicitly mentioned in the above programmes. No other information is available.

<p><b>Cyprus</b></p>	<p><b>Tuberculosis</b> None</p> <p>However, non-EU citizens going to work in Cyprus from Asia (Sri Lanka, India, Pakistan, Thailand, etc.) and eastern Europe are tested. In addition, all civil servants must have a chest X-ray upon appointment to the civil service. In the case of foreign workers, their potential employer bears the full cost, while for civil servants the cost is covered by the state.</p>	<p><b>HIV</b> None</p>	<p><b>Chlamydia</b> None</p>
<p><b>Czech Republic</b></p> <p><b>Tuberculosis</b></p> <p>TB is notifiable by law with two linked systems – the register of tuberculosis and a laboratory notification-based information system for bacillary tuberculosis. Any patient presenting with health problems and diagnosed with TB has to be notified. Data are retained within the system following classification rules. Health care workers in TB settings, TB laboratory personnel, students entering medical schools and prisoners are regularly screened for TB (TST – tuberculosis skin test). BCG vaccination is obligatory and children are screened by TST at age 11. If they present a negative result, they are revaccinated. Migrants in asylum camps are screened at entry with TST. There is a limited programme for screening homeless people, with incentives (X-ray screening for active TB). TB screening is paid for by health insurance. Rules for TB control require recall of patients and persons in contact with TB according to specific rules. There is a set of legal instruments controlling TB screening.</p>	<p><b>HIV</b></p> <p>Screening for HIV is very complex with a set of legal instruments controlling HIV screening. There is obligatory screening in cases included in specific rules. Voluntary screening is accessible for anyone who wants it (in certain circumstances admitted by law it can be anonymous). Screening is compulsory for donors of blood, organs or any biological material, and for pregnant women. Any such screening is paid for by health insurance. Some foreign countries require HIV testing before entry and in such cases the cost of the test is the responsibility of the individual concerned.</p>	<p><b>Chlamydia</b></p> <p>Tests for <i>Chlamydia</i> are done only as a part of the diagnostic process in individual cases. There is no specific screening scheme.</p>	<p><b>Chlamydia</b></p> <p>Testing for <i>Chlamydia</i> is compulsory during pregnancy.</p>
<p><b>Estonia</b></p>	<p><b>Tuberculosis</b> None</p> <p>HIV testing is compulsory during pregnancy, when entering military service, and for prisoners.</p>	<p><b>HIV</b></p> <p>HIV testing is compulsory during pregnancy, when entering military service, and for prisoners.</p>	<p><b>Chlamydia</b></p> <p>Testing for <i>Chlamydia</i> is compulsory during pregnancy.</p>

Table A2.1 *cont.*

<p><b>Hungary</b></p> <p><b>Tuberculosis</b> Screening based on a defined population register with a system for targeting and recalling individuals (aged 18+, on a yearly basis) operates only for TB. In 2003, 134 fixed and 48 mobile pulmonary screening stations were operating and 3 717 518 screenings were carried out (43% of the adult population were screened).</p>	<p><b>HIV</b> Opportunistic screening for HIV is also available. Targeted screening for HIV infection is a subprogramme of the NPHP. Increasing voluntary testing based on informed consent among high-risk groups and re-introducing anonymous HIV testing combined with counselling are planned. Enforcing the legally regulated mandatory health examination (including HIV testing) of sexual workers is also among the actions planned in the sub-programme "Preventing AIDS" of the NPHP. Screening tests are paid for by the National Insurance Fund (NIF) if they are carried out in accredited institutions.</p>	<p><b>Chlamydia</b> Opportunistic screening for Chlamydia is available.</p>
<p><b>Latvia</b></p> <p><b>Tuberculosis</b> WHO TB control strategy formed the basis for a National Tuberculosis Control Programme aimed at diagnosis, treatment and prevention. TB diagnosis works on two levels: GPs provide annual examinations of their patients (passive recognition); check-up of any contacts and patient high-risk groups, such as prisoners and immigrants (active recognition). Patient recall is based on the TB patient register – patients are examined two years after recovery. The State Agency of TB and Lung Diseases of Latvia (SATLD) manage the Latvian National TB Programme, initiated in 1995; before the rest of the former Soviet Union following the WHO DOTS strategy (Directly Observed Treatment Short-course). By 1999, nearly 9.5% of the population was covered by DOTS with a 72% cure rate (WHO global target of 85%). Latvia was the only country in the region performing large-scale treatment of MDR-TB patients according to WHO's DOTS-Plus strategy, with 200–250 patients annually being treated with drugs funded by the Latvian government. The SATLD is a treatment, teaching and research facility with training in all aspects of TB management and control, including role of PHC, laboratories and surveillance.</p>	<p><b>HIV</b> Programme for Limiting the Spread of HIV/AIDS in Latvia 2003–2007 (previously HIV/AIDS spread control strategy in Latvia 1999–2003). Priorities are: HIV prevention among injecting drug users; treatment and support for people living with HIV and AIDS; HIV infection spread control among young people. Two major projects support the control of HIV infection: coordinated support for young people's health in Latvia; and uniform secondary prevention building for intravenous drug users. AIDS Prevention Centre: epidemiological monitoring and prevention measures. Liaises with the European AIDS Monitoring Centre and adheres to the requirements of UNAIDS and the European Union and is integrated into EuroHIV programme. Target groups for screening:  <ul style="list-style-type: none"> <li>• HIV infected persons and AIDS patients;</li> <li>• pregnant women;</li> <li>• military recruits;</li> <li>• those involved in the national armed forces and international peace maintenance.</li> </ul> </p>	<p><b>Chlamydia</b> There is no specific programme for screening of Chlamydia.</p>

