consequences of an unplanned development or event.

- *Concurrent assessment:* assesses the impacts in health in parallel with the implementation of the policy or programme. Its main use is where impacts on health are anticipated but where their nature and/or magnitude are uncertain. It allows to monitor the policy or programme implementation and to feedback the results into the system for prompt corrective actions.

Case study (Wales)[17]

Between 2000-2006, Wales will receive substantial support from the Structural Funds of the European Community. The support includes the Objective 1 Programme for West Wales and the Valleys, an area covering 64% of the population of Wales and 15 of its 22 local authorities. The goal of the Objective 1 Programme is economic development. The development of the Programme commenced well before the National Assembly for Wales put in place its plan to develop the use of health impact assessment but the absence of a prospective health impact assessment during the Programme's development did not prevent health from becoming part of it. There were two main reasons for this. First and foremost, the Assembly's overall commitment to developing an integrated approach in its policies and programmes and the political will to reinforce this. Second, and largely resulting from the first, work across policy area by Assembly officials and recognition of the Programme's relevance to health by some external organisations.

A health impact assessment was undertaken in the early stages of Programme implementation, as there was a clear need to raise awareness of its relevance to people's health and wellbeing. The report has stimulated considerable discussion on the relevance of action to improve health as part of local economic regeneration development and has facilitated the inclusion of action to improve health within local plans. Additional guidance - including a simple assessment tool - was published to assist those developing project proposals to take health into account. Feedback also suggests that organisations outside the Objective 1 area have found the health impact assessment report useful for the way it highlights the connections between health and other policy areas, including environment, economic development and social regeneration.

Who can use health impact assessment?

Organisations and groups operating at local, regional, national and international levels can utilise health impact assessment to enhance their policymaking and planning processes. Although there are standard features one would expect to find in a health impact assessment, there is no single 'right' approach. Different methods may be appropriate in different circumstances thus reflecting the flexibility of the approach. The goal is to ensure that the method used is appropriate and 'fit for purpose'. In this way, health impacts and/or potential impacts will not be overlooked while at the same time, planning and decision-making processes are not delayed unnecessarily. In some cases, a health impact assessment may be undertaken as a specific task while in others, it may be done as part of an impact assessment that considers other policy priorities.

