



IMPROVING CHILDREN'S HEALTH AND THE ENVIRONMENT

EXAMPLES FROM THE WHO EUROPEAN REGION

ABSTRACT

Since the Fourth Ministerial Conference on Environment and Health (Budapest, 2004), the children's health and environment programme of the WHO Regional Office for Europe has been collecting case studies on actions to improve children's health and environment. The aim of this exercise was to document experiences in implementing measures to address the risk factors covered by the Children's Environment and Health Action Plan for Europe. These descriptions are intended to serve as examples for future implementation of national children's environment and health action plans. This collection of case studies describes initiatives, with the intention of encouraging countries to share their experiences, focusing on the process of implementing each action, including challenges and lessons learned. Thirty-three case studies from the WHO European Region were selected for inclusion. This report describes them and presents the results of their analysis.

Keywords

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EXECUTIVE SUMMARY

Since the Fourth Ministerial Conference on Environment and Health in Budapest, the children's health and environment programme of the WHO Regional Office for Europe has been collecting case studies on actions to improve children's environment and health. The overall aim of this exercise was to document country experiences in implementing measures to combat the risk factors covered by the Children's Environment and Health Action Plan for Europe (CEHAPE). The description of these experiences would then serve as a tool for future implementation of the national children's environment and health action plans.

The request for case studies was issued through the network of CEHAPE environment and health focal points and other networks for addressing specific risk factors that are available to WHO. This call for case studies was intended to expand the set of practical examples of initiatives to reduce children's exposure to environmental risk factors and to fully describe these initiatives, as well as to encourage countries to share their experiences, focusing on the process of implementing each action, including challenges and lessons learned. Eighty-one case studies were submitted to the children's health and environment programme for consideration. Thirty-three were selected for inclusion in the final document on the basis of three criteria: the case study must be child-specific (focusing on children and adolescents 0–19 years); the case study must describe a practical action or intervention; and the focus of the case study must be among the risk factors addressed in the CEHAPE.¹

In this set of 33 case studies, two risk factors stand out: injuries and indoor air pollution (environmental tobacco smoke). Injuries (Regional Priority Goal II) were the risk factor in 12 case studies, and indoor air pollution (Regional Priority Goal III) was the risk factor in 10 case studies. Of the different sectors involved in the 33 public health initiatives, the health sector was involved in the greatest number (29 case studies), followed by the education sector (17 case studies) and the private sector (11 case studies). Outcomes were also documented in the case studies. Twelve programmes reported an increase in knowledge; nine reported a reduction of exposure to the risk factor and a change in behaviour; six reported health benefits; five reported a change in policy and/or legislation; and two reported that elements of the programme had been integrated into the school curriculum. Most of the programmes took place in an educational setting (20 in schools and 14 in kindergartens). The remainder took place in households (11), in health care facilities and on the internet (7), in public places (6) and in other settings (6).

1 Declaration: Fourth Ministerial Conference on Environment and Health, Budapest, Hungary, 23–25 June 2004. Copenhagen, WHO Regional Office for Europe, 2004.

FOREWORD

Across Europe a substantial amount of work is being carried out to improve children's health in relation to environmental risks and exposures. Often this work is led by the health sector but more and more, we are seeing the involvement of multiple sectors, such as education, sports, welfare, urban and transport planning in such initiatives. Beyond the capacity of these efforts to result in improvements to children's health, there is a necessity to make them known, documented, discussed and shared, so that they can serve as a source of inspiration, support and reference for those aiming at addressing similar issues, who could benefit from being informed about others' experiences and consider possibilities for adapting well documented and effective strategies and interventions to their own contexts. For this reason, the importance of identifying key actions that can be taken at national and local level and sharing them is key and should not be underestimated. This document aims at supporting health systems in European Member States in strengthening their stewardship function by documenting and sharing experiences about working across sectoral boundaries to address environmental health problems in children and adolescents in a standardized way for learning, sharing, and guiding future implementation of actions and development of sectoral policies that are more protective of children's health.

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INTRODUCTION

Background

In the WHO European Region children are at risk from exposure to a variety of environmental hazards, such as chemicals, indoor and outdoor air pollution, road traffic, contaminated food and water, noise, unsafe buildings and radiation. These risks combine to generate or trigger a wide range of negative health effects, including respiratory diseases, injuries, neurodevelopmental disorders, cancer, foodborne and waterborne diseases, in the settings where children live, learn and play. Every year more than 100 000 child deaths are attributed to these environmental factors, which are unequally distributed across the region and within countries.

According to the 2004 Environmental Burden of Disease Study², a large proportion of deaths and disability-adjusted life-years (DALYs) in European children can be attributed to outdoor and indoor air pollution, inadequate water and sanitation, lead exposure and injuries. Specifically, the study showed that among children aged 0–4 years, between 1.8% and 6.4% of deaths from all causes were attributable to outdoor air pollution. Acute lower respiratory tract infections from indoor air pollution accounted for 4.6% of all child deaths and 3.1% of DALYs. Mild mental retardation resulting from lead exposure accounted for 4.4% of DALYs. In the 0–14 age group, diarrhoea attributable to inadequate water and sanitation accounted for 5.3% of deaths and 3.5% of DALYs; whereas in the 0–19 age group, injuries accounted for 22.6% of all deaths and 19.0% of DALYs.

Mortality is only one piece of the puzzle. More recent evidence confirms that injuries, mostly unintentional, affect children and adolescents throughout the entire WHO European Region, resulting not only in mortality but also in long-term morbidity. According to the WHO *European report on child injury prevention*,³ unintentional injury is the leading cause of death in children and adolescents aged 5–19 years, with road traffic, drowning and poisoning among the top 15 causes of death in children and adolescents 0–19 years old. The report also states that child death rates in countries with the highest injury rates are almost seven times those in countries with the lowest rates of injury. Five out of six child injury deaths occur in poorer countries.

To give another example, physical inactivity has been estimated to result in about 650 000 deaths per year and 5.3 million lost years of healthy life (DALYs) in the WHO European Region. Furthermore, inactivity is linked to 23% of ischaemic heart disease cases, 13% of ischaemic strokes and 15% of type II diabetes cases.⁴ These figures apply to the adolescent and adult population; applying the estimates to children, who have an even longer life span ahead of them, results in a very bleak scenario.

Against this background, many countries have started actions to prevent or mitigate the effects of environmental exposures in children. There is value in sharing and making these experiences broadly available to inspire action and improve the evidence base.

The focus of this publication, however, is on action and sharing of experiences. Most environmental risk factors are modifiable and measures can be taken to reduce morbidity and mortality among children and adolescents. This publication illustrates how this challenge is being faced in 15 European Member States.

Objectives

This collection of case studies has five specific objectives:

1. to document existing experience of initiatives to improve children's environmental health;
2. to facilitate the sharing of experiences in planning and implementing initiatives in countries;
3. to analyse the case studies with respect to type and amount of intersectoral collaboration;
4. to provide practical indications on key elements that could facilitate adaptation and transfer; and
5. to provide more and stronger evidence of the effectiveness of interventions that promote healthy environments for children.

It is hoped that the systematic documentation of interventions to improve children's health and environment will become part of a body of evidence that motivates others to take similar action and join efforts across diverse sectors for greater and longer-term impact.

2 Valent F et al. Burden of disease attributable to selected environmental factors and injury among children and adolescents in Europe. *Lancet*, 2004, 363:2032–2039.

3 *European report on child injury prevention*. Copenhagen, WHO Regional Office for Europe, 2008.

4 *The world health report 2002 – reducing risks, promoting healthy life*. Geneva, World Health Organization, 2002.



METHODS

Content for the case studies was collected using an instrument developed and validated by the children's health and environment programme in 2004 for this specific purpose and to facilitate future descriptive analysis. This instrument, the Children's Health and Environment Questionnaire (CHEQ), served as the main tool for case study data collection and analysis and was translated to Russian in order to extend the geographical coverage of the collection. The questionnaire included questions about the project such as risk factors addressed; scope; setting; target audience and beneficiaries; and details of planning, implementation and evaluation. Case study contributors were also asked for additional information such as project reports, web sites and promotional materials.

