

# Chapter 4: Stages in the SEA process

## Key point box 8: SEA stages and health sector input

It is recommended that the Director of Public Health (DPH) should be the first point of contact for Responsible Authorities (RAs) seeking information on potential effects on the population's health and on the involvement of the health sector in the Strategic Environmental Assessment (SEA) process.

This section sets out the stages of the SEA process, the role that the DPH can play and how RAs can ensure health effects are considered throughout the SEA process.

## 4.1 Overview

There are five key stages in the SEA process, as outlined in the SEA Practical Guide. To ensure adequate consideration of the population's health throughout the assessment process, the RA will want to ensure that there is health-sector input at key stages. It is most important to obtain advice at the beginning of the process as to whether there are health impacts and, if so, what input would be appropriate for the SEA (ie 'scoping in' significant health effects and 'scoping out' minor health effects). Table 4 outlines the key areas where health-sector input will be valuable to the process, and the following sections provide more information on the steps involved at each stage.

**Table 4: A summary of the stages of SEA and relevant health-sector input**

| SEA stage   | SEA tasks  | Potential health-sector input   |
|---|--|---|
| <b>Stage A:</b><br>Setting the context and objectives, establishing the baseline, deciding on scope | <b>A1:</b> identifying relevant plans, programmes and environmental protection objectives<br><b>A2:</b> Collecting baseline data<br><b>A3:</b> Identifying environmental problems<br><b>A4:</b> Developing SEA objectives, indicators and targets<br><b>A5:</b> Consulting on the scope of SEA | <ul style="list-style-type: none"> <li>• Cover key health issues from existing documents</li> <li>• Include relevant health data in the baseline, including a review of health evidence</li> <li>• Involve health organisations in objective setting</li> <li>• Consult Regional DPHs and primary care trust (PCT) DPHs for their opinion on the scope</li> <li>• Identify vulnerable groups</li> </ul> |

|   |  |   |
|---|--|---|
| <b>Stage B:</b><br>Alternatives and assessment                        | <p><b>B1:</b> Testing the plan or programme objectives against the SEA objectives</p> <p><b>B2:</b> Developing strategic alternatives</p> <p><b>B3:</b> Predicting the effects of the draft plan or programme, including alternatives</p> <p><b>B4:</b> Evaluating the effects of the draft plan or programme, including alternatives</p> <p><b>B5:</b> Considering ways of mitigating adverse effects</p> <p><b>B6:</b> Proposing measures to monitor the environmental effects of plan or programme implementation</p> | <ul style="list-style-type: none"> <li>• Include health organisations in assessing plans against objectives and developing alternatives as appropriate</li> <li>• Consider potential health effects</li> <li>• Suggest relevant measures to mitigate negative effects and maximise opportunities for health gain</li> <li>• Include health data for monitoring effects</li> </ul> |
| <b>Stage C:</b><br>Preparing the Environmental Report                 | Preparing the Environmental Report   | n/a   |
| <b>Stage D:</b><br>Consultation and decision-making                   | <p>RAs will:</p> <ul style="list-style-type: none"> <li>• Consult on the draft plan or programme and Environmental Report</li> <li>• Assess significant changes</li> </ul>   | <ul style="list-style-type: none"> <li>• Provide information for decision making</li> <li>• Contribute to consultation and provide contacts from patient and public involvement groups</li> <li>• Input to revisions as appropriate</li> </ul>  |
| <b>Stage E:</b><br>Monitoring implementation of the plan or programme | Developing aims and methods for monitoring   | <ul style="list-style-type: none"> <li>• Input to monitoring of health impacts of plan/programme implementation</li> </ul>  |

An example of the SEA process for a local plan and time taken for each stage is outlined in Example box 3 and management of the process in Case study box 3.

| <b>Example box 3: West Midlands Local Transport Plan (LTP) timeline</b> |               |
|---|---------------|
| SEA scoping report  | December 2004 |
| Provisional LTP   | July 2005     |
| Environmental Report and non-technical summary                          | October 2005  |
| Technical appendices  | October 2005  |
| Final LTP   | March 2006    |
| SEA statement   | July 2006     |

### **Case study box 3: Cardiff City Council local development framework (LDF)**

Cardiff Council's Sustainable Development Unit is the focal point for integrating sustainability in the Council's activities and has responsibility for implementing SEA. This has been achieved by raising the awareness of officers about SEA, ensuring lines of communication are kept open both internally and externally, disseminating best practice and maintaining an up-to-date knowledge of environmental assessment for example. In considering health in the SEA of the Local Development Plan a meeting was held to identify the key issues (such as obesity and access to health care). Further meetings were then held to refine and finalise the baseline evidence before and during consultation.