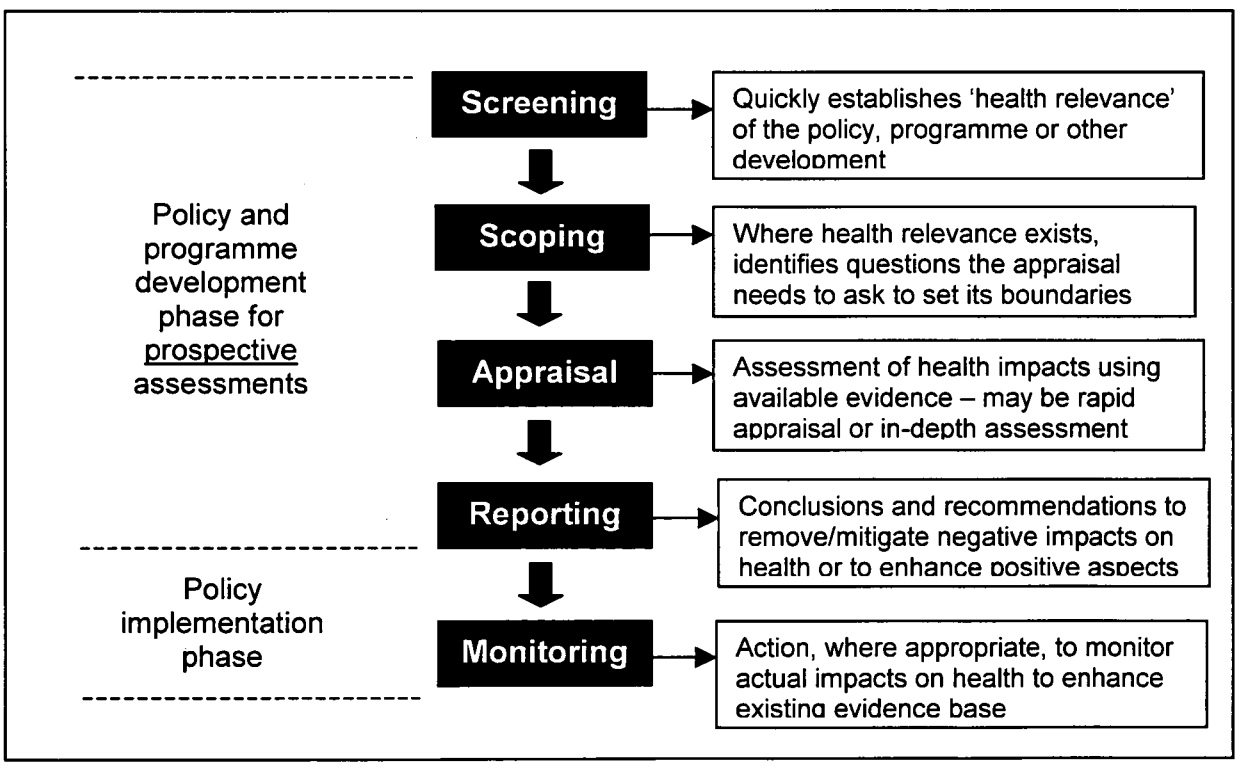
The process of health impact assessment

The processes used in health impact assessment are similar to those used in environmental assessments, as this is where the health impact assessment concept has its roots. Health impact assessment can be thought of as a group of activities to identify the health impacts of new or existing policies and programmes. It is a structured way of bringing together policy appraisal, risk assessment and indications for risk management, evaluation, partnership working, public participation, and evidence-based approaches to inform decision-making.

Health impact assessment is not necessarily a lengthy and time-consuming process. In some cases where initial consideration suggests that there could be considerable effects on health and wellbeing
or where little is known of the effects, there may be the need for detailed analysis. However, in other cases, the use of rapid appraisal techniques where appropriate means that the output from the assessment process may be able to inform the decision-making process within any constraints of the timescale available. The search for accurate, quantified impacts on human health is by no means the only goal of health impact assessment. In some cases, quantification of impacts will not be possible due to the limitations of available scientific evidence. However, there are benefits from considering how people's health could be affected so that health is not overlooked and so that connections can be made between different policies and programmes. Such work can also help to inform future research so that research programmes can be geared to policy priorities and to strengthening the evidence base.

The following diagram illustrates the main stages in the process.

Diagram 1: Overview of main stages in health impact assessment process (prospective assessments), their functions and relationship to policy development and implementation process



In practice, the process following the screening stage may not be sequential but iterative with some steps being repeated as questions and potential health impacts emerge from the various stages. The above stages are also relevant to concurrent and retrospective assessments although undertaken during implementation or following implementation respectively.

Systematic **screening** of policies and programme proposals provides quick preliminary assessment of the relevance to health of the policy or programme. It is the essential first stage of the health impact assessment and can be done with or without the assistance of screening tools and checklists. It enables any significant issues relating to health to be identified and a decision to be made on whether or not there is a need for more detailed assessment to take place.

If there is a felt need for further consideration of the health impacts or potential impacts, the **scoping** stage identifies the questions that need to be addressed in the assessment process.

The **appraisal** stage itself also has in-built flexibility. It can take the form of a **rapid appraisal**, which might be done over the course of a few days, or an **in-depth appraisal**, which may require a period of weeks or months. The appraisal may include quantitative and/or qualitative assessments that cover both risks and hazards to health, and opportunities to help people to improve their health by adjusting elements of the proposals or by integrating new elements within it.

The conclusions of the appraisal and assessment are **reported** to those responsible for the development process. The report, which should not be allowed to delay unnecessarily the decision-making process, should make any recommendations necessary to remove or to mitigate any negative impacts on the health of a population or on specific groups within a population. Similarly, the report should identify ways on which the policy or programme features could be enhanced in order to positively encourage and support people to improve their health and wellbeing.

The health impact assessment process is grounded in the use of available evidence on what affects people's health and wellbeing and how Where appropriate, arrangements should be made to **monitor** the actual impact(s) a policy, programme or other development has on people's health and wellbeing over a pre-determined timescale. This will help to expand the existing evidence base.

Methods

There is a need for a balance between rigorous methods that require specialist skills and high levels of resources and those that can be used more easily and cost-effectively. The balance will be determined by the nature of the policy, programme or other development under consideration. The investment of resources should be appropriate in terms of the health relevance of the policy, programme or other development under consideration. The two approaches are not mutually exclusive and can be combined in a continuum of options for assessment hence the varying time commitments which might be incurred by the relevant stages of the process e.g. screening (minutes), rapid appraisal (days), and in-depth assessment (weeks or months). Ultimately, there will have to be a trade-off between costs and quality to make the health impact assessment a realisable goal.

Role of health experts and authorities

'Health expert' is a generic term used to describe many different professionals. Some health experts may specialise in clinical issues involving the treatment of individual patients. Others may specialise in public health issues that consider the wider implications of policies, plans and programmes on the health of communities and entire populations. Public health experts may be medically trained although the public health speciality is based on a multi-disciplinary approach. Public health and other health professionals can make a valuable contribution to health impact assessment process.