Eighty-one case studies were submitted to the children's health and environment programme for consideration. Thirty-three were selected for inclusion in the final document on the basis of three criteria: the case study must be child-specific (focusing on children and adolescents 0–19 years); the case study must describe a practical action or intervention; and the focus of the case study must be among the risk factors addressed in the Children's Environment and Health Action Plan for Europe (CEHAPE).

Once the CHEQs were received, they were initially screened for the three aforementioned criteria, and the information was transferred to a template that would allow for the identification of gaps in the description of the project. This template was then sent back to the project managers with a request to provide any missing information. When the completed templates were received from the project managers, a checklist of key criteria was used to ensure that the following elements were included for each case study: a clear rationale and project description; specific, measurable,

achievable, relevant, time-based (SMART) objectives;^{5,6} some form of project evaluation; clear process and methods; project feasibility and sustainability; contextual information; and observations on project transferability. The completed template was used by the children's health and environment programme in writing the full case studies featured in this publication. In addition, key variables from the case studies were entered into a spreadsheet for further analysis.

The goal of this exercise was to document country experiences in implementing preventive measures for the risk factors covered by the CEHAPE, creating a tool for future implementation of national children's environment and health action plans (CEHAPs). The CEHAPE provides a framework for addressing the environmental risk factors that have the greatest effect on the health of European children. It consists of four regional priority goals (RPGs), categories of selected environmental risk factors agreed upon by the Member States in the WHO European Region, covering a range of environmental determinants of health:

- RPG I: unsafe water and inadequate sanitation (including biological agents);
- RPG II: unintentional injuries, physical activity, mobility and living environments;
- RPG III: indoor and outdoor air pollution (including allergens);
- RPG IV: hazardous chemicals and metals (covering all environments, including food), ionizing radiation, and nonionizing radiation (mostly ultraviolet and electromagnetic radiation) and noise (including intentional sound).

5 Doran GT. There's a S.M.A.R.T. way to write management goals and objectives. *Management Review (AMA Forum)*, 1981:35–36.

6 Favell I. *The Competency Toolkit*. Cambridgeshire, Fenman Ltd, 2004.

RESULTS

Limitations of the results

This descriptive analysis was carried out on a total of 33 case studies. The analysis aims to present the breadth of country experiences in improving children's environmental health, which are taking place at national, regional and local levels. Because the call for case studies requested initiatives addressing risk factors covered in the CEHAPE and was based on voluntary submissions, it is not possible to attribute statistical significance to the sample that is described here. For the same reasons, this collection should not be interpreted as reflecting Member States' priorities, since it does not provide systematic coverage of all

current activities. Nevertheless, the collection does provide an overview of the various approaches used by a number of Member States.

The call for case studies was issued to the entire WHO European Region. Most of the cases that were submitted, however, came from western European countries. Although the template was also provided in Russian, the lack of programme materials in English may have been an obstacle to Russian-speaking countries submitting their programmes. Table 1 provides a brief overview of the 33 case studies featured in this publication.

Table 1. Overview of the 33 case studies by country, project title, risk factor, RPG and type of action

Country	Project title	Risk factor	RPG	Type of action
Austria	Promotion of physical activity in kindergartens	Lack of adequate physical activity	II	Education
Austria	PVC-free hospitals: alternatives to phthalates in medical equipment for babies	Hazardous chemicals	IV	Improvement of service delivery and infrastructure
Austria	Bicycle helmet festivals	Injuries	II	Education
Austria	Making homes safe for children with the Child Safety Box	Injuries	II	Education
Austria	Counselling paediatricians on injury prevention	Injuries	II	Education and communication
Cyprus	Don't poison the air I breathe	Indoor air pollution (environmental tobacco smoke – ETS)	III	Monitoring environmental exposure, education and communication
Denmark	Talk about smoking	Indoor air pollution (ETS)	III	Education
Denmark	Playing patrol	Lack of adequate physical activity	II	Education
Denmark	Sports and physical education	Lack of adequate physical activity	II	Education
Denmark	Movement in kindergartens	Lack of adequate physical activity	II	Education
Denmark	Just do it! An initiative for a better environment for children in local communities	Lack of adequate physical activity, indoor and outdoor air pollution and other	I–IV	Education and communication
Finland	A schoolyard guidebook	Injuries	II	Knowledge building

Country	Project title	Risk factor	RPG	Type of action
Germany	Indoor leisure noise	Noise	IV	Education and communication
Germany	Childhood allergies	Indoor and outdoor air pollution	III	Monitoring of environmental exposure, education and communication
Germany, Lithuania and United Kingdom	Making homes safer	Injuries	II	Monitoring of environmental exposure and knowledge building
Germany	Air quality at Bavarian schools – investigation for improvement of air quality	Indoor air pollution	III	Monitoring, education and communication
Germany	Intelligent sunbathing instead of sunburn	Ultraviolet (UV) radiation	IV	Education and communication
Germany and Denmark	Health and activity in schools	Lack of adequate physical activity and other	II, other	Education
Hungary	Child injury prevention	Injuries	II	Monitoring of environmental exposure, education and communication
Malta	Sun awareness in Maltese secondary school students	UV radiation	IV	Education
Netherlands	Poisonous Persuaders	Hazardous chemicals	IV	Communication and education
Netherlands	Smoking? Not in the presence of the little one!	Indoor air pollution (ETS)	III	Communication
Poland	Clearing tobacco smoke pollution from the air	Indoor air pollution (ETS)	III	Communication and education
Poland	Environmental lead poisoning in children living in the Silesia Province	Hazardous chemicals (lead)	IV	Monitoring of environmental exposure and knowledge building
Romania	Prevention of unintentional injuries among preschool and school-aged children	Injuries	II	Knowledge building
Romania	Ecological sanitation for safe and affordable waste management	Unsafe water and inadequate sanitation	I	Monitoring of environmental exposure, communication, education and improvement of infrastructure
Slovakia	Injury prevention and health education intervention	Injuries	II	Monitoring of environmental exposure and education
Slovakia	Prevention of asthma and allergies	Indoor air pollution	III	Monitoring of environmental exposure, communication and education
Slovenia	Let's promote non-smoking	Indoor air pollution (ETS)	III	Education
Spain	Buckle up, buckle to life	Injuries	II	Education
Spain	School-based tobacco prevention programme	Indoor air pollution (ETS)	III	Education
Switzerland	Swiss Council for Accident Prevention	Injuries	II	Communication
United Kingdom	Water is cool in school campaign	Unsafe water	I	Improvement of service delivery

Results of the descriptive analysis

Type of action

The types of action that occurred most often in the case studies were education initiatives (education, training, health promotion and/or provision of devices) (24), followed by communication (15), monitoring of environmental exposure (9), improvement of service delivery and/or infrastructure (3), and knowledge building (development of recommendations and/or guidelines) (4). Fifteen of the thirty-three case studies combined two or more different types of action, with education and communication most often combined.

Risk factors and policy objective

The case studies illustrate many actions that cut across a number of risk factors, such as injuries, physical activity and indoor and outdoor pollution, reaffirming the intersectoral nature of a plan such as CEHAPE.