## **4.2 Stage A: Setting the context and objectives, establishing the baseline and deciding on scope**

The scoping stage of SEA is crucial for setting out the scope of issues to be covered in and the level of detail of the Environmental Report (ER). This will determine both the time input and data sources that the health sector will need to consider as well as provide information about the timescale and processes that will need to be gone through to comply with the SEA Directive. An example is in the following case study.

### **Case study box 4: West Midlands Regional Spatial Strategy**

To ensure representation of relevant stakeholders in this strategy, a reference group has been set up to ensure the process is "open, inclusive and transparent". This group contains, inter alia, the following groups/partnerships: housing, transport, health, social inclusion, sustainability and rural-urban.

## **Stage A1: Identifying other relevant plans, programmes and environmental protection objectives**

At the scoping stage, information must be provided on the plan or programme's relationship with other relevant plans and programmes; the relevant environmental protection objectives, and policies and legal requirements should also be considered.

The review is used to determine how the policy, plan or programme may take on board the objectives, requirements or targets of other relevant plans and programmes. It also encourages a more holistic approach to identify where measures may be needed in the plan in relation to existing plans and programmes.

The SEA Practical Guide describes relevant plans and programmes as:

- land use or spatial plans for areas affected by the plan or programme, eg LDFs and component documents;
- plans dealing with aspects of the physical environment, eg River Basin Management Plans; and
- plans or programmes for specific sectors or types of activity, eg regional economic strategies, local transport plans.

Case study box 5 shows how health and equalities can be covered at the scoping stage.

**Case study box 5: Town centre area action plan – health and equalities scoping for sustainable communities**

- high standards of accessibility in the retail, leisure and cultural core of the town centre, particularly for mobility- and sight-impaired;
- public transport links capable of meeting accessibility needs of all;
- sufficient provision for disabled parking;
- improved accessibility for pedestrians, wheelchair-users and sight-impaired people throughout the town centre;
- safe and secure routes and public spaces for vulnerable groups – women, children, elderly, people of all ethnic or religious backgrounds; and
- facilities for specific cultural or faith community needs.

The next step may then include assessing these plans and programmes for relevance to the subject plan and SEA, as outlined in the Example box 4.

Relevant health-related plans and programmes for consideration are illustrated in Key point box 9 and Example box 4.

**Key point box 9: Relevant health-related plans and programmes**

|                |   |
|----------------|---|
| International: | EU Health Strategy (to be developed)<br>Environment and Health Action Plan and relevant Directives<br>World Health Organization (WHO) Regional Health Plans |
| National:      | Choosing Health<br>Our health, our care, our say<br>Obesity Strategy<br>Strong and prosperous communities,  |
| Regional:      | Regional Health Strategy if available, and other regional strategies covering the wider determinants of health  |
| Local:         | Annual public health report   |

See Example box 4 on the obesity strategy, which identifies key objectives that could become a relevant plan or programme.

#### **Example box 4: Obesity strategy**

**Description:** Operating in a strategic context to address wider, long-term obesity issues, alongside the Foresight Obesity Project, the Public Service Agreement (PSA) target on childhood obesity (see section 3.2) will be delivered using a tiered approach, ranging from general preventative population-based interventions to holistic targeted interventions aimed at secondary prevention and treatment.

**Objectives, requirements and targets:** The obesity strategy aims to:

- support national initiatives that will have an impact on obesity through creating a positive environment to change eating behaviour and physical activity patterns;
- adapt universal programmes to focus on early interventions that will target children and families at risk of becoming overweight or obese; and
- support for holistic local targeted initiatives aimed at secondary prevention and treatment of overweight and obese children, together with their families.

The target is “to halt, by 2010, the year-on-year increase in obesity among children under 11 in the context of a broader strategy to tackle obesity in the population as a whole”.

**Implications for subject plan and SEA:** Consider the opportunities for promoting active lifestyles and healthy eating by taking into account:

- National Institute for Health and Clinical Excellence (NICE) guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children, published in December 2006, available at:  
[www.nice.org.uk/guidance/CG43/?c=296726](http://www.nice.org.uk/guidance/CG43/?c=296726)
- Food Standards Agency and National Consumer Council food access mapping toolkit, available at:  
[www.foodvision.gov.uk/pages/food-mapping](http://www.foodvision.gov.uk/pages/food-mapping)
- Other cross-government obesity prevention toolkits.

#### **Stage A2: Collecting baseline data**

The amount of detail on the population’s health will depend on the level (national, regional or local) and the scope of the plan or programme. It is best if information is focused on key local health-related issues and those that are most significant.

RAs will be able to access standard sources of information as outlined in Resource box 6. It will need to be tailored according to the focus of the plan or programme. The baseline data may need to use proxy information, especially for health determinants.