## Lithuania

### Tuberculosis

There is a national policy of selective tests for TB. Tests are performed on people with prolonged cough syndrome or clinically suspect symptoms, using microscopic analysis of expectoration (DOT programme). Tests are financed by the state sickness fund.

### HIV

There is a national policy on HIV screening. Tests are performed on people with clinical AIDS symptoms, people from high-risk groups and on pregnant women. Tests are financed by the state sickness fund.

### Chlamydia

There is no national screening policy for *Chlamydia*. Tests are performed opportunistically according to clinical symptoms and are paid for by the patient.

## Malta

### Tuberculosis

In Malta, TB incidence is low because of screening, active surveillance and control strategies funded entirely by the public health care system.

The School Medical Service that forms part of the Primary Health Care Department offers TB screening with Mantoux and BCG vaccination to all school children at 12–13 years of age.

The Chest Unit of the Department of Public Health screens illegal immigrants to Malta for TB with a Mantoux test. Objectives are to identify active TB disease at an early stage, to give curative treatment and to prevent transmission of disease.

Because of very poor compliance with the TB preventive treatment by immigrants, it is now being offered to immigrant schoolchildren and to those immigrants with abnormal chest X-rays where findings are consistent with old TB. Any immigrant who wishes to be tested for TB infection and offered preventive treatment can do so. Preventive treatment is offered and can be refused by the patient.

Patients with active tuberculosis are given treatment free of charge. Treatment is supervised daily by a nurse to make sure that it is taken properly and regularly (DOT programme).

### HIV

Opportunistic screening for HIV is offered within the public health service. It is usually carried out through the ante-

natal or gynaecology clinics or through the genito-urinary clinic.

Pre- and post-test counselling is also given as part of the service.

### Chlamydia

At present Malta does not carry out organized screening for *Chlamydia*. Screening is carried out only on symptomatic cases. All testing is done using PCR (Roche Amplicor).

## Poland

### Tuberculosis

For over 30 years the number of the new TB cases in Poland has been decreasing<sup>1</sup>; about 5% of yearly morbidity. During 1991–1993 an increase in new infections was observed, similar to that observed in other countries of the central and eastern European region. It is being explained by the transformation

### HIV

Health and social problems related to HIV/AIDS necessitated the establishment of an institution at national level to identify problems, propose solutions and coordinate different activities. Such an institution was established in 1992 as a part of the office of National Sanitary Inspection. In 2000, the national offices for the coordination of AIDS prevention became the National Centre for AIDS. This institution is directly subordinate to the Ministry of Health and plays the

### Chlamydia

No information available

<sup>1</sup> Obligatory vaccination against BCG was introduced in Poland in 1955



Table A2.1 cont.