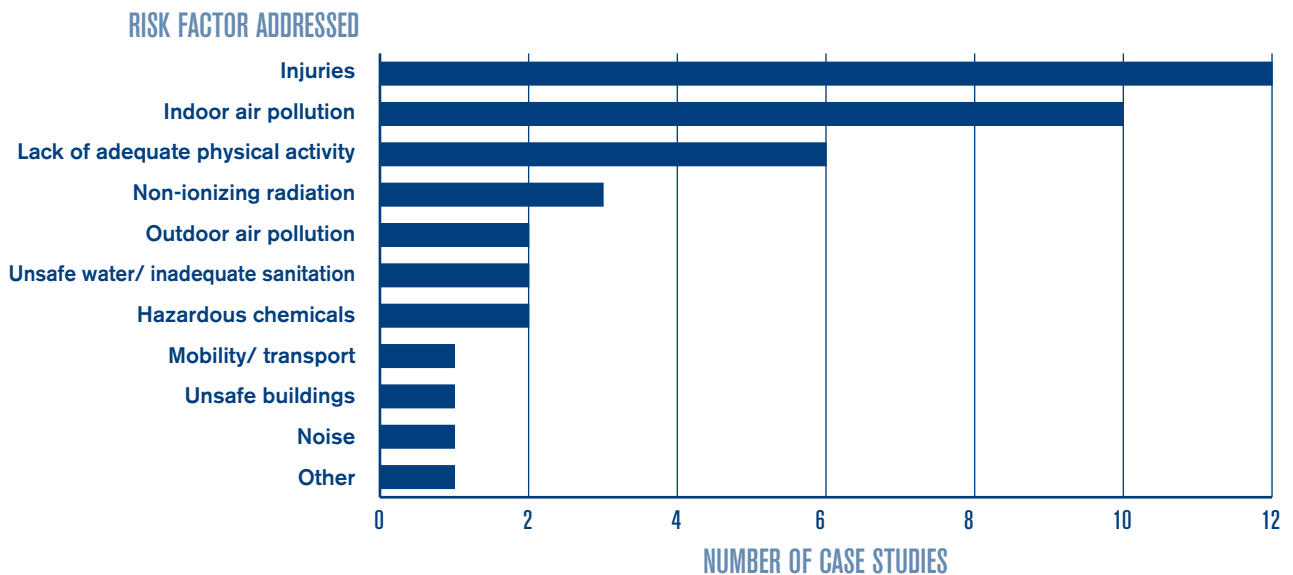
In this set of 33 case studies, two risk factors stand out: injuries and indoor air pollution (environmental tobacco smoke – ETS). Injuries (RPG II) were the risk factor in 12 case studies, and indoor air pollution (RPG III) was the risk factor in 10 case studies. Of the remaining case studies, six addressed lack of

adequate physical activity (RPG II); three addressed nonionizing radiation (RPG IV); two addressed outdoor air pollution (RPG III); two addressed unsafe water and/or inadequate sanitation (RPG I); two addressed hazardous chemicals (RPG IV); one addressed unsafe buildings (RPG II); one addressed mobility and transport (RPG II); and one addressed noise (RPG IV). Four dealt with more than one risk factor. Fig. 1 shows the risk factors addressed in the case studies.

Regarding the correlation between risk factor, type of action (single or combined) and target beneficiaries, the initiatives tackling indoor air pollution featured education (9), communication (7) and monitoring of environmental exposure (5). Only two of the initiatives dealing with indoor air pollution had parents and the community as beneficiaries, while the remaining thirteen targeted children and adolescents from 0 to 19 years of age.

The two case studies tackling outdoor air pollution featured education (2), communication (2) and monitoring of environmental exposure (1) actions addressing children and adolescents from 0 to 19 years of age.

Fig. 1. Risk factors addressed in case studies (multiple replies possible, n=41)



One of the two case studies dealing with unsafe water sought to improve the infrastructure and/or service delivery, while the other promoted measures to improve infrastructure and/or service delivery, together with education, communication and monitoring of environmental exposure. The first case study targeted children and adolescents aged 5–19 years, while the second one targeted children aged 0–14 years.

The programmes addressing lack of adequate physical activity promoted education and communication exclusively, targeting children from all age groups. They also aimed at including the intervention in the school curricula in order to have a long-term impact, more often than did the programmes addressing other risk factors. It is also interesting to observe that this set of case studies (physical activity) included no measures to improve

the physical infrastructure of schools or play areas to encourage physical activity.

Injury was the risk factor associated with the most diverse range of interventions, the most common being education (7), communication (6), knowledge building (2) and monitoring of environmental exposure (2). Of the 17 injury prevention interventions, 7 dealt with 2 age groups of children, the most frequent target beneficiaries being children aged 0–4. Four interventions covered all four age groups of children and adolescents, from 0 to 19 years. Four interventions covered one age group, and two covered three age groups of children.

Of the two case studies dealing with hazardous chemicals, one promoted the improvement of infrastructure and/or service delivery, while the other one promoted knowledge building and monitoring of environmental exposure. Target beneficiaries were children 0–9 years of age.

The two case studies tackling non-ionizing radiation promoted education (2) and communication (1) actions, both of them addressing all age groups of children as well as parents and/or the community.

Finally, the single case study addressing noise promoted education and communication actions, addressing children aged 10–14 years.

Scope (administrative level of the initiative) and setting

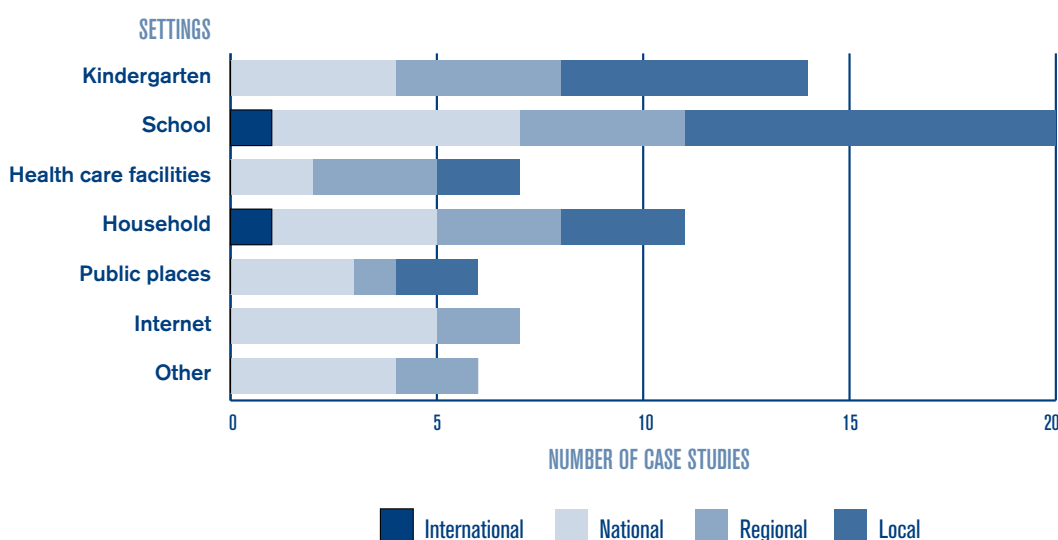
Twelve of the initiatives were implemented at the national level, eleven at the local level, nine at the regional level and two at the international level (meaning that they took place in more than one country).

Most of the programmes took place in an educational setting (19 in schools and 14 in kindergartens). The remainder took place in households (11), in health care facilities and on the internet (7), in public places (6) and in other settings (6). The educational setting (schools and kindergartens) was often used at the local level, while health care facilities, households and public places were more often the settings for national and regional interventions. Fig. 2 shows the scope and setting.

Target audience and beneficiaries

Most of the initiatives had parents/family (24) and teachers (20) as their primary target audience, followed by local authorities (11), children (11) and communities (6). Only four case studies targeted health care providers. Children up to nine years of age were the main beneficiaries of most case studies.