Requests for health information should relate to existing data collections only as any new data collection that applies to all the NHS will need to be approved at national level through the Review of Central Returns (ROCR) at the Information Centre for health and social care.

An SEA will need to consider the evidence base that underpins the assessment in relation to the population's health. Evidence includes: published evidence (eg peer-reviewed articles and "grey" literature); local data such as community profiles and census data; and stakeholder experience from write-up of workshops, surveys and consultation reports. The extent of evidence available on environment and health is very variable. Topics traditionally used in Environmental Impact Assessment such as air quality and noise have a substantial body of evidence, although health effects may be limited to meeting certain standards, whereas social impacts such as community cohesion have a less robust evidence base. Examples of evidence for SEA topics can be found in Annex D.

Evidence can be both quantitative (eg assessing the amount) and qualitative (eg assessing stakeholders' views). In considering the population's health, it is necessary to evaluate both approaches. It is important to consider the direct and indirect health effects and their interrelationships with other topics covered by SEA such as air, water and climate change.

Evidence-based estimates are not definite facts and so RAs may look to DPHs or public health professionals to help interpret such data. It is not recommended that RAs interpret raw health data without some form of specialist public health advice. Causality is often not clearly linked to a certain health determinant and the level of uncertainty should be understood and made plain. It might be more helpful for RAs to focus on outcomes.

Evidence is available through the websites listed in Resource box 7 in Annex B, documents referred to in the Bibliography section and websites listed in the *Guide to Reviewing Published Evidence for use in Health Impact Assessment*, available at: [www.lho.org.uk/Download/Public/10846/1/Reviewing%20Evidence-Final%20v6.4\\_230806.pdf](http://www.lho.org.uk/Download/Public/10846/1/Reviewing%20Evidence-Final%20v6.4_230806.pdf)

The key to getting the best evidence is to ensure the right questions are asked. The proposed plan or programme should be examined to formulate the correct questions. Decisions at the scoping stage will help focus the approach. If there is limited information available, this needs to be acknowledged. DPHs can advise on the best sources of information for the relevant plan or programme in response to specific questions from the RA.

At this stage, an option might be for RAs to review the evidence base to see if a significant gap has been identified. If there is, this will need to be acknowledged and consideration given as to how this could be filled as part of the RA's assessment process.

There are an increasing number of reviews of evidence on the environment and health which should prevent the need for new reviews. An example is the Milton Keynes review, *Healthy sustainable communities*, which covers many of the health-related effects, plans and programmes requiring an SEA, available at: [www.mksm.nhs.uk//FileAccess.aspx?id=148](http://www.mksm.nhs.uk//FileAccess.aspx?id=148). The Royal Commission on Environmental Pollution has published its report covering environmental impacts on health and well-being, available at: [www.rcep.org.uk/urbanenvironment.htm](http://www.rcep.org.uk/urbanenvironment.htm)

The prioritisation of health and well-being baseline data may be achieved by utilising a risk-based approach to balance the importance of effect and probability (see Table 5).

**Table 5: Method of risk assessment**

| Effect (beneficial or adverse) | Probability | Significant?  |
|--------------------------------|-------------|---|
| HIGH                           | HIGH        | YES   |
| HIGH                           | LOW         | MAYBE<br>(if there is an exceptionally high effect)             |
| LOW                            | HIGH        | MAYBE<br>(cumulative effects may result in significant effects) |
| LOW                            | LOW         | NO  |

There are other decision-making tools to help measure health impacts, such as matrices.

Guidance on quantification can be found on the DH website link to HIA: [www.dh.gov.uk/assetRoot/04/09/54/14/04095414.pdf](http://www.dh.gov.uk/assetRoot/04/09/54/14/04095414.pdf)

#### **Case study box 6: Poole town centre area action plan**

Health issues were implicit in the scoping report and included:

- providing shelter for homeless people and addressing the implications of reducing informal areas of shelter (such as subways);
- providing housing with high energy-efficiency standards;
- ensuring public transport links are capable of meeting all accessibility needs;
- preventing pollution and using sustainable urban drainage systems;
- providing health facilities commensurate with development and residents' needs; and
- retaining/enhancing open spaces and links.



### Stage A3: Identifying environmental problems

Baseline data can be used to identify environmental problems and issues that should be taken into account when developing SEA objectives. Depending on the type of plan or programme being assessed, there may be various issues of interest and opportunities to explore them. Table 6 is an example of potential health-related environmental considerations. Further suggestions are in Annex C.