Public health experts, working as part of a multi-disciplinary team, can be found in a variety of organisations. These include local health authorities, local and national institutes of public health, municipal authorities with a responsibility for health and academic institutions. Local health authorities may have a public health role in addition to responsibility for the management of healthcare services and systems. In countries where local health authorities have a strong public health role they are well placed to contribute to the development and use of health impact assessment.

Local circumstances will ultimately determine the most appropriate arrangements for undertaking health impact assessment but, given that the concept puts great weight on the involvement of stakeholders, effective partnership with other organisations and appropriate involvement of the public is essential. Local health authorities often have a statutory function to protect, monitor and improve the public's health, although many of the factors that determine people's health lie outside their direct control. Health impact assessment provides a useful tool to help discharge this function and public health experts may contribute in a number of ways to its use and further development by, for example:

- Advising on and/or guiding others through the process of health impact assessment
- In some cases, leading or undertaking a health impact assessment at the request of local partner organisations as a specific task or as a task that contributes to larger impact assessment
- Providing information for use as part of health impact assessments
- Providing a means of monitoring and assuring the quality of health impact assessments
- Assisting the development of local capacity to enhance the use of health impact assessment and to develop further the concept and tools.

Authorities that have public health expertise as part of a statutory role are major stakeholders in any development that has, or could have, an impact on people's health. Authorities that collect or have access to a range of health data on their local populations and are skilled in interpreting these data can make an additional contribution to the health impact assessment process. Many non-government organisations also have staff with the skills necessary to participate in, and assist with, health impact assessment.

Public participation

Many international agreements make commitments on public participation in environmental and health decision-making process. These have included the Stockholm

Declaration, (1972), the Espoo Convention (1991), the Rio Declaration (1992) and the Aarhus Convention (1998). The Aarhus Convention is not simply limited to purely environmental issues but has a significant relevance for matters of environmental health as well. It can be seen that the provisions of the Aarhus Convention dealing with the issue of public involvement in the decision-making process (Articles 6, 7 and 8) are relevant also to decision-making on both environment and health issues.

It is widely recognised that concern about local environmental issues is often related to their effects on the health of local population. Usually, environmental impacts are translated into health impacts. As public opinion is relevant to policy development and implementation, the public's participation and involvement in environmental and health decision-making can be important. With this in mind, risk perception and the communication of risks and scientific evidence to the public is an important area for exploration and development.

The health impact assessment approach emphasises the participation of those who may be affected by a proposed policy or project. The public's participation and involvement may take different forms depending on the nature of the policy, programme or other development, and whether the development is national, regional or local. It may range from identifying people's health concerns to prioritising health impacts and recommendations. The aim should be to include, where appropriate, the participation of stakeholders from vulnerable groups such as children, the elderly, disabled and minority ethnic groups who are often not actively involved in democratic or decision-making processes. The health concerns of the public and key informants allow a picture of likely positive and negative health impacts to be built up, including areas of speculation and disagreement.

Information from the public needs to be combined with quantitative and qualitative evidence of health impacts from other sources. Sources of information include literature reviews, routine health, environmental and municipal data, community health profiles, and local community opinion surveys. The evidence is used to prioritise the positive and negative health impacts of the proposal. In many completed assessments, the lack of quantitative data for many impacts makes this stage the most difficult. Deciding the importance of each health impact is a balance between objective evidence and subjective opinion and is obviously open to conflicts of interest between different stakeholders' views. However, this is a difficulty that is common to all methods of public participation and decision-making. Health impact assessment aims to clarify this by making these differences explicit at the reporting stage.

4. Environmental impact and health impact

Many factors influencing the natural environment are also determinants of human health. Measures to minimise health impacts may also minimise environmental impacts. Similarly, minimising environmental impacts may also have benefits to health and such opportunities can be exploited more fully with the help of a health impact assessment.

Health has been highlighted within environmental impact assessment in a number of countries worldwide[18]. Article 174 of the Treaty of the European Community includes the protection of human health as one of its aims[19]. This is taken further by Article 152 of The Amsterdam Treaty of the European Community[20], which states that public health should be a consideration in non-health sector policies. The WHO Health for All policy stresses the need to generate more widespread action and accountability for health and awareness of mutual objectives in protecting health across all sectors, setting multisectoral responsibility for health as a specific target to be achieved by member States[15]. Health impact assessment is a tool that can help to do this. For countries in transition, health impact assessment can contribute to the sustainability of development policies so that costs are not transferred to the health care sector and human capital is not undermined..

Health impacts and environmental assessment

Health impact assessment, environmental impact assessment (EIA) and strategic environmental assessment (SEA) have much in common. Whereas EIA tends to focus on specific projects or developments and SEA tends to focus on plans, policies and programmes, the health impact assessment concept covers both. Health impact assessment has developed as a systematic means of ensuring that people's health and wellbeing and the factors that affect it are taken into account at all levels.