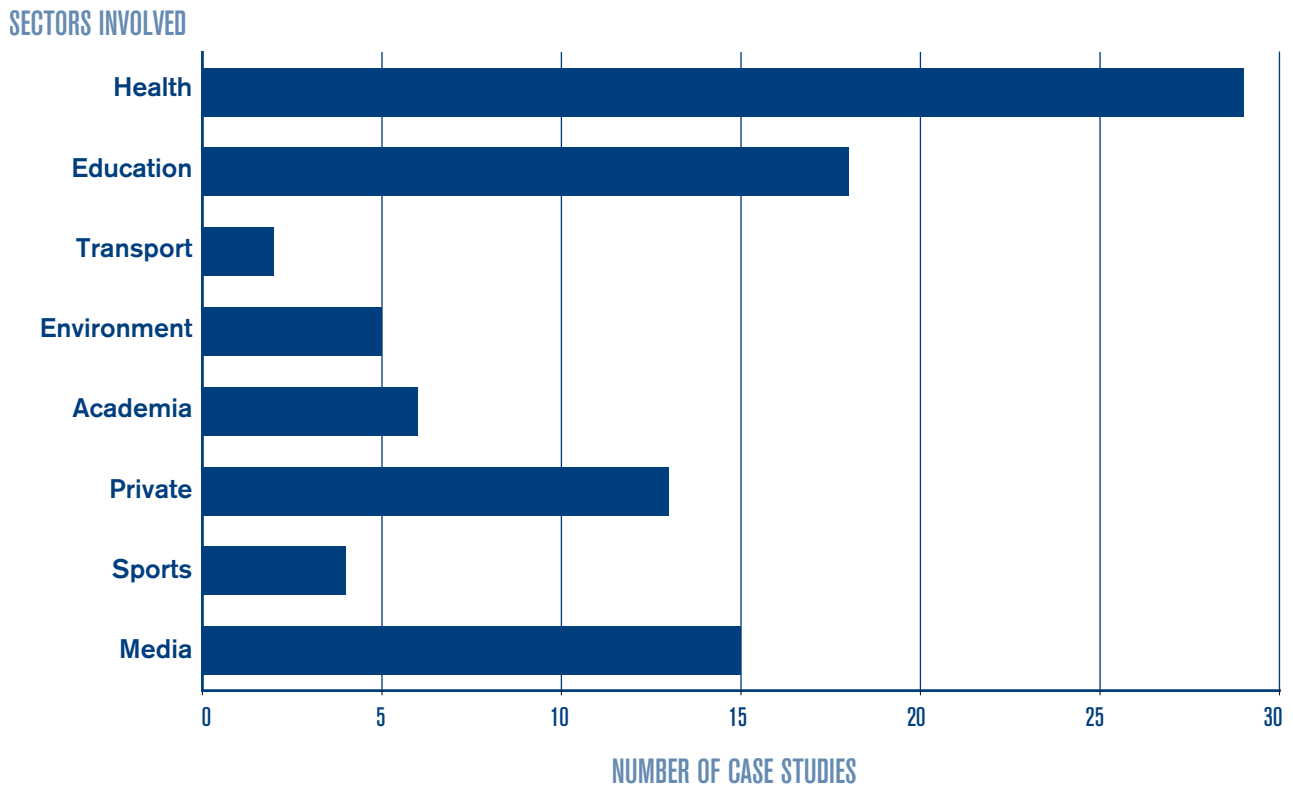
Fig. 2. Administrative scope and settings of case studies (multiple replies possible for settings, n=71)



Sectors involved and working together

The health sector was involved in most of the actions documented in the case studies (29), followed by the education sector (17) and the private sector (11). These three sectors mainly provided financial support and implemented the action (coordination, data collection and evaluation). The private sector focused on providing tools and expertise and organizing

communication campaigns. The media contributed in the context of communication campaigns in three cases and by means of expertise in one other case study, while the academic sector provided expertise and contributed to the implementation of the action in five different case studies. The transport and sports sectors were involved in two and three actions, respectively. Fig. 3 shows the sectors involved.

Fig. 3. Sectors involved in case studies (multiple replies possible, n=92)

The most common combinations of sectors working together were health and education (15), health and media (11) and health and private sector (10). In 32 out of 33 case studies, either the health or the education sector was involved. These two sectors were almost equally involved in projects with fewer than three or more than two involved sectors. All other sectors, however, usually participated only in projects that involved three or more sectors. Fig. 4 shows the combinations of sectors involved.

Driving force

In about half of the case studies, health professionals or nongovernmental organizations (NGOs)/national networks were the initiators of interventions. About one-third of the initiatives were driven by ministries and national authorities. Fig. 5 shows the driving force or initiator.

Theoretical background and use of evidence

More than half of the case studies reported basing their interventions on evidence. In the CHEQ evidence is defined as one of the following: systematic reviews (such as the Cochrane review), information from peer-reviewed journals, reports from other projects or political mandate. Thirteen of the programmes based their actions on country statistics or other statistics, five on information from other

project reports, two on political mandates and three on systematic reviews, peer-reviewed journals or needs assessments.

Evaluation

Regarding evaluation of the actions carried out, only four case studies reported that no evaluation had been done, and for another three no information was available. Most of the case studies carried out informal evaluations, including surveys and opinion polls. Eight case studies reported formal evaluation, including peer-reviewed and published evaluation reports.

Outcomes

The outcomes identified in the CHEQ include health benefits, reduction of exposure to risk factor, increase of knowledge, behaviour change and other. In addition, some case studies reported results leading to policy or legislation changes, and several reported integration of issues and interventions into school curricula. Twelve case studies specifically reported increases in knowledge, nine reported a reduction of exposure to the risk factor and behaviour change, six reported health benefits, five reported that their initiative led to policy and/or legislation change and two reported integration of measures into school curricula. Four of the case studies published their results in peer-reviewed journals. For eight of the case studies, no measurable results were reported. Fig. 6 shows outcomes.

Fig. 4. Combinations of sectors involved

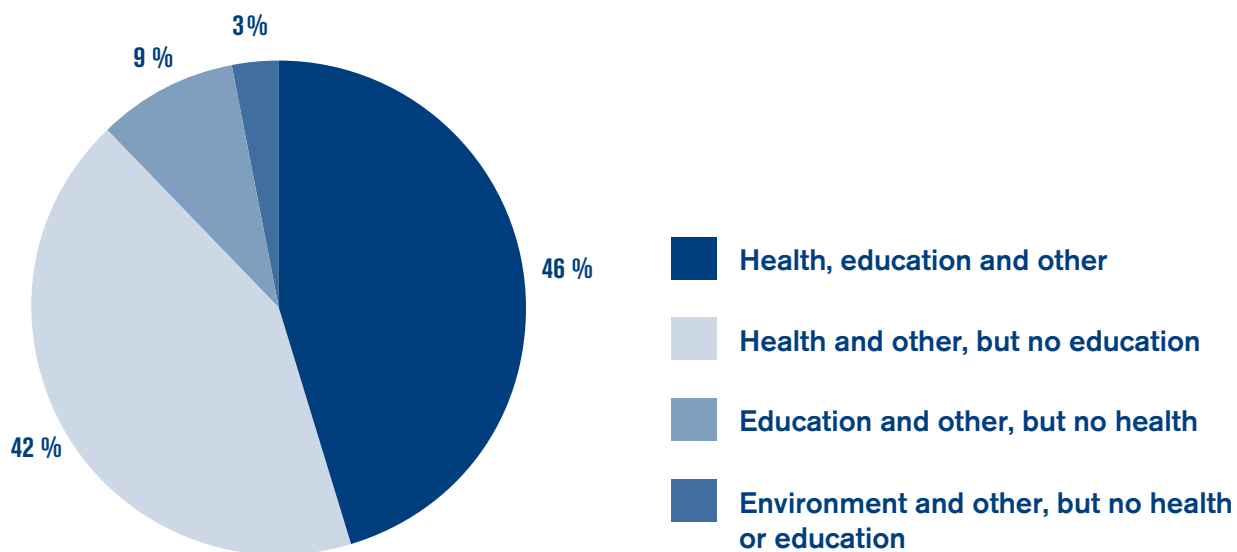
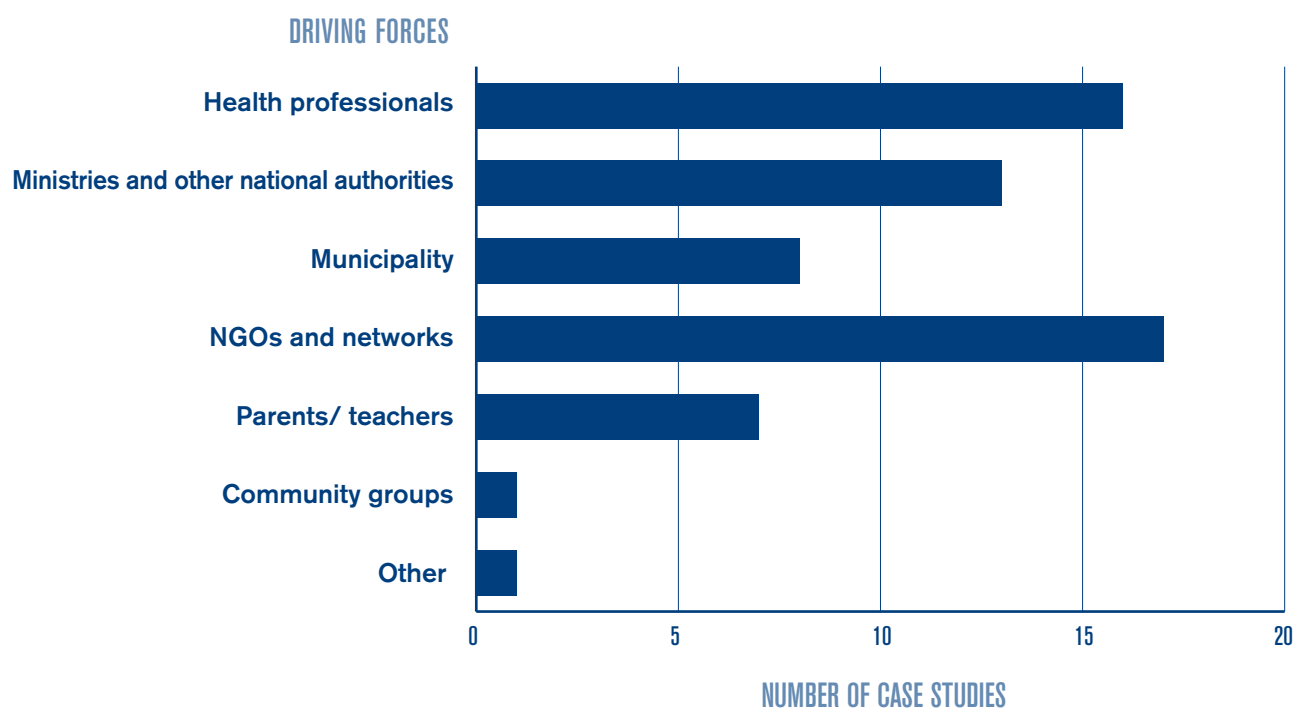