**Table 6: Example of a plan and potential health effects**

| Type of plan or programme | Responsible Authority | Potential health considerations  |
|---------------------------|-----------------------|--|
| Waste management plans    | Local authority       | <ul style="list-style-type: none"> <li>• Emissions to air</li> <li>• Dust emissions</li> <li>• Noise, odour</li> <li>• Pollution to surface water and groundwater</li> <li>• Transportation</li> </ul> |

### Stage A4: Developing SEA objectives, indicators and targets

SEA objectives are assessment tools developed by the RA. SEA objectives are separate from objectives contained in the plans and programmes. The different types of objectives are explained below.

- **SEA objectives:** these are to identify the effectiveness of the plan or programme, eg to protect biodiversity. The test would then be: do the strategic actions of the plan or programme help to achieve this objective, or work against it?
- **Plan or programme objectives:** these indicate the success of the plan or programme itself, and are usually adopted through a process of expert consideration, public consultation and political approval. They may also include social or economic issues relevant to the plan or programme.
- **Environmental protection objectives:** these are the goals for environmental protection set out in international and national legislation and policy.

Objectives are used to develop a systematic, rigorous and consistent framework with which to assess environmental impacts. An SEA objective is a goal for a particular environmental parameter: the assessment asks whether the plan or programme furthers this goal or works against it. For example, if an SEA objective is to “improve the health of residents and reduce health inequalities”, the assessment would then consider whether or not the strategic actions of the plan or programme would move towards this objective.

The SEA process is a 'policy aiding' not 'policy-making' tool. The Directive and associated Regulations do not prescribe that the final plan or programme should incorporate the best environmental option or the recommendations of the ER. It does, however, provide policy formulators with evidence and information upon which to base decisions.

It is desirable that public health professionals are involved in setting objectives which are key for the assessment process. They will be able to relate them to health targets and the wider determinants of health. Many of the objectives relating to the environment will indirectly cover health, but there may need to be ones that focus specifically on health, particularly around health inequalities, as often these issues are not picked up in other assessments. Clear goals are needed to track movement towards objectives, especially in long-term plans such as LDFs.

Objectives can be expressed either as goals, outcomes or outputs, the achievement of which may be measurable using indicators. Objectives, indicators and targets can be revised as baseline information is collected and environmental problems and opportunities identified, and can be used in monitoring the implementation of the plan or programme.

#### **Case study box 7: Cardiff City Council**

Objectives and indicators were developed from issues arising from the policy review and an issues workshop. They were based on evidence and key issues, and were discussed with health professionals. An overarching objective with sub-objectives informing indicators was refined during the consultation process.

#### **Case study box 8: Poole LDF**

##### **Identifying key relationships between sustainability objectives and health**

Does the sustainability objective have implications for:

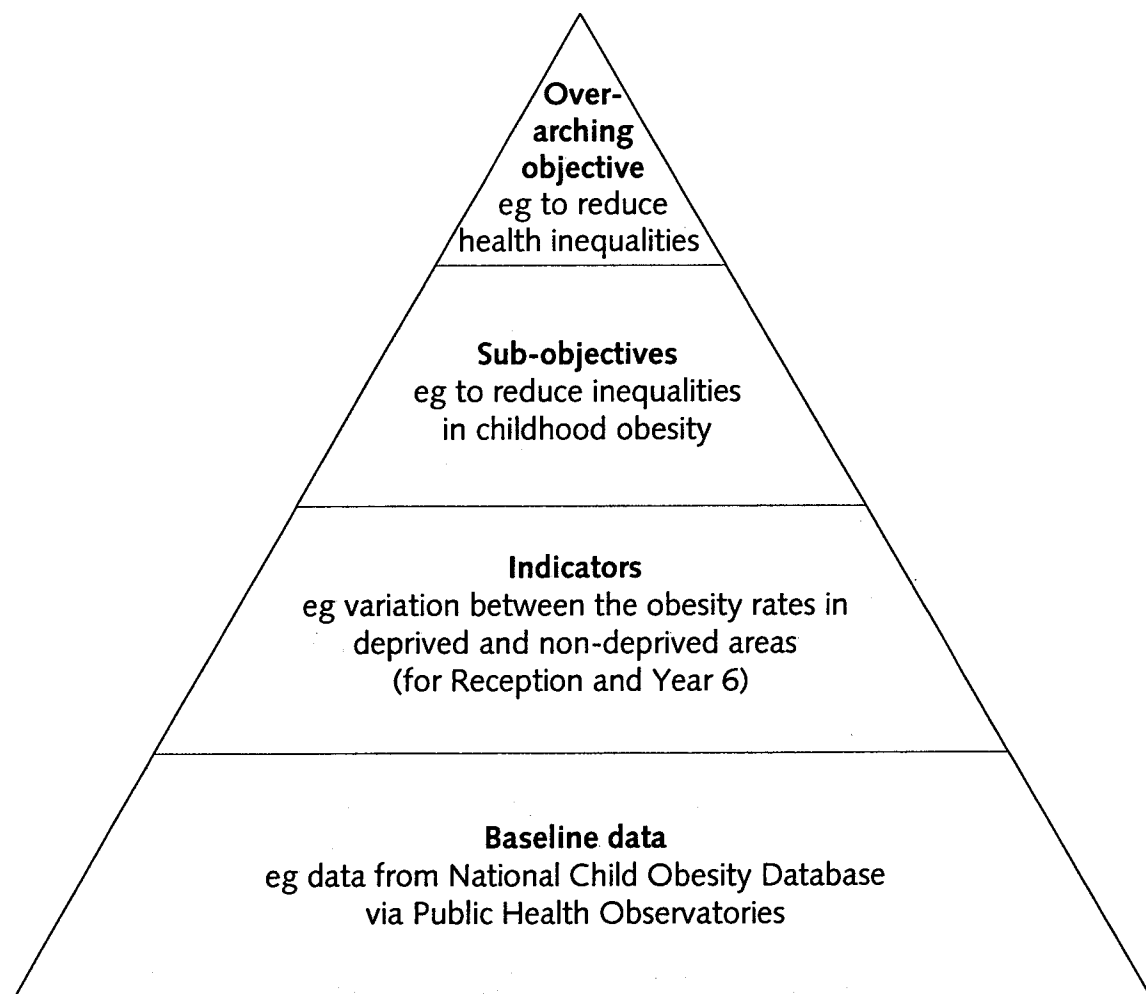
- health facilities: level of provision and accessibility?
- safety and security of places and routes?
- addressing health and welfare needs of the elderly?
- addressing health and welfare needs arising from social exclusion?
- access to recreation and open space and promoting participation?
- climate change: providing shelter and protection from heat, cold or flooding?
- reducing air pollution and its health impact?

