

Nordic synergy

**The day-care environment
and children's health**

SELECTED ITEMS:

Physical activity and exposure to nature

Local particle pollution

External noise

Chemical substances

Nordic Synergy

The day-care environment
and children's health

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Preface

‘THE SYNERGY PRINCIPLE’ underlies much of the co-operation between countries in the Nordic Region. The idea is to promote the example set by the country with the highest level of ambition. The governments of the five countries, Denmark, Finland, Iceland, Norway and Sweden, work together on the Nordic Council of Ministers.

The Council of Ministers aims to improve both the health of children and the environment in which they live, an ambition that calls for initiatives that transcend professions and sectors and that focuses on children as a target group.

The Council of Ministers commissioned a pilot project to study Nordic initiatives in four areas of significance for the daily lives of children in day care:

- 1) local particle pollution;
- 2) opportunities for physical activity and exposure to nature;
- 3) eating fruit and vegetables
- 4) chemical substances, threshold values and labelling. The countries set national as well as collective Nordic targets and use different methods to follow up on the collective targets, a system designed to encourage mutual inspiration.

The results of the pilot project are contained in the report *Environment and children's health in Nordic day care* in Danish. The report lists the official requirements applicable to each of the four areas mentioned above, and outlines recommendations of relevance to the environment and children's health. It also refers to legislation, guidelines, strategies, action plans, etc. The aim of the report is

to identify initiatives capable of improving the environment and children's health in Nordic day-care facilities.

It is worth noting that many other aspects, in particular the level of care and safety, are also crucial to a good and healthy young life. Matters such as indoor air quality, hygiene and noise, not to mention protection against the sun, were not covered by the project.

10 Nordic commandments on the day-care environment and children's health

The pilot project identifies the following significant features:

1. Sufficient distance from busy roads and industry (min. 200 m)
2. Short distance (max. 200 m) from green areas like forests, parks and countryside
3. Unpolluted soil
4. Plenty of space at outdoor areas of day-care sites (e.g. 40 m² per child)
5. Green and varied outdoor space
6. Daily excursions if existing site is unsatisfactory
7. Daily physical activity (min 60 minutes per day)
8. Fruit and vegetables every day (400 g)
9. Limits on sugar
10. Check labels on toys and other products – make sure they are safe

The national authorities, individually and collectively, are empowered to provide children with improved opportunities for:

- **a green daily life**, by taking the proximity of countryside into account when planning new facilities and designing the landscape
- **a pollution-free daily life**, by taking the proximity of traffic and industry into account when planning new facilities and by setting special threshold values for particle pollution and noise in and around day care centres
- **a non-toxic daily life**, by setting special threshold values for the content of chemical substances in foodstuffs and products, the development of child-friendly labelling with a focus on health, and sustainable patterns of production and consumption by public-sector bodies.

The report suggests that existing day-care centres that are too close to busy roads or industry, with polluted soil, or too far from green areas, should be moved. Alternatively, they should open 'satellite facilities' and bus the children to the countryside or a forest every day.

The Council of Ministers is actively following up on the declaration issued by the WHO Conference of Ministers 2004, concerning Children's Environment and Health Action Plan for Europe. This pamphlet plots Nordic initiatives in relation to the WHO Regional Priority Goals II, III and IV. The policy instruments described are examples of best practice from different Nordic countries.



Physical activity and exposure to nature

Regional Priority Goal II

“We aim to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children.”

Child obesity is an increasing problem, with 15–20% of Nordic children now estimated to be overweight (the smallest children not included). Exercise is one way of tackling this problem.

Infections account for 70–80% of Nordic children’s illnesses. Studies show that approximately 30% of infections in crèches and kindergartens result from children congregating in groups larger than their family unit. To counteract the effects of overcrowding, more ‘space’ can be created by spending more time outdoors. One 1990 study into absence due to illness in crèche and kindergarten children looked at the interrelationship between illness and the amount of time children spend outside. It found that those who spent six to nine hours a week out of doors were absent less frequently than those who were outside for only five hours or less a week. Spending time outside also increases levels of physical activity.