Fig. 5. Driving forces of case studies (multiple responses possible, n=63)

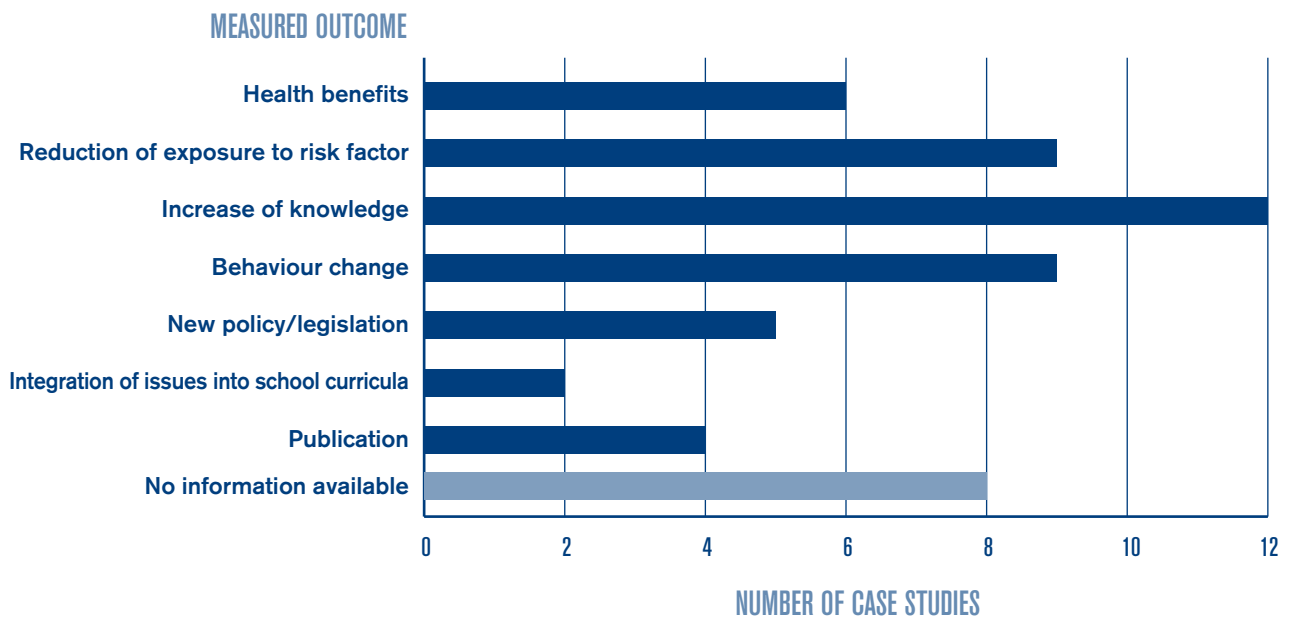


Sustainability

Twenty-five of the case studies reported sustainability of the initiative, by continuing the same actions, through the integration of the subject into school curricula, by changing the infrastructure and improving service delivery or by other means.

Helpful tools and considerations for future implementation

The helpful tools identified in the case studies included publications, training, technical assistance, national and international consultants and other tools, which helped in planning, implementation or sustainability

Fig. 6. Measured outcomes of case studies (multiple responses possible, n=55)

of the actions. The most frequently reported helpful tools were training (9), scientific publications, reports or other studies (8), technical assistance (5), national or international consultants (2) and other tools (7). Fourteen case studies did not report any helpful tools.

Lessons learned

Success factors

There were several common factors observed in a number of case studies that may be helpful in learning what works best in interventions addressing risk factors in relation to children's health and the environment.

Planning the action

Appropriate planning of interventions was mentioned by several case studies as a key factor leading to more effective implementation and significant outcomes. Several elements were identified as being part of an adequate planning process: a clear definition of the target group; involvement of target beneficiaries (children) in programme design; the ability to ensure collaboration between different stakeholders; and an effective programme methodology.

Implementing the action

There were several elements observed in case studies which were thought to be conducive to successful implementation of an action. The most frequently mentioned were the effective collaboration between key partners and/or stakeholders; sufficient financial support to implement the action; the motivation of stakeholders, politicians, target audience and partners;

and inclusion of the risk factor on the national or local political agenda. Other success factors that relate to implementing actions include the involvement of experts and/or having received technical support; the contribution of the mass media in raising awareness about the action and/or risk factor; the involvement of the target audience and beneficiaries, especially families, parents and children; the availability of technical equipment; addressing direct and urgent population needs; and participation of trained professionals. Success factors reported by single case studies include multidisciplinary teams; international exchange among target beneficiaries as an element increasing motivation; and provision of programme updates through newsletters.

Sustainability

With regard to sustainability of interventions, two main factors were noted: integration of the intervention subject and/or risk factor into school curricula or practitioners' regular activities; and the distribution of free tools to target audience.

Challenges

It is interesting to note that the two most frequently reported challenges – lack of financial support and difficulty in motivating politicians, governmental bodies and target audiences – when achieved, were the two most commonly reported success factors.

Planning the action

In relation to planning the action, at least two case studies reported difficulties in establishing intersectoral collaboration, in bringing together different

stakeholders and in accessing data to plan an evidence-based intervention.

Implementing the action

Managing logistics and delivering effective activities were mentioned by two case studies as challenges to implementing the action. Other challenges reported by single case studies included reaching the parents of the children most at risk; learning about the causes for a certain health outcome

(such as injuries); lack of technical knowledge; lack of sufficient staff; and difficulty in proper use of the methodology.

Evaluation

One case study reported difficulty in allocating resources for evaluation. While the remaining case studies did not specifically mention the challenges related to evaluation, it is clear from the information reported that evaluation is not regularly carried out.