<p><b>Poland</b> cont.</p>	<p><b>Tuberculosis</b></p> <p>In the first period of changes there appeared a rapid – 20% to 30% – decrease in production and income of the population, increase in migrations and parallel HIV infections. In comparison with countries belonging to the EU before May 2004, the incidence of TB in Poland is still twice as high.</p> <p>In the treatment of TB in Poland, the WHO DOTS strategy is used. There is a special central institute for organizing and monitoring TB treatment – the Institute for Tuberculosis and Lung Diseases in Warsaw, with several branches elsewhere. The Central Register of People with Tuberculosis also monitors the treatment of patients.</p> <p><b>HIV</b></p> <p>main role in: shaping the state policy on HIV/AIDS prevention and treatment, analysing the epidemiological situation in this field, and information and training activities. Its main current task is coordinating work on the implementation of the National Programme for HIV Prevention and Care for People Living with HIV/AIDS. The National Centre for AIDS is also the contact point for nongovernmental organizations (NGOs), which are offered support and financial help, experience, education, professional advice and consultation. Help and support is offered also to individuals living with HIV/AIDS, to ensure prevention and education in this area.</p> <p>Screening for HPV virus is available for women living with HIV. An HIV-positive woman has the same right to become a mother as any other woman.<sup>2</sup> If a woman in this situation consciously decides to become a mother, she is under the care of the Institute of Mother and Child for the whole pregnancy and has an access to antiretroviral (ARV) treatment for vertical infections. There exists a pilot programme of test-tube insemination with clean sperm.</p>	<p><b>Chlamydia</b></p> <p>No information available</p>
<p><b>Romania</b></p> <p><b>Tuberculosis</b></p> <p>There is a massive TB screening programme in place. Thousands of people are screened by X-ray examination: children entering kindergarten and their parents, soldiers and recruits, teachers in schools every year, couples before marriage, prisoners. All workers in the food industry, or those who are handling food, need to have a yearly X-ray examination as well as all new employees (costs are borne by employer in these cases).</p> <p>Marrying couples and parents and their kindergarten children have to cover the cost of the chest X-ray themselves.</p> <p><b>HIV</b></p> <p>Testing for HIV is voluntary with the guarantee of confidentiality. Pregnant women, patients with STIs and TB patients have easy access to HIV testing and counselling.</p> <p>The National Strategy on HIV-AIDS 2004–2007 develops</p>	<p><b>Chlamydia</b></p> <p>Screening for <i>Chlamydia</i> is currently opportunistic.</p> <p>The National Strategy for the Prevention and Control of Sexual Transmitted Infections recommends that symptoms of <i>Chlamydia</i> should be treated, being cheaper than the laboratory test. However, the intention</p>	

<sup>2</sup> Now the treatment is provided to around 70 couples living with HIV who would like to have a healthy child.

## Romania cont.

### Tuberculosis

The national TB control programme was introduced in 2000. Now more focused screening is taking place with well-defined populations, for example, ethnic communities with a high TB incidence, prisoners, institutionalized people, etc. This screening also includes sputum smear bacteriological examination. The National Strategy for TB control is challenging the screening programme described above as an ineffective one, recommending the revision of the screening policy.

Currently an evaluation of the period 2001–2005 is taking place with the support of WHO and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

### HIV

further the initiatives from the previous strategy of 2000–2003 and aims to make HIV testing and counselling available to defined vulnerable populations such as commercial sex workers, prisoners, street children, institutionalized children, travelling communities and so on.

### Chlamydia

is to introduce a screening strategy after conducting a pilot survey on *Chlamydia* screening for women under 25 who have not been pregnant and who are at risk of developing STIs. The results of the pilot should lead to the development of a cost-effective screening strategy.

## Slovakia

### Tuberculosis

Slovakia has a national policy on screening for TB. There is a National TB register established in 1988, to notify all cases.

Target groups are:

- newborn babies
- children at age 6
- immigrants
- prisoners
- older people living in retirement homes.

All costs are laid by the health insurance companies.

### HIV

Slovakia has a national policy on screening for HIV. There is a National HIV register, but there is currently no targeting of at-risk groups.

All costs are paid by the health insurance companies.

### Chlamydia

Slovakia has no national screening policy for *Chlamydia*.

Some pharmaceutical companies have web sites with information and advice lines.

## Slovenia

### Tuberculosis

There is a national policy of screening for TB. Vaccination of infants has now been abolished after a continuing decline in incidence over the past few years. Vaccination will only be done in the cases of contacts or high risk of exposure. Screening will continue for children of school age at entry and at the end of primary education. There is a register, and targeting and recalling patients is possible.