Strategic environmental assessment provides an important opportunity to protect and to improve people's health within a clearly defined context, and to build in the principles of health impact assessment as an integrated part of it. Health is a key part of sustainable development. There has been increased public awareness of environmental effects on health debated at international, national, and local levels since the 1992 Rio earth summit. Many factors influencing the natural environment are also determinants of human health. For example, many factors contributing to climate change such as air pollution and deforestation, directly and indirectly influence health. Scientific consensus suggests that climate change itself directly harms human health. Similarly, measures to minimise climate change for environmental reasons will often improve health. Section 3 explores the links between environment and health impacts.

To date health has not always been made explicit in most EIAs and SEAs. Although health protection is always underlined to be of prime concern in any EIA, in practice, little has been achieved in integrating health criteria and relevant health expertise in EIA practice. The ownership of the EIA process by agencies that are not related to the health sector has been shown to be an obstacle to the effective integration of health concerns[21]. It might also be fair to say that increased knowledge of planning processes by some health professionals is also needed. Although the scope of EIA practice continues to broaden, most environmental assessments have still overlooked or neglected the wide range of possible effects on human health and also, new opportunities to reinforce action to improve people's health and wellbeing as part of a multi-sectoral approach. In some countries, highlighting the human health effects of proposals can influence the public and

decision-makers more than the environmental effects, although both are important for sustainability.

Traditionally, environmental assessments have made little reference to human health perhaps because the scope of health concerns was unclear or because awareness of the relationships between policy areas and health has been relatively low. Health in environmental assessment includes, but should not be limited to, the biophysical environment. For example, the 'health' aspects of an EIA often focus solely on toxicological levels of specific air and water pollutants. In contrast, a health impact assessment focuses on the exposure of communities affected to a wide range of factors that affect people's health. It can include a comparative process, comparing positive and negative health impacts of developments on whole populations and/or the differential effect(s) on specific groups of people within the population. Groups may be based on geographical factors e.g. where they live, or their sharing of certain characteristics e.g. language, circumstances or unemployment. This is important as factors such as poverty, education, occupation etc. determine vulnerability to the potential impact(s) of policies, plans and programmes and is at the root of inequalities in health that exist across Europe.

Case Studies:

1. Development of an International Airport (England)[22]
One of the first published health impact assessments in Europe was undertaken as a submission to a public inquiry on the proposed development of a second runway at Manchester airport, United Kingdom. It was carried out by local public health doctors and involved a range of professionals. It used a prospective method based on environmental impact assessment and rapid appraisal techniques. The study was limited by a lack of quantitative data but still proved to be a powerful lobbying tool. It resulted in the implementation of changes to the planning proposals, including the increased provision of public transport and noise reduction schemes

2. Assessment of a transport strategy (Scotland) [25]
Health impact assessment can also highlight instances where environmental policies bring about health improvements, or help focus on the environmental policy option which will facilitate maximum health gain. Proposals for the City of Edinburgh's transport strategy underwent a health impact assessment by the local public health organisation and the municipal council. It suggested that one option being considered would bring about health gain by reducing road traffic accidents, increasing physical activity (and thus reducing diseases such as coronary heart disease and stroke), decreasing social inequalities in health, promoting community networks, and reducing air pollution. This option aimed to facilitate walking and cycling, develop public transport, and integrate transport policy with land use policy. The assessment influenced decision-making on the city's transport strategy. The result was a strategy that had positive benefits for the environment and population health.

The scope of the health component of EIA or SEA is best informed by any health concerns of the public and by advice from key stakeholders including health and public health experts.

Similarities in HIA and strategic environmental assessment

As highlighted earlier, there are many similarities between the health impact assessment and environmental assessment approaches. This means that there is ample scope for the principles of health impact assessment to be integrated into SEA as part of the basic elements of good SEA practice; for example, by:

- informing the screening to trigger a SEA;
- helping to scope in order to identify key issues and alternatives, clarify objectives and to develop terms of reference for SEA;
- providing information to elaborate and compare alternatives including no action options to clarify implications and trade-offs;
- reinforcing the need to involve the public early – for instance at the scoping stage – and with sufficient access to information so that they can make constructive contribution;
- covering the health dimension of an impact analysis or policy appraisal to examine effects or issues, evaluate alternatives, and identify mitigation and follow-up measures;
- contributing to documenting the findings of the SEA, if necessary with supporting advice and recommendations to decision makers on terms and conditions for implementation;
- being a means of checking the quality of the SEA report to ensure it is clear and concise and the information is sufficient and relevant to the decision being taken;
- helping to establish necessary follow-up measures e.g. for monitoring effects, checking implementation and tracking any arrangements for any subsidiary level assessment, such as connected project level assessment.