DISCUSSION AND CONCLUSIONS

As mentioned in the introduction to the descriptive analysis, the findings presented in this document cannot be attributed a statistical significance, nor can they be considered to reflect Member State priorities or the complete range of activities being implemented. Nevertheless, the case studies do present examples of actions that were carried out in Member States by different sectors and entities which aim to tackle the risk factors identified in the CEHAPE. Thus, the collection offers one view of implementing actions at local, regional, national and international levels in relation to the CEHAPE RPGs, including challenges and key factors leading to success.

This group of case studies demonstrates both the range of actions as well as the partnerships and sectors that can work together to tackle different risk factors. At least two sectors were involved in most of the case studies; several programmes involved four sectors, including not only health and education, but also media, environment, sports, transport, the private sector and the academic sector. In relation to the involvement of different sectors, it is notable from the analysis of the present group of case studies that interventions for improving children's health and environment are most often promoted by the health sector.

Some of the case studies reported difficulties in coordinating or bringing together the different sectors. On the other hand, in one case it was reported that bringing together not only different sectors but also different funding mechanisms and projects can be of considerable value in the implementation of actions. In this particular case, funds and partnerships were brought together by WHO, the private sector, education sector and health sector, with the involvement of the media, the local authorities and the community. The involvement of more than one sector may also be correlated to the sustainability and greater impact of the action.

Most actions in this set featured an educational approach and not changes to infrastructure or policies. While this could be partially explained by a limitation in the way these case studies were collected, it also underlines the challenges of the health sector in playing a stronger stewardship role to influence actions and policies of other sectors.

Another issue that stands out from the interpretation of these findings is the process of evaluation. While 27 out of the 33 case studies reported some kind of evaluation, only 8 reported having published the results in peer-reviewed journals. Moreover, very few case studies reported having surveillance systems in place or carrying out monitoring or data collection before and after the action. The development of indicators was not reported by any of the case studies. One way to enable future programmes to conduct evaluations is through collaboration with universities or other research institutes, as was reported in several of the current case studies. Evaluation should be integrated as a key component with appropriate indicators during the planning phase.

Regarding the age groups of children targeted, 20 or more case studies reported having targeted children aged 0–14 years. What is not clear from the findings is whether the actions addressed children's specific level of maturity and needs according to age, or if children were involved in the planning of the actions. For future case study collections, it would be useful to see how age and child participation were taken into account.

Two important limitations of this collection of case studies must be noted. As previously mentioned, the call for case studies was done by means of technical networks, so the findings cannot be said to represent the situation of the WHO European Region in its entirety. Secondly, despite provision of the case study template in Russian, there was a lack of submissions from countries in the eastern part of the WHO European Region, an important omission that should be rectified when making future calls for case studies.

In conclusion, the key components of a successful intervention, according to the current collection of case studies, are described below. Based on these findings and their interpretation, it may be useful for case study authors, practitioners and other stakeholders to learn about what elements might be most useful to others who wish to implement programmes to improve children's health and environment.

A solid rationale for taking action is critical. Interventions or actions taken to address different risk factors are often triggered by a growing awareness of a specific issue arising from scientific evidence that confirms a risk factor is causing high mortality and/or morbidity among children or other vulnerable groups. Actions are often taken, however, when there is awareness of the need among practitioners or other stakeholders who do not possess scientific evidence or the financial resources to promote effective and sustainable actions. The case studies suggest that an effective intervention needs a scientific evidence base, political support and relevance in terms of the effect it has on the burden of disease. If strong scientific evidence to support the action does not exist, but it is an action that is anecdotally "known" to work, an evaluation component in the implementation would play an even more critical role as it would help build the evidence base.

Information sources are critical to creating a body of evidence for taking action, and there are a wide range of information sources that may help practitioners and other driving forces to identify the evidence base to plan and deliver interventions more effectively. Among these are international or national scientific and academic journals, statistics, publications by academic institutions and other research institutes, web sites of public health institutes and publications by international organizations. There are a number of reliable and low-cost information sources; additionally, partnerships may be developed with academic institutions, research centres or foundations that may be interested in assisting with data collection.

Only few case studies in this collection were based on scientifically validated evidence for their effectiveness. This underlines the importance for increased scrutiny of the evidence base for the effectiveness of interventions.

A good action should aim, as much as possible, to have SMART objectives, meaning objectives that are specific, measurable, achievable, relevant, and time-based. "Specific" implies that the action should clearly delineate the target group, what is to be accomplished, the setting, the requirements and constraints and the

benefits of achieving the action's goal. "Measurable" means there should be a reliable system in place to assess the progress towards achievement of the programme objectives. "Achievable" means that objectives can be reached with a reasonable amount of effort and application. An action should also be "relevant", meaning that it should address an obvious need of the target beneficiaries and that it may realistically have an impact on their well-being and health outcomes. "Time-based" objectives are clearly defined with a start date and an end date.

Planning of an action entails identifying a specific target group of beneficiaries. If actions target different groups of the population, the different needs of the groups should be taken into consideration. For instance, the participation needs of a young child are different from the needs of older children and adolescents, who may also be involved in the planning of the intervention, its implementation and evaluation.

Regarding the process of planning and implementation, factors that should be taken into consideration are the involvement of multiple sectors and the involvement of target audience and beneficiaries. While the health sector is a privileged driving force in relation to children's health and the environment, a strong action will reflect the perspective of other sectors as well, such as environment, sports, education and transport.

A successful action should include some kind of evaluation, whether it is formal or informal (for example, an assessment of intermediate outcomes). Ideally, evaluation should comprise two parts: measurements taken before and after the intervention. This set of case studies confirmed that the use of intermediate outcomes as indicators allows for a more formal evaluation compared to the use of health outcomes that are important but may not appear during the time span of the programme and evaluation, nor are unequivocally attributable to the intervention. This illustrates the importance of using indicators that can be expected to be influenced by an intervention within the project time period.

Outside support of various kinds plays a key role in successful programmes. This set of case studies demonstrates the importance of financial, political, institutional and technical support. To optimize resources, stakeholders involved in the planning and implementation of actions should take advantage of their existing partnerships and funds, both from national and international sources.

CASE STUDY DESCRIPTIONS





ECOLOGICAL SANITATION FOR SAFE AND AFFORDABLE WASTE MANAGEMENT (ROMANIA)

RISK FACTOR	Unsafe water and inadequate sanitation
POLICY OBJECTIVE	CEHAPE RPG I – <i>ensure safe water and adequate sanitation</i>
TYPE OF ACTION	Monitoring of environmental exposure, education, communication and improvement of infrastructure and service delivery
SCOPE	Local: Garla Mare village
SETTING	Kindergartens, schools, households
TARGET AUDIENCE	Parents and community, teachers, local authorities
TARGET BENEFICIARIES	Children aged 0–14 years
DRIVING FORCE(S)	NGO Women in Europe for a Common Future (WECF) NGO Medium & Sanitas
PARTNERS	Dutch Ministry of Foreign Affairs
START DATE AND DURATION	2002–2004 (2 years)
TARGET POPULATION REACHED	About 500 children
RESOURCES	€65 789 Paid staff: 10 Volunteers: 8–10

Rationale

In Romania seven million people get water from private wells, an uncontrolled source of drinking-water. Generally, groundwater protection is poor, and sources of groundwater pollution such as latrines or waste are neglected. Poor sanitary conditions and mismanagement of human and agricultural waste cause ground and surface water pollution with nitrates, faecal bacteria and pesticides. Health effects of this pollution are both long-term (thyroid dysfunction) and immediate (methaemoglobinaemia, diarrhoea, parasitic diseases) and can affect newborn babies, children and adults.

Objectives

The objective is to improve the health of newborn babies, kindergarten children and schoolchildren in Garla Mare through provision of better sanitation and cleaner water.

Description

The initiative consisted of a pilot project in a village of 3500 inhabitants to develop replicable, low-cost solutions to drinking-water pollution and inadequate sanitary conditions for children. During project implementation all 78 public wells were tested for nitrate pollution, and several wells were tested for microorganisms and pesticides. In Garla Mare's two schools, washbasins, safe drinking-water and ecological toilets were installed.