It is very important to get the objectives right and, as an example of best practice, it is worthwhile taking the time to consult widely so that they reflect the priorities of stakeholders and the public. They should be broad, relate to the needs of the relevant population and be capable of being monitored for significant changes or to show when the objectives have been met. They must also be relevant to the plan or programme that is being assessed in terms of what it can realistically achieve in health terms.

### Hierarchy of objectives

Experience so far suggests that it is helpful to have a small number of overarching objectives with a series of sub-objectives which can then be broken down into indicators and targets, where appropriate, for monitoring purposes. Figure 6 shows an example of how this can be done.

**Figure 6: Hierarchy of objectives**



## Indicators

A series of indicators can be identified which can be tracked or measured to establish whether progress has been made towards achieving the intended outcomes and objectives of the assessment.

There are already a number of indicators available, such as those developed by the Association of Public Health Observatories (APHO). Examples include the local authority health profiles ([www.communityhealthprofiles.org.uk](http://www.communityhealthprofiles.org.uk)), and the “basket of indicators” for smaller geographical areas, available on the London Health Observatory website at: [www.lho.org.uk](http://www.lho.org.uk)

Throughout this process, the choice of indicators and decisions about how these are to be monitored should be developed in consultation with the DPH and be based on information that has already been collected.

There is considerable potential for the development of information systems within which standard indicators may be made available for the purpose of an SEA. Examples include the possible inclusion of such variables within the Public Health Desktop, or purpose-built systems for collecting and sharing data such as the I-Gather system, a multi-agency pilot system being developed in conjunction with South West Public Health Observatory. For more information, see: [www.swpho.nhs.uk](http://www.swpho.nhs.uk)

## Probability/causality

It will be necessary to consider a number of factors that can impact on health. It is not enough simply to have evidence of correlation; what is needed is a transparent assessment of causality. For example, one could argue that the provision of a particular facility such as day care may affect mental health, but there will also be many other causes of mental health problems in the local population.

In many circumstances it may be necessary to use proxy indicators, eg the number of patients on a particular GP disease register for coronary heart disease could be used as an indicator of comparative prevalence of heart disease.

## Targets

Where targets are used they should include those relevant to the plan or programme, statutory requirements and national PSAs as well as local ones agreed through Local Area Agreements. Furthermore, they should facilitate a meaningful measurement of progress towards an objective.

Tracking will depend on the existing data available. Proxy information may need to be agreed for tracking whether or not targets have been met.

It may be helpful to develop targets over time in response to locally agreed data collection systems to reflect what is possible and feasible to collect.

### Monitoring health information

A great deal of information is collected on a regular basis through mortality statistics, Hospital Episode Statistics and general practice systems and is reported for national and local targets. It is best to use these existing measures. Some may be a proxy where there is not an exact match. Other information will be found in robust survey data and reviews of evidence and research.