In Denmark, Finland, Iceland, Norway and Sweden, the authorities recommend that all children and young people should engage in physically activity of moderate intensity for at least an hour a day. Approximately half the Nordic childpopulation fail to meet the official recommendations for daily exercise.

For children to enjoy physical activity and spend time out of doors, space is needed – i.e. outdoor areas at day-care centres and easy access to green areas.

Location is crucial to whether day-care children enjoy access to forests and countryside, so physical planning is an important tool. Planners should aim to locate new facilities in the vicinity of forest and countryside.

POLICY INSTRUMENT

In August 2005, the Council of Ministers' conference on parks and urban outdoor life adopted 'the Odense Declaration', a message to politicians in the Nordic countries stipulating that children's day-care centres should utilise green urban resources, forests and rural areas, and never be further than a five-minute walk from a green space.

One example of an environmental objective is that 'day-care centres must have proper access to safe roads, play and other activities, in a varied and coherent green structure, with good connections to surrounding green areas'. The following key data were considered:

- access to play and recreational areas (a minimum of 0.5 ha) within 200 m
- access to 'green areas within short walking distance' (larger than 20 ha) within 500 m.

The design of the outside space, in terms of quantity as well as quality, is also vital if the children are to participate in physical activity. If a finite space (e.g. around a day-care centre) is to provide ample opportunity for high levels of physical activity, then it needs to be big enough and have plenty of vegetation, trees and undulating terrain.

POLICY INSTRUMENT

Example requirements for outdoor areas at day-care sites:

- min. 30–40 m² per child
- plenty of vegetation, trees and undulating terrain.

POLICY INSTRUMENT

A national programme to revamp outdoor areas around day-care facilities so they inspire play and movement.



Air and noise pollution

Regional Priority Goal III – Air

We aim to prevent and reduce respiratory disease due to outdoor and indoor air pollution, thereby contributing to a reduction in the frequency of asthmatic attacks, in order to ensure that children can live in an environment with clean air.

Traffic is the biggest source of local solid-particle air pollution. 50% of coarse particles (PM₁₀) found at street level stem from transport in general, 40% from the actual street itself and 10% from other streets in the same town. At street level, particle pollution is almost twice as high as it is outside the towns, and it also includes fine (PM_{2.5}) and ultra-fine (under 0.1µm) particles as well as carbon from traffic exhausts. Since ultra-fine particles are found in denser concentrations close to their source, the highest concentrations are found in streets with heavy traffic.

In light of this data, and the figures for NO₂ emissions from traffic, attention has been paid to the position of day-care centres in relation to busy roads.

POLICY INSTRUMENT

Most of the Nordic countries have planning Acts designed to prevent air pollution and/or emphasise that planning procedures must take account of children's health.

Sufficient distance from major traffic arteries is recommended, especially for kindergartens. It is estimated that the impact of local solid particle pollution on children in a kindergarten can be minimised if the nursery is 50–100 m from busy roads, depending

on the size of the roads and other local conditions. At a distance of 200 m, particle pollution from a busy road barely registers in the air. Conditions such as wind direction and surrounding buildings may also influence the optimum distance. Model calculations may be needed to provide a basis for decisions about the positioning of day-care facilities.

POLICY INSTRUMENT

Special requirements for good air quality in outdoor areas at day-care centres (under consideration).

Tests also reveal that 20–40% of particle emissions in the Nordic Region stem from wood-burning, usually small and/or private stoves.

POLICY INSTRUMENT

An effective instrument would be to introduce standard requirements for afterburners or catalytic converters on wood-burning stoves to ensure proper incineration and lower emissions.

Regional Priority Goal IV – Noise

We commit ourselves to reducing the risk of disease and disability arising from (...) physical agents (e.g. excessive noise) ...

Traffic generates a great deal of noise. The proximity of a day-care centre to busy roads has a crucial impact on the noise level to which children are exposed when they are outdoors. Physical planning is, therefore, an important means of preventing noise pollution.

POLICY INSTRUMENT

Most of the Nordic countries have planning Acts designed to prevent noise pollution, and/or emphasise that planning procedures must take account of children's health. Model calculations may be needed to provide a basis for decisions about the positioning of day-care facilities.