All preventive, diagnostic, treatment and rehabilitation services related to infectious diseases are fully reimbursed by the national health insurance and included in the basic services package.

### HIV

There is a national policy of screening for HIV. HIV is screened for routinely in all pregnant women, in all patients with a newly established diagnosis of syphilis and in all those donating blood and other tissues (both since 1986). It is possible to test for HIV anonymously or openly at several points and there is voluntary inclusion testing for high-risk groups. Furthermore, HIV testing is offered upon informed consent to drug addicts in centres across the country.

### Chlamydia

A national policy of screening for *Chlamydia* is under development at the moment. Several cross-sectional studies were performed for *Chlamydia* in women and guidelines for routine screening are being developed.

Table A2.1 *cont.*

## Turkey

### Tuberculosis

There is a national policy for screening, monitoring and treating TB. The fight against TB is carried out by the TB dispensaries and Fight Against TB associations. The national policy is based on a defined population which includes primary school children (between 7 and 11 years of age), registered sex workers (once a year), and men conducting their compulsory military service (20–41 years). TB screening is also a procedural requirement for all job applications associated with joining any of the existing insurance schemes. TB screenings of primary school children and sex workers are financed from the government budget. Although all other beneficiaries have to pay for the test, the amount paid for this service at tuberculosis dispensaries is symbolic.

### HIV

In Turkey, HIV tests are taken on a voluntary basis, and strict measures of confidentiality are in place regarding the names of the persons tested, with the exception of the following groups, for whom the HIV screening is compulsory: blood donors, registered sex workers (once in three months), illegal immigrants sex workers, men conducting short-term military service, any patients undergoing a blood test at public health units, pregnant women under prenatal care, patients undergoing surgery.

Somewhat controversially, couples applying to get married are also required to take the HIV test; but there are no provisions banning an HIV-positive person from getting married. HIV screenings of blood donors and sex workers are financed from the government budget; all other beneficiaries have to pay for the test themselves.

### Chlamydia

Only registered sex workers are subject to screening for *Chlamydia* (routine checks are twice a week), and it is financed from the government budget.

**Table A2.2 Cervical cancer, breast cancer, colorectal cancer, PKU, Down syndrome and spina bifida**

**Bulgaria**

**Cervical cancer**

A National Strategy for prophylactic oncological screening (2001–2006) was approved in 2000. It was initially funded by foreign NGOs. Foreign investment helped to build up the basis and the intention was that the Bulgarian government would find money to finance the programme itself from 2005.

Given the scarce resources devoted to this strategy, preventive examinations for cervical cancer are recommended only as part of routine gynaecological examinations.

**Breast cancer, colorectal cancer**

Systematic breast cancer screening has not been introduced yet. The examinations and analyses to detect colon and rectal cancer are provided to patients at higher risk (e.g. those with relatives suffering from cancer) and are financed through public health insurance. Patients, however, pay a fee to visit the doctor. There is a project to introduce more co-payments in the future.

There is an Association for Endoscopic Prevention for all the patients with complaints, and their relatives. In sporadic cases genetic screening is carried out. Blood samples are collected and DNA analysis is performed on all patients undergoing surgery for colorectal carcinoma. Using this programme, a national registry for inherited mutations leading to colorectal carcinoma has been created.

Clinicians follow up all the patients. Between 2001 and 2005 a Swiss NGO covered all the necessary expenses (laboratory equipment, salaries and all samples). Since January 2005 the patients pay for visits to the doctor, laboratory samples, etc. The Association is trying to raise funds for the programme.

**PKU, Down syndrome, spina bifida**

There is a National Strategy for prophylaxis of hereditary diseases, diarrheses and congenital malformations (2000–2005). The 2004 budget for this programme was 686 330 leva (€350 974). The existing national neonatal screening programme is among the most efficient and cost-effective of similar programmes existing worldwide. The basic deficiencies of the programme are of an organizational nature and are related to the significant number of babies not examined while still in maternity hospital.

PKU: a national neonatal screening programme for congenital malformations has been in place since 1979. All newborn babies are examined between the second day and fifth day after birth while still in hospital. If the PKU test is positive, the child is registered, receives special food and continuous medical follow-up. Bulgaria has the second lowest incidence rate of PKU (after Finland): 1 in 35 000 neonates. At the same time, the incidence rate of PKU in the Turkish minority is among the highest in Europe: 1 in 7000 neonates (the registered PKU incidence rate in Turkey is 1:2000). The PKU incidence rate among the Bulgarian gypsies is less than 1:100 000, much lower than for the Slovak gypsies, for example, where the incidence is 1:1000.