The above, taken alongside the overview of the health impact assessment process (Diagram 1 on page 9), clearly demonstrate the similarities in process and, as a result, the ease with which action to consider impacts in health and wellbeing can become an integrated part of SEA.

The draft Directive on Strategic Environmental Assessment, which was recently approved by the Conciliation Committee of the European Parliament and of the Council, is explicit in its requirement for environmental reports to be prepared under the scope of this Directive. Reports must include 'risks to human health' as part of the description of the characteristics and effects, and of the area likely to be affected by the plans or programmes being assessed[23].

5. Key issues in integrating health impact assessment within SEA

Previous sections have provided an overview of health impact assessment and its links with environmental impact assessment (EIA) and strategic environmental impact assessment (SEA). This section provides the basis for further discussion on how the health impact assessment approach can be used to integrate health considerations within SEA. Such action will help to realise the benefits that arise from integrated approaches to policy development and implementation processes, and to wider objectives that span policy areas e.g. sustainable development.

The following have been identified as issues that will be encountered, and/or will need to be addressed, both during the negotiation of the protocol for SEA and subsequently during the implementation of SEA procedures.

Generating common understanding

For a number of reasons, individuals and organisations in different sectors often have a different understanding or interpretation of commonly used words e.g. 'health'. Achieving a common understanding is a prerequisite for integrating the health impact concept within SEA. This will require a 'meeting of minds' but it can be achieved. Different sectors often share the same, or similar, goals even if they utilise different policy instruments to work towards them e.g. sustainable development. In some cases, the policy direction and goals are the same; it is only the language and/or terminology used that differs. In others, there is scope for further development towards a more integrated approach in which policies and programmes add value to one another. The health dimension of sustainable development is not as explicit as it perhaps could be or, where it is recognised, tends to focus on the biophysical environmental determinants of health as opposed to the wider socio-economic factors that affect health.

The breadth of knowledge of policy and decision-makers – of policy areas other than their own - is an essential part of a multi-sector approach. Action to raise policy makers' awareness and understanding of the interrelationships between different policy areas is needed. This needs to happen at national and international levels. Action to generate further understanding between the environment and health sectors is particularly important but the principle applies to all sectors. This will provide a solid base for increased commitment to integrated policies and programmes and for the screening stage of health impact assessment to be done quickly and adequately.

Increasing awareness of health impact assessment and what it can do

In the same way that different interpretations are placed on the word 'health', a similar situation exists for the term 'health impact assessment'. The key to health impact assessment is not its title but what it can do. For example, 'health' is often interpreted in different ways, sometimes rather narrowly and limited to disease and healthcare services. The term 'assessment' can also mean different things to different people.

The most important aspect of the health impact assessment approach is what it can contribute to improving policies and plans by way of better informed and transparent decision-making, and greater integration of policies and action across all sectors. Action to raise awareness of health impact assessment and how it can be utilised as an effective policy tool is important, and needs to be taken forward both within countries and between countries.

Managing expectations

The heath impact assessment approach is still evolving. Expectations of health impact assessment can sometimes, because of the different interpretations placed on the term, exceed what it is capable of delivering. Health impact assessments do not necessarily produce highly quantified, highly accurate forecasts of the effects on a policy or development on people's health. Some quantification of impacts is possible, particularly in the transport and environment fields, but health impact assessment is based on the existing evidence base and the application of current knowledge. Raising awareness of health impact assessment, its limitations but also its potential, will help to ensure that expectations are managed and are realistic. This does not take anything away from the benefits of using health impact assessment that are emerging from countries across Europe.

Learning from experience

Health impact assessment needs to be developed further. This is best done through its application as part of the policy and programme development process. Countries are at various stages of development in respect of use of health impact assessment. There are a growing number of reports of health impact assessments that have been undertaken and these demonstrate how the concept can be operationalised in different circumstances. Some reports include reflections on what has been learnt during the process and this practice is to be encouraged as the basis for sharing learning from experience at national and international levels[24 25 26]

National and regional governments and health organisations or institutes have an important role to play in developing further the concept and its use, including support for its use at the local level. While health impact assessment is often the responsibility of a Ministry of Health, the range of social, economic and environmental factors that affect people's health means that health impact assessment is relevant across policy areas and to other Government departments at local, regional and national levels.

Capacity building and involvement

Health experts with the necessary skills for health impact assessment are currently available in many organisations across Europe although many will not have used their skills as yet for the purposes of health impact assessment. Nevertheless, certain organisations and institutions and their staff are experienced, especially in those academic departments where health impact assessment methods have been a specific focus of development. These sources of advice and guidance provide an important foundation on which to develop local and national capacity within countries.