POLICY INSTRUMENT

Threshold values for noise in outdoor areas surrounding day-care centres form an important criteria for physical planning and have been defined in some of the Nordic countries.



Chemicals

Regional Priority Goal IV - Chemicals

We commit ourselves to reducing the risk of disease and disability arising from exposure to hazardous chemicals (such as heavy metals) (...) and to hazardous working environments during pregnancy, childhood and adolescence.

Children are exposed to chemical substances in food and other products. Soil pollution can also have a harmful impact on them.

NEED FOR KNOWLEDGE – GENERAL

More information is needed about exposure to various chemicals; children are a vulnerable group, so risk assessments should pay special attention to them.

Chemical substances – fruit

Often we are exposed to more than one kind of pesticide residue at the same time. Pesticide residues are often found in food, most commonly in fruit and vegetables. Random tests in the Nordic countries have revealed pesticide residues in 62–76% of all fruit samples. Children are a vulnerable group in relation to pesticides. Acceptable methods of assessing pesticides' combined and cumulative effects have not yet been identified, but there is a growing demand for information on whether knowledge about these effects will result in a change to the previous risk assessment of pesticides, which was based on the toxicological evaluation of individual substances.

NEED FOR KNOWLEDGE

Collate results from projects that shed light on the impact of multiple exposure to pesticides, with a focus on children.

POLICY INSTRUMENT

Set objectives for public-sector use of organic foodstuffs.

The report recommends that organic fruit should be served to children in day care as part of general public-sector consumption of organic foodstuffs.

Chemical substances – products

The environmental and health impact of a wide range of products used by children have never been studied, which makes it impossible for the authorities to intervene. Information about the exposure of children to particular chemicals is also limited. Many toys are not subject to threshold values for concentrations of problematic substances.

It is impossible to tell which chemical substances a toy contains just by looking at it, yet they are not required to carry labels stipulating the contents. Eco-labels are environmental guarantees first and foremost. They indicate neither whether health assessments have been undertaken nor whether the product has any detrimental impact on health.

A 2005 inspection project revealed that companies do not know enough about chemicals in toys, in terms of both legislation and the chemical content of their own products. The project concluded that many companies put their trust in the CE-label, which they believed to cover all risks associated with the toy, and that this is a serious mistake. Despite the fact that larger companies were more aware of the risks, toys containing hazardous chemicals were still found in medium-sized and large companies.

The inspection project emphasised the importance of raising these companies' awareness of chemicals in toys, to prevent children and the environment being exposed to unnecessary risks. If information about hazardous chemical substances in toys were to accompany the product throughout every stage of the supply chain, this would increase the likelihood of importers demanding the relevant standards.

POLICY INSTRUMENT

Action plans for environmental and social responsibility in public-sector procurement of products containing pollutants.

POLICY INSTRUMENT

A 'children's label' to draw attention to children and health (under consideration).

POLICY INSTRUMENT

Improve companies' knowledge about chemicals in toys, cf. the results of the inspection project.

POLICY INSTRUMENT

Consumer websites published jointly by environmental, health and consumer authorities, as well as other information for parents of small children about the least toxic lifestyle possible.

POLICY INSTRUMENT

Materials containing good advice for kindergarten children, staff and parents, about how to select products that take the environment and health into account.

Chemical substances – the soil

Industry, trade, traffic and fossil fuels have polluted the soil in many parts of the Nordic Region, e.g. with heavy metals and oil and tar products. Lead is the most widespread form of heavy-metal pollution. Children are exposed to pollution when they play on the ground, including in playgrounds.

POLICY INSTRUMENT

Action plans to map out concentrations and then cleanse the soil in outdoor areas frequented by children in the largest towns and industrial areas, as well as timetables for implementing the necessary initiatives.



Summary

A number of problems associated with the environment and children's health have been identified. Goals have been set to achieve improvements, both at Nordic level and under the auspices of the WHO. Turning those goals into results will require focus on the policy instruments.

The Nordic pilot project demonstrates how countries can derive inspiration from each other.