Down syndrome and spina bifida: a national selective antenatal screening programme is in place. Amniocentesis is not obligatory, but is offered free of charge to all pregnant women over 35, to women who already have a child suffering from congenital malformation, or to those referred by a genealogist (after performing biochemical screening and detecting a higher risk of fetal malformation). For financial reasons only about 5% of all pregnant women in the higher risk group undergo amniocentesis.

Table A2.2 *cont.*

## Cyprus

### Cervical cancer

There is a national policy on screening for cervical and breast cancers based on the population register. There is an increased effort to inform women of all ages of the risks of such diseases and the role of inheritance in these matters. The national policy on screening for cervical cancer covers all women aged 25–65. The programme is offered free of charge and with a right of free choice of doctor.

### Breast cancer, colorectal cancer

A free-of-charge screening programme for breast cancer has begun on a trial basis and covers women aged 50–69. Women are invited to participate in the programme via a personal letter sent by the Ministry of Health. The participation rate is 48% and rising. Testing for colon and rectal cancer is the responsibility of individuals.

### PKU, Down syndrome, spina bifida

Maternal and child health services are offered free of charge to all Cypriots through a network of maternal and child health centres. Among the services offered are diagnostic tests for infants and children up to the age of 6, as well as counselling and consultation services to pregnant women and new mothers. Pregnant women are strongly encouraged to test for these diseases to minimize the possibility that their child will be born with an abnormality. PKU and spina bifida are rare in Cyprus. Down syndrome has decreased dramatically to the point of extinction among neonates, due to early diagnosis and termination of pregnancy.

## Czech Republic

### Cervical cancer

Screening for cervical cancer (cytological and microbiological examination) is provided annually as a part of preventive gynaecological examination for adult women are the target group. Women are called or recalled by their gynaecologists, who are reimbursed by health insurance funds.

### Breast cancer, colorectal cancer

A programme of breast cancer screening (mammography) is recommended for women aged 45–69 at two-year intervals. The expenses are reimbursed to GPs by the health insurance funds. Women from the target group can be called or recalled (depending on their GP or gynaecologist) and they can receive information about this examination from

- their GPs
- leaflets and magazines published by health insurance funds and NGOs
- the media.

All adult women can be examined within the framework of the programme, but if they are not in the target age group or high-risk group (incidence of breast cancer in their close family, diagnosis of genetic mutation BRCA1 and BRCA2 or other specific recommendation), they have to pay for it. The cost of the examination is CZK 200–300 (ultrasound) or CZK 400–600 (mammography).

### Colon and rectal cancer

National Colorectal Cancer screening programme is indicated for asymptomatic individuals from the age of 50 at two-year intervals by FOBT. It has been included as part of a free-of-charge preventive check-up since 2000. The costs are reimbursed to GPs by the health insurance funds.

The Ministry of Health supported the programme with 8 million to modernize the endoscopic equipment for colonoscopy and associated procedures. Individuals in the target group are not called (or recalled) for the examination but have to present themselves. They can obtain information about this test from

- their GPs
- leaflets and magazines published by health insurance funds and NGOs
- the media.

### PKU, Down syndrome, spina bifida

Tests to identify PKU, Down syndrome and spina bifida are available. Testing for spina bifida and Down syndrome is part of basic screening during the prenatal period. The tests are paid for from public health insurance.

## Estonia

### Cervical cancer, breast cancer, colorectal cancer

Screening programmes for cervical and breast cancer are financed and administered by the Estonian Health Insurance Fund (EHIF). Both are targeted programmes, with women in the appropriate age group receiving invitations based on the EHIF national database.

The target age group for breast cancer screening is 45–59, at a screening interval of three years.

### PKU, Down syndrome, spina bifida

All neonates in Estonia are tested for PKU from blood samples taken at the hospital before discharge.

Genetic testing is part of prenatal care for pregnant women over 37, and younger pregnant women where indicated.

Two ultrasounds are part of the management of all pregnancies. All are paid by EHIF.

## Hungary

### Cervical cancer

In the “Public health screenings” subprogramme of the NPHP national policy on screening, breast, cervical and colorectal cancers is described in detail.