It is important to understand the actual impact of the plan on the factors that it is trying to change and then monitor progress and build in evaluation. This can be tested through consultation.

Some examples of objectives, indicators and targets are given in Table 7.

Table 7: Examples of existing approaches to objectives, indicators and targets taken from SEAs of plans and programmes

| Plan   | Objective   | Indicator  | Target  |
|--|---|--|---|
| <b>Unitary Development Plan</b>  | <p><b>Provide a healthy and safe environment</b></p> <ul style="list-style-type: none"> <li>• Improve the quality and quantity of publicly accessible open space</li> <li>• Provide “affordable housing”</li> <li>• Provide the benefits and services that people need at a reasonable cost</li> <li>• Reduce out-migration of young adults</li> <li>• Reduce unemployment</li> <li>• Increase sustainable business and employment</li> <li>• Stabilise employment in agriculture and farm diversification</li> </ul> | <ul style="list-style-type: none"> <li>• Percentage of new housing accessible to major public open space</li> <li>• Percentage of new housing with access to: <ul style="list-style-type: none"> <li>– health facilities: clinics, GPs and hospitals, etc</li> <li>– educational facilities: primary and secondary schools</li> <li>– community facilities: library, police, post office, shops and local shopping</li> </ul> </li> <li>• Percentage of “affordable housing” within and outside settlements</li> <li>• Unemployment rates for men and women</li> </ul> | <ul style="list-style-type: none"> <li>• Targets set by monitoring</li> <li>• Targets set by monitoring</li> <li>• Targets set by housing needs surveys</li> <li>• Set target for reduced employment by monitoring</li> <li>• Set target for new business and employment by monitoring</li> <li>• Employment in agriculture and farm diversification set by monitoring</li> </ul> |
| <b>Flood Risk Management Strategy or Catchment Flood Management Plan</b> | <p><b>Avoid negative effects and enhance, where possible, positive effects on health</b></p> <ul style="list-style-type: none"> <li>• Minimise flood-related health risk (including stress and anxiety)</li> <li>• Protect community welfare (including safety, identity and economic status)</li> <li>• Protect and enhance recreation and amenity facilities</li> </ul>   | <ul style="list-style-type: none"> <li>• Number of deaths or injuries caused by flooding</li> <li>• Uptake of Flood Warning Service</li> <li>• Preparation of Flood Action Plans</li> <li>• Number of community assets protected from flooding, eg housing, facilities such as schools, hospitals and businesses</li> <li>• Extent of recreation and amenity facilities</li> </ul>   | <ul style="list-style-type: none"> <li>• Number of deaths or injuries caused by flooding</li> <li>• Percentage uptake of Flood Warning Service within plan area</li> <li>• Flood Action Plans developed for communities at significant risk within plan area</li> <li>• Where sustainable, community assets protected from flooding</li> </ul>                                    |

Table 7: Examples of existing approaches to objectives, indicators and targets taken from SEAs of plans and programmes (cont)

| Plan                       | Objective   | Indicator   | Target   |
|----------------------------|---|---|--|
| Local Transport Plan (LTP) | <p><b>SEA objectives</b></p> <ul style="list-style-type: none"> <li>• Reduce people's exposure to high noise levels and transport-induced vibration</li> <li>• Improve the health of metropolitan residents, reduce health inequalities and improve access to health facilities</li> <li>• Reduce the number of road accidents (particularly in deprived areas) and accidents on public transport and pavements</li> <li>• Reduce the number of crimes (and fear of crime)</li> <li>• Improve accessibility of goods, opportunities and services to all, particularly those in disadvantaged communities</li> </ul> | <ul style="list-style-type: none"> <li>• Number of people killed and seriously injured on roads</li> <li>• Number of children killed or seriously injured on roads</li> <li>• Number of slight casualties on roads</li> <li>• Percentage of children travelling to and from school by different transport modes</li> <li>• Cycling trips indicator</li> <li>• Increase in cycling</li> <li>• Improved accessibility to a main NHS hospital</li> <li>• Change in number of road casualties or deaths</li> <li>• Adoption of Rights of Way Improvement Plans (ROWIPs)</li> <li>• Increase in the number of people attending job interviews per year via "access" initiatives</li> <li>• Number of new dwellings within 250m of a local network stop with a service between 0700 and 2000</li> <li>• Improve actual and perceived personal safety whilst travelling on public transport</li> </ul> | <p>Targets are linked to the LTP targets:</p> <ul style="list-style-type: none"> <li>• A 40% reduction in all key success indicators (KSIs) from the 1994–98 average to 2010, and a 30% reduction from 2004 to 2010</li> <li>• A 50% reduction in child KSIs from the 1994–98 average to 2010, and a 35% reduction between the 2002–2004 average and the 2008–2010 average</li> <li>• A 10% reduction in slight casualties from 2004 to 2010</li> <li>• Increase the total population within 30 minutes inter-peak travel time of a main NHS hospital by "accessible" public transport from the 2005 baseline of 580,000 by 50% by 2011</li> <li>• A 1% increase in the cycling index between 2003/04 and 2010/11</li> <li>• Increase the number of people attending job interviews per year via "access" initiatives from the 2005 baseline of 1,150 to 2,300 by 2011</li> <li>• Improve actual and perceived personal safety whilst travelling on public transport by 10% between 2005/06 and 2010/11</li> <li>• Adoption of ROWIPs by 2007</li> </ul> |