There is a need to develop further the local and national capacity for health impact assessment so that it can facilitate the efficient implementation of the SEA Protocol. Action

needs to capitalise on existing skills but will require training opportunities, facilitation and sharing experiences as the basis for multi-disciplinary, multi-sector collaboration. Existing centres of expertise and networks within countries can support this process and Governments may need to consider how best to ensure that health experts and others can contribute to the further development of health impact assessment as a policy tool. The process needs to be ongoing as methods and the concept continues to develop. Capacity building activities at local, national and international levels can also help to build health alliances and partnerships between practitioners and organisations in different sectors. Increased capacity together with efforts to engage with, and to involve, public health professionals through multi-disciplinary working will be essential if health impact assessment and SEA are to be integrated successfully.

Increasing the evidence base

The results of health impact assessments and monitoring actual impacts of developments on people's health and wellbeing - and the sharing of these results - are important for two reasons. First, to expand our understanding of the interrelationships between determinants of health and the actual impacts on health of different policy areas. Second, to make the health impact assessment process progressively easier by expanding the evidence base available to those who need to undertake rapid appraisals or in-depth assessments.

Principles for assessing health impacts as part of SEA

This report was prepared following a WHO Meeting (Budapest, Hungary, 25 November 2000), which was convened for the development of a position paper on health impact assessment. Over and above the key issues set out in this concluding section, a number of principles need to be considered in relation to integrating health impact assessment within SEA. The following are offered as suggestions.

A strategic environmental assessment (SEA) should:

- include, routinely, an initial screening to determine the broad relevance to people's health of the policies, plans or programme under consideration;
- take into account any health concerns expressed by relevant health authorities and of the public;
- consider the range of health determinants, and how they are likely to be modified, in positive and/or negative ways, as a result of the policies, plans or programmes that were subject to the SEA;
- consider the positive as well as the negative effects of proposed policies and programmes;
- consider how the expected health effects might be distributed across different groups within the population who are affected;
- contain recommendations with respect to actions that could be undertaken to enhance the potential positive health effects identified and to mitigate or remove the negative ones;
- seek to involve the public through consultation and participation;
- give due account to issues raised by the public and/or organisations representing members of the public who may be affected;
- consider the need for cost-effective monitoring of any anticipated impact(s) on people's health.

In line with the principles of SEA, the results of health impact assessments should be disseminated and made accessible to the public.

The authority responsible of initiating the SEA could usefully seek to assure the quality of the health assessment component of the SEA and ensure that the relevant health authorities and expertise are actively involved in undertaking any health impact assessment considered necessary.

In order to strengthen the development and utilisation of health impact assessment, special consideration should be given to:

- ensuring greater awareness and acceptance of the WHO's definition of health, the wider social, economic and environmental determinants of health, and the interrelationships between them;
- increasing capacity in carrying out health impact assessment as part of SEA, by training, and by disseminating and exchanging information and experience;
- encountering issues – barriers and opportunities – in the development of health impact assessment within government policymaking ;
- addressing research needs, as per article 9 of Espoo Convention.

Appendix: 1

Workshop

"Health Impact Assessment as part of Strategic Environment Assessments" 25 November 2000, Budapest – Hungary

List of participants

BELGIUM

Mr André François
Federal Ministry of Social Welfare
Public Health & the Environment
CAE - Quartier Vésale (V707)
Boulevard Pachéco 19 BT5
B-1010 Brussels
Belgium

Tel. No.: +32 2 210 46 75
Fax No.: +32 2 210 48 52
E-mail: francois.andre@health.Fgov.be

BOSNIA AND HERZEGOVINA

Dr Slavenko Šehović
Federal Inspector for Poisonous Substances
Ministry of Health
Federation of Bosnia and Herzegovina
Titova 9
71000 Sarajevo
Bosnia and Herzegovina

Tel. No.: +387 33 664246
Fax No.: +387 33 664 245
E-mail:

CZECH REPUBLIC

Dr Jaroslav Volf
Regional Institute of Hygiene
Partyzánské nám. 7
728 92 Ostrava
Czech Republic

Tel. No.: +420 69 6138121
Fax No.: +420 69 6118661
E-mail: posta@khsova.cz

HUNGARY

Dr Andrea Radnai
National Environment and Health Institute
Gyali u. 2-6
Budapest 1093
Hungary

Tel. No.: +36 1 215 2146
Fax No.: +36 1 215 2046
E-mail: radnai.a@oep.hu

LITHUANIA

Ms Asta Razmiene
Division of Public Health Safety
Vilnius Public Health Centre
Vilnius str. 16
Lithuania

Tel. No.: +370 2 61 5951
Fax No.: +370 2 61 2707
E-mail: i.taraskeviciene@vilniausvsc.lt

LATVIA

Ms Ieva Balode
National Environmental Health Centre
Klijanu 7
Riga LV - 1012
Latvia