Gynaecological cervical screening was launched in 2004 and is based on Papanicolaou cytological testing of all women aged 25–65, which, if negative, is repeated every three years.

Expenses are covered from the NIF budget.

### Breast cancer, colorectal cancer

Mammography screening was introduced in 2000 for women between the ages of 45–65 and is repeated bi-annually. There is a good rate of participation.

Introduction of colorectal cancer screening for men and women aged 45–65 using the faecal occult blood test (FOBT) is now in a pilot phase.

Expenses are covered from the NIF budget.

### PKU, Down syndrome, spina bifida

Newborn screening is mandatory for PKU.

In the twelfth week of pregnancy ultrasound examination for Down syndrome is carried out. Genetic screening for Down syndrome and spina bifida is available.

## Latvia

### Cervical cancer

Screening for cancer is included in the prophylactic programme for adults and covered in the health care budget.

Women aged 20–35: one oncological test per year. If there is a negative result, the test is repeated three years later.

Women aged 35–70s: oncological test annually.

### Breast cancer, colorectal cancer

For breast cancer, women aged 50–69, one mammography every two years.

For colorectal cancer, screening for men and women aged 50 years and above annually.

### PKU, Down syndrome, spina bifida

Identification of PKU is included in the childrens’ prophylactic programme: there is screening (blood tests) of all neonates in the first four to five days of life, paid for from the health care budget.

Down syndrome testing is provided for pregnant women, who are genetically at high risk, twice (up to weeks 11 and 17 of pregnancy).

High-risk groups include: women over 35; fathers over 45; where one or both parents have been affected by radiation; where an acute viral infection has been contracted during the first trimester of pregnancy; and other factors.

Table A2.2 *cont.*

## Lithuania

### Cervical cancer

National cancer prevention policy in Lithuania is based on the National Cancer Prevention Programme for 2003–2010, which was approved by the Lithuanian Government on 10 December 2003.

Since July 2004 the Cervical Cancer Prevention Programme has been financed from the Compulsory Health Insurance Fund. For programme administration, implementation and surveillance, the computerized database "Sveidra" is used. The database contains lists of the population covered by compulsory health insurance and the health care services provided. The programme targets women aged 30–60 and screening for cervical cancer is performed once every three years. During the second half of 2004, 12.7–17.1% of all Lithuanian women aged 30–60 were invited for cervical cancer screening. The cervical cancer screening (Pap test) was performed on 7.2–10.4% of the total target population; 5.1–7.5% of the target population was informed about the test results.

### Breast cancer, colorectal cancer

Implementation of the Breast Cancer Prevention Programme is scheduled to start in the second half of 2005.

The Compulsory Health Insurance Fund will finance screening for breast cancer.

There is currently no screening programme for colorectal cancer financed from the Compulsory Health Insurance Fund.

### PKU, Down syndrome, spina bifida

All neonates are screened for PKU with a blood test at 48 hours, paid for by the Compulsory Health Insurance Fund. Data on diagnosed cases of PKU are sent to the Lithuanian Health Information Centre and are included in the Birth Registry.

Screening for Down syndrome is performed only if the condition is suspected. Prenatal Down syndrome screening ("triple" test) is performed at the Human Genetics Centre and is paid for by those involved. All pregnant women aged 35 and over, also those who previously had babies with congenital abnormalities, and those who wish to be tested are referred to the Human Genetics Centre.

The "triple" test is performed during weeks 14–15 of pregnancy. In the case of abnormal results, the diagnosis should be confirmed by the amniocentesis and examination of the genetic karyotype. According to Lithuanian law, abortion can only be carried out during the first 12 weeks of pregnancy and Down syndrome is not considered as justifying abortion. Ultrasound examination of the neck translucence of the fetus in the 11th week of gestation may indicate Down syndrome but this examination is not performed on a regular basis.

Ultrasound screening during the first semester of the pregnancy is not routine. Routine ultrasound examination is performed during weeks 18–20 and 30–32 of pregnancy. Chorion biopsy is not used for the diagnosis of Down syndrome – this procedure is performed in the Human Genetics Centre during the first semester of pregnancy only for genetic not chromosomal abnormalities. Data on confirmed cases of Down syndrome are passed to the Lithuanian Health Information Centre and are included on the Birth Registry.

Spina bifida can be identified during routine examination but is not considered as an indication for abortion after the 12th week of pregnancy. Data on cases of spina bifida are passed to the Lithuanian Health Information Centre and are included in the Birth Registry.