## Stage A5: Consulting on the scope of SEA

As outlined in Chapter 2, RAs must seek the views of the Consultation Bodies at key stages of the SEA process. It may also be useful to consult other organisations and individuals concerned in order to obtain information and opinions. Consultation may occur more than once where plans and programmes are developed in several stages, for example in spatial planning.

They should also consider contacting the relevant DPH to discuss the scope, issues and implications of the plan or programme where consideration of the population's health is concerned. Where steering groups are used, the involvement of relevant partners can help to oversee the process and ensure that it focuses on the key issues and keeps everyone informed of timescales and progress. This will save time and unnecessary work as well as helping with determining the significance of key health issues.

### Case study box 9: Dorset SEA Group

This was set up in response to concern amongst local authorities over the workload implications of the SEA Directive. The representatives (local authorities, Consultation Bodies, economic and social stakeholders – including Bournemouth & Poole PCT) and the Government Office for the South West agreed a protocol that would encourage good practice and enable the pooling of resources.

The benefits for all organisations involved in SEA are in:

- identifying key milestones for stakeholders;
- working towards common baseline information; and
- giving opportunities for joint working and scrutinising the assessment.

The health definition of “significant” is that it refers to the whole population, a major sub-group of the population or the degree of severity of the impact as set out in the health assessment screening guidance, available at:

[www.dh.gov.uk/PublicationsAndStatistics/Legislation/HealthAssessment/fs/en](http://www.dh.gov.uk/PublicationsAndStatistics/Legislation/HealthAssessment/fs/en). This needs to be linked with Annex II of the SEA Directive, which outlines criteria for determining the likely significance of effects as part of the screening stage and Stage B, eg considering effects in terms of scale and permanence, the nature and sensitivity of the receiving environment. Moreover, as what is “significant” may vary depending upon the plan or programme type, the area it covers and the extent of existing health issues, it is recommended that the significance criteria used are clearly stated in the relevant documentation.



### **4.3 Stage B: Alternatives and assessment**

Good practice suggests that RAs would benefit from including DPHs in considering alternatives, refining options and developing mitigation measures of negative effects and enhancing positive impacts based on outcomes of the SEA scoping process. More information is in the SEA Practical Guide.

#### **Stage B1: Testing the plan or programme objectives against the SEA objectives**

This stage involves RAs testing the plan or programme's objectives against SEA objectives which may help identify potential synergies and inconsistencies and inform the development of alternatives. This should be carried out in a transparent way and it is therefore necessary to distinguish between expert opinion (understanding the problem) and quantification (how big it is).

#### **Stage B2: Developing strategic alternatives**

RAs are required, as part of the SEA process, to appraise the likely significant environmental effects of a plan or programme and any reasonable alternatives. Each of the alternatives, or different ways of meeting a plan or programme's objectives, can be tested against the SEA objectives. Effects considered can be both positive and negative, and there can be some uncertainty about the nature or significance of identified effects.

Alternatives or "scenarios" that are often considered include "no plan or programme" (not introducing a plan or programme where none already exists), no further action to implement a plan or programme and "business as usual" (continuation of an existing plan or programme). RAs should ensure that each alternative is clearly defined.

#### **Stage B3: Predicting the effects of the draft plan or programme, including alternatives**

The prediction of effects of the draft plan or programme includes any changes to the baseline without the plan or programme (ie what will happen without the plan). This will be informed by information on trends identified in the review of baseline data.

Each alternative should then be assessed against the SEA objectives, ie what will be the effect of the plan compared with if there was no plan. The magnitude, geographical scale, time period of effects, and whether effects are permanent or temporary, positive or negative, probable or improbable, frequent or rare, and whether or not there are secondary, cumulative and/or synergistic effects should be described. Finally, the environmental effects of the alternatives identified should be compared.

WHO's broad conception of health (well-being, not merely the absence of disease) in itself suggests that plans and programmes may influence health in many ways. Some of their effects are direct and self-evident, and many of these are already recognised, but others are indirect and may not be readily apparent. It is also important to be aware that the effects of plans and programmes on health will often be synergistic, with different types of impact combining to bring about both beneficial and adverse consequences.