Tel. No.: +371 7 339157
Fax No.: +371 7 375940
E-mail: ibalode@yahoo.com

REPUBLIC OF MOLDOVA

Professor Nicolae Opopol
Scientific Director
National Center of Preventive Medicine
Gh.Asachi str., 67 "A"
Chisinau, 2028
Republic of Moldova

Tel. No.: +373 2 73 58 22 or 72 96 47
Fax No.: +373 2 72 97 25
E-mail: nopopol@mednet.md

ROMANIA

Dr Alexandra Cucu
NEHAP Coordinator
Institute of Public Health
Str. Dr. Leonte, 1-3
Bucharest
Romania

Tel. No.: +40 1 638 40 10 (ext. 214)
Fax No.: +40 1 312 34 26
E-mail: alexcucu@ispb.ro

TEMPORARY ADVISERS

Dr Martin Birley
International Centre for Health Impact Assessment
Liverpool School of Tropical Medicine
University of Liverpool
Pembroke Place
Liverpool L3 5QA
United Kingdom

Tel. No.: +44 151 708 9393
Fax No.: +44 151 708 8733
E-mail: M.Birley@liverpool.ac.uk

Mr C.H. Breeze
Public Health Strategy Division
The National Assembly for Wales
Cathays Park
CARDIFF CF10 3NQ
Wales, UK

Tel. No.: +44 29 2082 3214
Fax No.: +44 29 2082 5072
E-mail: Ceri.Breeze@wales.gsi.gov.uk

Dr Rainer Fehr
Landesinstitut für den Offentlichen Gesundheitsdienst
NRW Abt. 4
Umweltmedizin/Umwelthygiene
Postfach 20 10 12
D-33548 Bielefeld
Germany

Tel. No.: +49 521 8007 253
Fax No.: +49 521 8007299
E-mail: rfehr@hrz.uni-bielefeld.de

Dr Dyfed W. Huws
Directorate of Public Health and Policy
Health AuthorityTemple of Peace and Health Cathays Park
Cardiff
CF10 3NW Wales
United Kingdom

Tel. No.: +44 29 2040 2479
Fax No.: +44 29 2040 2504
E-mail:dyfed.hughes@bro-taf-ha.wales.nhul

Dr Michael Joffe
Department of Epidemiology and Public Health
Imperial College School of Medicine
St. Mary's Campus Norfolk Place
W2 1PG London
United Kingdom

Tel. No.: +44 207 5943338
Fax No.: +44 207 4022150
E-mail: m.joffe@ic.ac.uk

Dr Karen Lock
London School of Hygiene and Tropical Medicine
50 Bedford Square
London WC1B 3DP
United Kingdom

Tel. No.: +44 20 7299 4738
Fax No.: +44 20 7299 4741
E-mail: karen.lock@lshtm.ac.uk

Dr Marie Navarro
Directorate of Public Health and Policy
Health AuthorityTemple of Peace and Health Cathays Park
Cardiff
CF10 3NW Wales
United Kingdom

Tel. No.: +44 29 2040 2479
Fax No.: +44 29 2040 2504
E-mail: NavarroM1@Cardiff.ac.uk

Ms Kia Regner
International Federation of Environmental Health
Tallholmsv. 5
18594 Vaxholm
Sweden

Tel. No.: +46 8 5413 7736
Fax No.: +46 8 5413 7736
E-mail: kia@telia.com

Dr Nesad Seremet
The Regional Environmental Center for Central
and Eastern Europe
Valtera Perica 16/II
71 000 Sarajevo
Bosnia and Herzegovina

Tel. No.: +387 71 207 196
Fax No.: +387 71 207 196
E-mail: nseremet@utic.net.ba

Dr Gerard Varela Put
NSPH Netherlands School of Public Health
Ondersteuningsfunctie Facetbeleid
Admiraal Helfrichlaan 1 Postbus 8080
3503 RB Utrecht
The Netherlands

Tel. No.: +31 30-2913232
Fax No.: +31 30-2913242
E-mail: g.varelaput@nsph.nl

World Health Organization

Dr Carlos Dora
Regional Adviser, Environmental Epidemiology
World Health Organization
ECEH, Rome Office
Via Francesco Crispi, 10
I-00187 Rome
Italy

Tel. No.: +39 06 4877541
Fax No.: +39 06 4877599
E-mail: cdo@who.it

Ms Katarina Duich Moyon
Short-term professional, National Health Policy
World Health Organization
Regional Office for Europe
Scherfigsvej 8
DK-2100 Copenhagen Ø
Copenhagen
Denmark

Tel. No.: +45 39171375
Fax No.: +45 39 17 1818
E-mail: kdu@who.dk

Dr Dinko Kello
Regional Advisor
National Environmental Health Action Plans
World Health Organization
Regional Office for Europe