## Malta

### Cervical cancer

There is no national policy on screening for cervical cancer, breast cancer or colorectal cancer.

In the public sector, screening for cervical cancer is carried out on an opportunistic basis. Smear testing is also available to all women who request it by making an appointment with the gynaecology clinic in the area health centre. The service is very popular as demonstrated by the high demand and is paid for through the public health care system. The problem with this system is that it tends to attract the "worried well". In fact, some local research under way has, as expected, indicated that many women who developed cervical cancer had not had a recent smear test. However the numbers were very small. The fact that 41% of women aged 20 years and over stated that they had never had a smear test in the 2002 national health interview survey is also a cause for concern.

In the private sector, a large number of women (no statistics available) undergo smear testing regularly. General practitioners or gynaecologists provide this service. Some of the better organized clinics have developed their own call and recall system for the patients who use their services and offer the service on a yearly basis. This is

### Breast cancer, colorectal cancer

Breast cancer is the most common cause of cancer mortality in women.

Screening for breast cancer has been a hotly debated topic in recent years. A few years ago, the Ministry of Health set up a committee, the National

Advisory Committee on Breast Screening to report on the feasibility of introducing breast cancer screening in the public health service. At the time the committee had concluded that it was not feasible but it recommended three immediate to medium-term measures which were:

- to improve upon the then current diagnostic and therapeutic services;
- to introduce services for women at higher risk;
- to address the general female population.

It was submitted in March 2000.

Within the public health sector, breast screening, in the form of clinical and mammographic examination, is currently offered to women referred from primary care who are considered as being at a substantially increased risk.

The following categories are included under increased risk: women who have already had unilateral breast cancer or ovarian cancer; women who have had proliferative or atypical hyperplastic breast disease; women who have a first-degree relative with breast cancer at any age; women receiving hormone replacement therapy.

There is no specific policy and there may be some variability among different surgeons. This screening is offered free of charge since it forms part of the national health service.

In the private sector, women seek mammography screening on their own initiative although opportunistic screening is widely practised. Since there is no national policy, some clinics have set up their own call and recall systems with most clinics recalling women on a yearly basis. This is normally paid for out of pocket by the service users.

Colorectal cancer is the second most common cause of cancer-related death in both men and women in Malta. In the public sector, screening for colorectal cancer is offered to first-degree relatives of patients with familial polyposis. In such instances patients are advised to inform their relatives of their increased

### PKU, Down syndrome, spina bifida

Malta does not have a screening programme for PKU. The test is carried out if the condition is suspected clinically after birth.

However, a national report on PKU currently being finalized is very likely to recommend routine screening for all neonates.

Malta does not screen for chromosomal defects including Down syndrome, unless the condition is clinically suspected at birth. It is then confirmed cytologically. Down syndrome is not screened for as this is generally associated with a termination programme and termination of pregnancy is illegal in Malta.

Spina bifida is often diagnosed at routine antenatal ultrasound. However, this condition is sometimes only diagnosed clinically after birth.

Table A2.2 *cont.*

<p><b>Malta</b> <i>cont.</i></p>	<p><b>Cervical cancer</b> Normally paid for by the service users. Even persons covered by a private health insurance may have to pay out of pocket since most schemes available locally exclude preventive care and screening.</p> <p><b>Breast cancer, colorectal cancer</b> risk and to advise them to present for screening. Such screening is offered free of charge since it forms part of the national health service. Information on the private sector is not available but anecdotal evidence suggests that this type of screening has not really been taken up in Malta to the same extent as mammography or smear tests.</p>
<p><b>Poland</b></p>	<p><b>Cervical cancer</b> Information not available</p> <p><b>Breast cancer, colorectal cancer</b> Information not available</p> <p><b>PKU, Down syndrome, spina bifida</b> Information not available</p>
<p><b>Romania</b></p>	<p><b>Cervical cancer</b> Tumours are the second most common cause of death in Romania. Cervical cancer incidence is the third highest in Europe and top in terms of mortality. The National Public Health Strategy recommends a reshaping of the national cancer registry by 2006 and the implementation of a national programme on screening. At the moment, screening is opportunistic and paid for from the health insurance fund and the Ministry of Health's budget through the national programme on reproductive health.</p> <p><b>Breast cancer, colorectal cancer PKU, Down syndrome, spina bifida</b> Breast cancer is responsible for 17% of deaths, as is colorectal cancer.</p> <p>Since 2003 the Ministry of Health has defined within its national health strategy a special programme on "prevention of genetic syndromes". The programme is a component (intervention) of the National Programme for Mother and Child Health that aims to reduce infant and maternal mortality. It has two main objectives: to organize a network of ante- and postnatal diagnosis centres and to prevent genetic syndromes. The system is designed on three levels:</p> <ol style="list-style-type: none"> <li>1. family doctors and other first-level primary care professionals where risk factors and populations at risk can be identified and counselling can be made available;</li> <li>2. district hospitals where ultrasound and genetic tests are performed;</li> <li>3. reproductive health reference centres where full packages of investigations are available.</li> </ol> <p>The project describes detailed protocols for each level as well as the minimum necessary technical equipment and training.</p> <p>The programme started with level 3 – the "reproductive health reference centres" – by achieving the necessary equipment and training. Future steps will focus on cascade training of levels 1 and 2. The whole programme is coordinated by the Institute of Mother and Child Care. PKU screening is performed on over 60% of neonates. The intention is to extend coverage to 100%.</p>