Planning and implementation

Planning process

A project committee representing all social and cultural subgroups within the village was established. Meetings and water-test days, when villagers brought water from their own wells to be tested for nitrates, were organized. This was the first opportunity for the villagers of Garla Mare to see scientific evidence of pollution in

their water supply. In addition, tests for microorganisms and pesticides in the water were carried out by Romanian and German laboratories. Experts presented the results of the investigation in a public meeting, and measures for providing safe drinking-water were discussed. In cooperation with the mayor, teachers and project committee, two NGOs developed solutions to reduce water pollution, to improve the sanitary conditions and to guarantee safe drinking-water for the most vulnerable groups.

Contribution of each sector/partner

No information was provided.

Results

The nitrate tests showed that only 15% of the public wells had nitrate concentrations below the European Union (EU) nitrate limit for drinking-water (50 mg/l). The average was 120 mg/l, with some values over 500 mg/l. The wells with nitrate levels below 50 mg/l were tested for microorganisms, and none of these wells met the EU or WHO standards for levels of microorganisms in drinking-water. Moreover, the high faecal bacteria levels indicated that the wells were being polluted by contamination from the latrines in people's gardens.

A pilot project on urine-diverting toilets in the two primary schools of Garla Mare has contributed to improving the sanitary conditions in school. As a result, 200 children in the first school have improved hygiene conditions (toilets and washbasins) and access to clean drinking-water. In the second school 250 children have washbasins and clean drinking-water.

Furthermore, no new cases of methaemoglobinaemia (blue-baby syndrome) occurred during 2002 or 2005. Two cases occurred in 2003 and one case in 2004.

The project has led to improved knowledge among the villagers of the link between health status and environmental conditions. Public interest in water and sanitation policies and community participation in the decision-making process have also increased.

Lessons learned

Key factors leading to success

Key factors for the project's success were the inclusion of intensive educational activities for the local NGOs, as well as open discussion and debate among stakeholders, leading to consensus and cooperation. Furthermore, the local population actively participated

in the project, which was conceived and implemented to address their health needs.

Sustainability

The post-project activities aimed at providing a continued supply of clean drinking-water for all citizens by improving groundwater protection, in particular by greatly reducing the infiltration of human excrement into the groundwater. Since January 2004 post-project measures have included supporting the villagers' practice of organic agriculture and observing the progress and impact of the project interventions.

In September 2005 WECF and the local NGO GEO-SAN of Garla Mare started a new one-year project called Sustainable Development for All (SDA) with the financial support of the French foundation Ensemble.

Challenges

The main challenges during planning and implementation were:

- to obtain baseline data at the start of the project, which required testing the water, carrying out surveys and finding a good hydrogeological study;
- to obtain the cooperation of the two opposing political parties in the village and to persuade them to work together;
- to find appropriate building materials and storage tanks for the eco-san toilet building; and
- to have the pump and filter installed correctly, which took six months.

All challenges were overcome by lengthy discussions and research, as well as appropriate work contracts. Distrust between different factions of villagers and between Romanian and Roma citizens, however, continues to present a challenge for participation of villagers in community-based activities.

Transferability

Based on the acceptance by users of urine-diverting toilets in Garla Mare, this technology is likely to be transferable to other rural areas of eastern Europe and the newly independent states (NIS). Urine-diverting toilets have already been introduced successfully in a project in Ukraine (2004) as well as in Afghanistan, Armenia, Bulgaria and Uzbekistan (2005–2006). In Romania there will also be a follow-up project to improve sanitary conditions in schools, town halls, dispensaries and households.

Considerations for future implementation or duplication of programme

Poverty often prevents people from considering individual investment in improving their sanitary conditions. Therefore more support from national and international donors and institutions is needed to improve the water supply and sanitation conditions in the rural areas of Romania. Long-term financial support is crucial.

Communities that want to carry out similar projects should try to involve all sectors of society, including but not limited to women and children. Students in Garla Mare, for example, helped motivate the local women to form their own association in support of the project. It is also important to address water and sanitation issues from a preventive perspective. Water filters alone are not sustainable in the long term and are more expensive than groundwater protection measures, such as reduction and prevention of anthropogenic water pollution at the source.

Additional information

The following materials and publications are available at the organization's web site (<http://www.wecf.org/publication>): project education and media materials; a 15-minute documentary film presented at the

World Water Forum in Kyoto in March 2003, which is being subtitled in French and Dutch for wider use as an educational tool; a study by the University Hamburg-Harburg, Germany: *Ecological sanitation and associated hygienic risk, an overview of existing policy-making guidelines and research*, published in 2004 by WECF (also available in Romanian and Ukrainian); a 2005 data sheet published by the German organization Gesellschaft für Technische Zusammenarbeit (GTZ) on the urine-diverting toilets of Garla Mare; *From pit latrine to ecological toilet: results of a survey on dry urine diverting toilets and pit latrines in Garla Mare, Romania, 2006*; *Small-scale environment-friendly tourism on the border of the Danube. Opportunities and chances for the villagers in Romanian Garla Mare, 2005*; *Solid waste management in Garla Mare. Managing the beauty of the Danube Delta, 2006*.

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WATER IS COOL IN SCHOOL CAMPAIGN (UNITED KINGDOM)

RISK FACTOR	Unsafe water and inadequate sanitation
POLICY OBJECTIVE	CEHAPE RPG I – <i>ensure safe water and adequate sanitation</i>
TYPE OF ACTION	Improvement of infrastructure and service delivery
SCOPE	Local: Stafford area
SETTING	Kindergartens, schools
TARGET AUDIENCE	Teachers/school administrators, parents/families, health and education professionals
TARGET BENEFICIARIES	Children and adolescents aged 5–19 years
DRIVING FORCE(S)	Environmental health officers
PARTNERS	NGO Education and Resources for Improving Childhood Continence (ERIC)
START DATE AND DURATION	June 2003 – June 2007 (4 years)
TARGET POPULATION REACHED	928 schools
RESOURCES	Less than €5000 Paid staff: 1 for planning, 2 for implementation

Rationale

For many years, medical professionals have maintained that children do not drink enough during the school day and that the resulting dehydration contributes to a number of short-term and long-term health problems. The early effects of even mild dehydration are significant for health, well-being, performance and learning. In the long term dehydration carries a high risk for a number of serious health problems and disease states. These include constipation, continence problems, kidney and urinary tract infections, kidney stones and some cancers. In order to find out more about the drinking-water situation in schools, ERIC carried out a survey of drinking-water facilities in primary and secondary schools in two educational districts. The results, published in the *Nursing Times* on 5 October 2000, revealed that drinking-water facilities

and access to water in many British schools were highly unsatisfactory. In response to these findings, the Water is Cool in School Campaign was initiated in October 2000, with a press launch at the House of Commons in March 2001.

Objectives

The objectives were:

- to increase public awareness of the health benefits to children of drinking-water regularly throughout the school day;
- to improve access to and quality of fresh drinking-water in primary and secondary schools; and
- to achieve comprehensive legislation on drinking facilities in schools.

Description

The Water is Cool in School Campaign sought to improve access to and quality of fresh drinking-water for children in United Kingdom primary and secondary schools. It aimed to increase availability and consumption of drinking-water in schools by involving parents, teachers, school administrators and health professionals in the campaign.

Planning and implementation

Planning process

During the planning stage of the campaign the following activities were undertaken by ERIC and the environmental health officers: producing campaign materials and guidelines to support schools, parents and health professionals; lobbying government and key decision-makers about the importance of improving access to drinking-water in schools; establishing contact with key organizations and individuals to make them aware of the campaign; working with local health and education organizations to encourage them to set up regional water initiatives; and encouraging coordinators of the Healthy School Standard to take up the provision of water in schools.

Contribution of each sector/partner

The environmental health officers and ERIC were responsible for planning and leading the aforementioned activities.

Results

As a result of the campaign, the government and two of the regional assemblies responded with their own initiatives and issued advice on best practices for drinking-water provision.