Tel. No.: +45 39171251
Fax No.: +45 39171878
E-mail: dke@who.dk

Mr Bjorn Larsen
Consultant
World Health Organization
Regional Office for Europe

Tel. No.: +45 39 17 1599
Fax No.: +45 39 17 1818
E-mail: bla@who.dk

Ms Francesca Racioppi
World Health Organization
ECEH, Rome Office

Tel. No.: +39 06 4877545
Fax No.: +39 06 4877599
E-mail: frr@who.it

Ms Maria Teresa Marchetti
World Health Organization
ECEH, Rome Office

Tel. No.: +39 06 4877539
Fax No.: +39 06 4877599
E-mail: mma@who.it

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Draft Guidance on Health in Strategic Environmental Assessment

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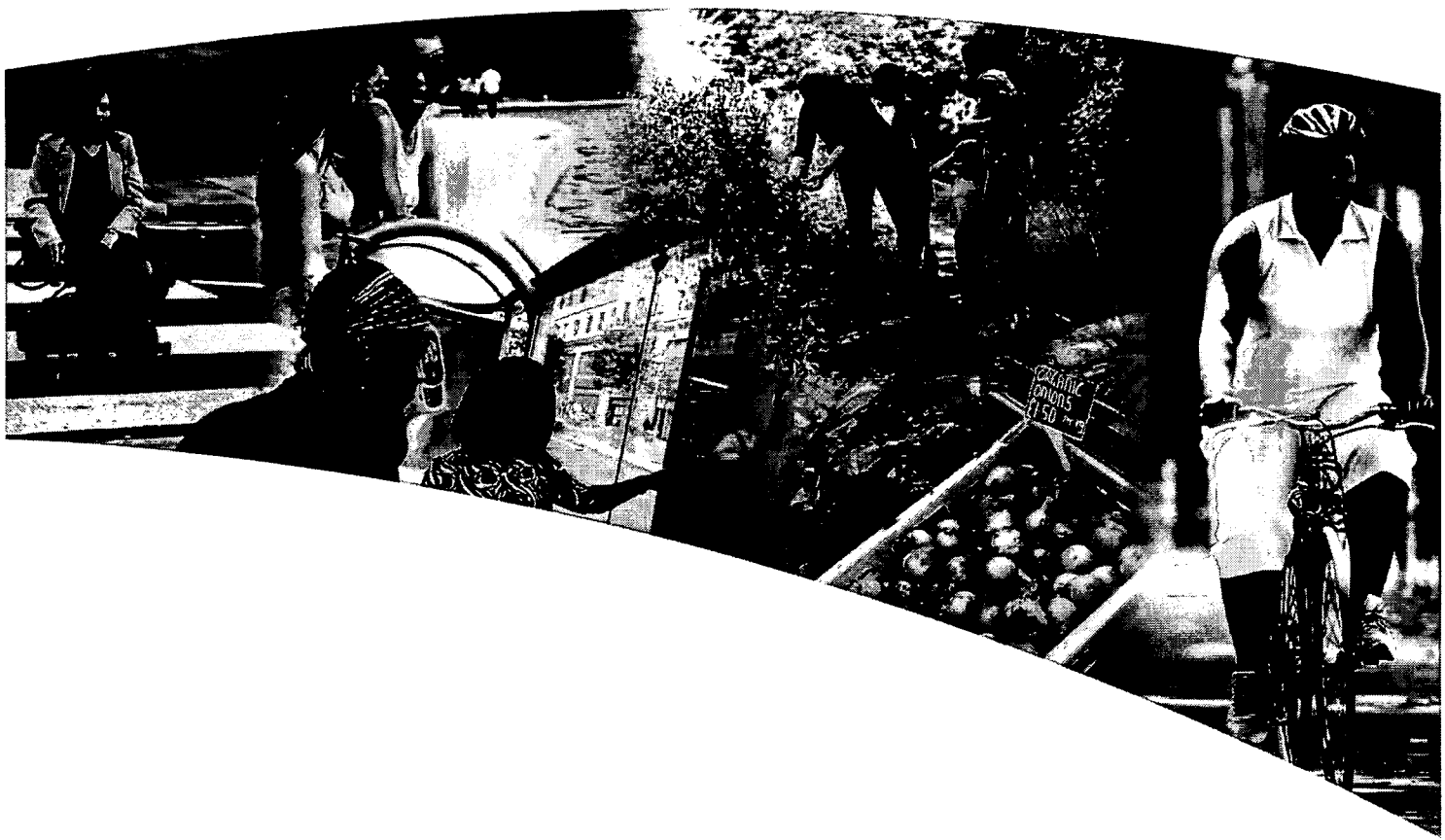

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Editors:

Colleen Williams, Department of Health

Paul Fisher, Chemical Hazards and Poisons Division, Health Protection Agency