## Slovakia

### Cervical cancer

Slovakia has a national policy on screening.

For cervical cancer, screening is opportunistic and costs are covered by health insurance companies.

### Breast cancer, colorectal cancer

For breast cancer, women aged 40–60 are targeted for periodic mammography, and the costs are covered by health insurance companies.

With regard to colorectal cancer, men and women over the age of 50, those with a family history and patients with existing colon disease are targeted and once again costs are covered by health insurance companies.

### PKU, Down syndrome, spina bifida

Slovakia has an antenatal screening programme and all pregnant women undergo ultrasound examination to identify Down syndrome and spina bifida. All neonates are examined to identify PKU by biochemical methods.

Costs are covered by health insurance.

## Slovenia

### Cervical cancer

There is a national policy on screening for cervical cancer. The project 'ZORA' includes all women between the ages of 25 and 64. They are actively followed up through a central surveillance system, which identifies the frequencies of cervical smears. These are performed every three years (after the first two, taken in the span of six months, have both proved negative). Non-responders can be traced by two systems; one is through the project, which invites them again after six months, or through the primary care gynaecologists who have a duty to perform tests triennially. In both systems, the test is either completely free of charge or involves co-payments. The only exception is a test performed on request by a patient, with no pathology, sooner than three years after the previous one.

### Breast cancer, colorectal cancer

Breast cancer is currently screened for opportunistically, through the network of centres for breast diseases. There is no national policy although the National Cancer Institute is trying to have the standard European guidelines adopted in Slovenia. However, national guidelines have been prepared and are awaiting approval by the national authorities responsible.

The goal is for the entire process of screening to be financed by national health insurance.

Colon cancer is a rapidly increasing problem in Slovenia. This has led to the preparation of national guidelines, which are ready, and an assessment is to be performed this year on their feasibility in practice. After that, funding from national health insurance will be sought to finance this additional screening programme.

### PKU, Down syndrome, spina bifida

PKU is screened for in the first days after birth and it is applied universally – all neonates are screened.

Down syndrome and spina bifida are identified through assessment of risk (based on national recommended guidelines) and through ultrasound testing.

Table A2.2 *cont.*

### Turkey

#### Cervical cancer

In recent years, a national cancer screening policy has been developed, and a decree has been published for the establishment of “cancer screening centres” under the auspices of public hospitals. These centres are entrusted with the task of administering at least one screening programme targeted at risk groups (for breast cancer in women aged 40 and older and for lung cancer in men).

#### Breast cancer, colorectal cancer

Some pilot screening programmes are already running, one of which is being conducted in Izmir. In the framework of this particular pilot, the health care personnel from the screening centres visit districts in the city, and screen women over the age of 40 for breast cancer. This screening includes examination by the physician, ultrasound and mammography whenever necessary. Besides these publicly administered screening projects, some municipalities and NGOs also organize screening programmes on their own, mainly targeted at breast cancer. All these screenings are free of charge.

#### PKU, Down syndrome, spina bifida

Amniocentesis is used to identify genetic birth defects. In Turkey amniocentesis is performed on the basis of a physician’s recommendation and there is currently no national policy.



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This policy brief is intended for policy-makers and those addressing the issue of screening in health care.