Assessment of health within SEA should focus on identifying those who are particularly vulnerable through age, employment status, different cultures, language and disability. People who live in deprived areas have poorer health than those living in more affluent areas. A particular priority is to tackle health inequalities. Plans and programmes need to ensure that they are not shifting problems from one area to another, eg gentrification, immigration or migration.

It is not realistic to expect RAs carrying out SEA to have expert knowledge of the potential effects, beneficial or harmful, of their plans and programmes on health. Nor would it be practicable to attempt new studies to predict the effects of their proposals. In many cases, however, they should be able to rely on existing research and knowledge.

The table in Annex E provides examples of typical questions that authorities or practitioners might consider in SEAs of plans or programmes, together with notes on accepted links between these issues and the health of individuals and social groups. The questions are loosely ranged according to the rings in Figure 4 on page 32:

- direct environmental impacts on health, such as those from traffic accidents, pollution, noise or climate change;
- factors affecting healthy lifestyle: reducing car use, public transport, facilitation of walking and cycling;
- factors related to communities and living conditions: impacts of crime on communities, availability of facilities, services and quality of housing, indoor air quality, etc;
- local economy, employment issues and income – a major influence on health;
- activities and community design matters: community cohesion or severance/fragmentation; and
- built or natural environment issues: subjective but demonstrable influences on mental states and well-being.

The EU Environment and Health Fourth Ministerial Conference in Budapest in 2004 produced a working paper on the precautionary principle particularly in relation to protecting children's health, *Dealing with uncertainty: how can the precautionary principle help protect the future of our children?* For more information, see: [www.tekno.dk/pdf/projekter/p04\\_boernene\\_og\\_miljoet-Dealing\\_with\\_uncertainty-WHO\\_april\\_2004.pdf](http://www.tekno.dk/pdf/projekter/p04_boernene_og_miljoet-Dealing_with_uncertainty-WHO_april_2004.pdf)

A report following the conference is now available, *Dealing with uncertainty: setting the Agenda for the 5th Ministerial Conference on Environment and Health, 2009. Report of a WHO meeting 2005*. For more information, see: [www.who.dk/Document/HMS/uncertainty\\_mtgrep.pdf](http://www.who.dk/Document/HMS/uncertainty_mtgrep.pdf)

If there is conflicting evidence, the principles used to draw conclusions should be stated explicitly, for example the weight given to the evidence could be determined using an assessment of the quality of the data. In some cases it may not be possible to reach a conclusion. At times there may be trade-offs. This is where an expert, such as a public health professional, needs to form a judgement in relation to relevance, significance, and weighing the balance of impact and probability. Public consultation can also contribute to making a decision.

#### **Stage B4: Evaluating the effects of the draft plan or programme, including alternatives**

This stage involves the evaluation of whether or not a predicted effect will be environmentally significant.

Analysis of likely significant effects should include secondary, cumulative, synergistic, short-, medium- and long-term, permanent and temporary, positive and negative effects, based on the criteria in Annex II of the SEA Directive, and the definition in Stage A5.

Often significant issues at the beginning of an assessment change by the end of the process, especially when resources need to be allocated. A quantitative approach, which assesses how much the plan meets certain needs and what the results of these would be, will help to show how to inform decisions.

#### **Cumulative effects**

Cumulative effects are particularly important to consider in relation to health, as the gradual build-up of, for example noise, can have long-term and significant effects that can lead to long-term or chronic illness.

**Table 8: Examples of cumulative effects**

| Topic   | Example  |
|---|--|
| Area of residence                                   | Conditions in the area of residence during childhood appear to have had a measurable association with health outcomes later on in life (Curtis et al, 2004)  |
| Noise, residential over-crowding, housing quality   | Cumulative environmental risk exposure amongst low-income families may contribute to bad health, beginning in early childhood (G. W. Evans et al, 2004)  |
| Infrastructure such as community centres, libraries | These provide local people with opportunities to decide, resulting in community empowerment, informed choice, better lifestyle and better housing (Curtis et al, 2002)   |
| Housing   | The periodic approval of additional dwelling units in an urban area can, over time, lead to significant pressures on local health services and other facilities  |
| Obesity   | Key contributors to reduced physical activity in the UK population are the use of cars for short journeys, sedentary occupations, lower sports participation, parental reluctance to allow children to play outdoors, increased time pressures reducing school sport, and greater TV and computer use (Wanless 2004) |

**Stage B5: Considering ways of mitigating adverse effects**

Where significant adverse effects are predicted, the ER should include mitigation measures to prevent, reduce or offset these effects when implementing the plan or programme.