In 2003, in order to evaluate both the effects of the Water is Cool in School Campaign and the state of school toilets and access for pupils, the Community Practitioners and Health Visitors Association (an organization representing over half of the school nurses in the United Kingdom), in coordination with ERIC, carried out a random survey of primary and secondary schools across the country. While the results from 928 schools showed improvement in the provision of water in schools since the start of the campaign, some poor practices were still in effect.

In the majority of primary schools, drinking-water during lessons and throughout the school day is now commonplace. Seventy-eight percent of primary schools surveyed reported that water bottles are now permitted or encouraged. In secondary schools, there has been more resistance from staff to improving drinking-water facilities, and only 48% of secondary

schools report use of water bottles in the classroom. Water coolers and chilled modern fountains with swan necks are increasing in popularity. Nevertheless, taps are still the most common source of drinking-water in 21% of schools, as are the traditional water fountains in 38% of schools. In 84% of cases, these are located in the toilet area. Both the type of water source (tap or traditional fountain) and the location (toilet area) are considered poor practices in provision of drinking-water.

All 53 schools in the local area now encourage children to drink more water by providing free chilled drinking-water dispenser points or allowing children to bring refillable water bottles to school for consumption throughout the day. The responsibility for washing bottles rests with parents, minimizing the effort required by the school. After the initial cost of plumbing to install a water dispenser, the costs associated with such a dispenser are lower in heavy-use areas and more sustainable than bottled water.

Many primary schools now also restrict the type of foods that may be brought from home to fruit, milk and water. High schools still tend to sell large quantities of sweet carbonated beverages but now also sell bottles of chilled water from vending machines.

Lessons learned

Key factors leading to success

It is important to stress the need to persevere with a topic which is important, such as this one, even when others initially do not appreciate its significance. In the case of this campaign, changes in attitude took place, partly due to perseverance and the many other ongoing initiatives that indirectly supported this one.

The campaign's success was also facilitated by the general trend to promote healthy diet and nutrition for good health in schools and by the media in general, all of which occurred after the start of this campaign.

Sustainability

Sustainability of the campaign depends on outside funding. As a small charity with a limited budget, ERIC approached the water industry for sponsorship to help fund the campaign. Only one company responded to this request. In October 2001, however, the decision was taken to finance the campaign internally so that there could be no doubt as to the programme's independence and impartiality.

Challenges

The challenges are securing sufficient financial support and raising awareness of the issue, especially in secondary schools.

Transferability

No information was available.

Considerations for future implementation or duplication of programme

Some further work is needed to encourage high schools and colleges to provide more accessible, free drinking-water points. When the campaign started, drinking-water was given little attention, but since then the issue has become more a topic of discussion.

Cost is always a consideration; and the negotiation of a contract with a water cooler company to first supply bottled water and, later, chilled water dispensers at a 50% discount helped in the uptake of the initiative.

Additional information

Project resources are available in English (<http://www.wateriscoolinschool.org.uk/resources.html>) and include the Project Information Booklet containing background

information and practical guidelines, comprehensive references and leaflets for parents and children; a tough, reusable, 500-ml, transparent, plastic sports bottle with a non-spill sports cap and side panels for marking individual names; stickers with 'Water is Cool in School' logo; frequently asked questions (FAQ) (<http://www.wateriscoolinschool.org.uk/faq.html>); and drinking-water provision and access checklist for schools, "What to look for in a school for your child," for parents (<http://www.wateriscoolinschool.org.uk/involve.html>).

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MAKING HOMES SAFE FOR CHILDREN WITH THE CHILD SAFETY BOX (AUSTRIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Education
SCOPE	Regional: Styria
SETTING	Households
TARGET AUDIENCE	Parents
TARGET BENEFICIARIES	Children aged 0–9 years
START DATE AND DURATION	1996–2001 (5 years)
DRIVING FORCE(S)	Health and housing departments of the local government Grosse schützen Kleine/SAFE KIDS Austria
PARTNERS	Health insurance company Industry (Johnson & Johnson)
TARGET POPULATION REACHED	16 000 families
RESOURCES	€1.6 million Paid staff: 2 for planning and implementation, 1 for evaluation

Rationale

Home safety devices can play a significant role in reducing the risk of child injury in the home environment.

Objectives

The objectives were:

- to inform parents on child safety in the home; and
- to encourage the use of home safety devices.

Description

In 1996 Grosse schützen Kleine/SAFE KIDS Austria created the first Child Safety Box in Austria, providing a complete package of safety devices for Styrian families. This box contained all the basic safety devices to make a home safe for children: smoke alarm, cooker guard, oven guard, safety lock, window guards, safety plugs for electric sockets, drawer stop, corner and edge bumpers, refrigerator bar and door stop.

To benefit the maximum number of children, the box was distributed at no cost to families, who ordered it from Grosse schützen Kleine/SAFE KIDS Austria. Recipients paid only for delivery. The regional government of Styria paid the cost of the child safety boxes. To promote the initiative, Grosse schützen Kleine/SAFE KIDS Austria created a brochure, which was distributed by partners such as Penaten, a health insurance company and hotels equipped for children and babies. The media played a role in publicizing the Child Safety Box.

Planning and implementation

Planning process

An initial assessment of behaviour, knowledge and use of safety devices by parents with children under the age of six was conducted by a paediatrician in private practice who also leads an emergency hotline. Prior to implementation, a number of meetings were held

for collaborating partners together with stakeholders in the local government (specifically, the Health and Housing Department).

Contribution of each sector/partner

Local authorities of the Styrian government financed 100% of costs and provided political support to the initiative. Industry gave special discounts on the safety devices. The health sector was involved from the outset in promoting the project and was instrumental in facilitating the addition of the Housing Department as another financial and strategic partner. Parents and grandparents bought extra child safety boxes for friends or grandchildren who did not live in the province of Styria because the box was only subsidized by the local government for parents living in Styria.

Results

The campaign was considered a success. Even today, three years after the last activity, people call every week to ask for the child safety box. In total 16 000 boxes were distributed over a period of five years. Thanks to this initiative, child safety devices are available to all Styrian families, and a good communication network on regional and community levels has been developed.

Although the impact on health, behaviour and knowledge was not measured, Grosse schützen Kleine/SAFE KIDS Austria conducted a survey on the Child Safety Box and its usefulness for families in 2001. Families who got a box were asked to fill out a questionnaire and to return it to Grosse schützen Kleine/SAFE KIDS Austria. The results were as follows.

Item	Use by respondent (%)
Smoke alarm	77
Cooker guard	83
Oven guard	49
Safety lock	66
Window guards	51
Safety plugs for electric sockets	99
Drawer stop	55
Corner and edge bumpers	78
Door stop	75
Refrigerator bar	28
Most used products	Safety plugs for electric sockets, cooker guard, edge protection, smoke alarms and door stop
Least used products	Refrigerator bars, oven guard, window guards and drawer stops

Lessons learned

Key factors leading to success

Collaboration of the local authorities and easy access to the Child Safety Box at no cost were key factors that led to the project's success.

Sustainability

Safety devices should become an integral part of every household. Grosse schützen Kleine/SAFE KIDS Austria plays an ongoing, active role in advocating for the adoption of such measures.

Challenges

One challenge was bringing together all the stakeholders in a collaborative network. Another challenge was managing the storage, ordering and distribution of the Child Safety Box. This challenge was addressed by hiring one half-time staff member to handle the logistics and by renting an extra storage room.

Transferability

To determine which safety devices are appropriate to a specific country or culture, it is necessary to assess the home environment and determine where the highest levels of risk for domestic accidents are found.

Considerations for future implementation or duplication of programme

Safety devices and other safe home environment elements should become an integral part of housing standards. It is critical to gain the political and financial support of decision-makers and communities.

Additional information

Documentation of the project as well as publications and brochures are available in German from the organization's web site (<http://www.grosse-schuetzen-kleine.at>).

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COUNSELLING PAEDIATRICIANS ON INJURY PREVENTION (AUSTRIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Education and communication
SCOPE	National
SETTING	Health care facilities: paediatrician practices
TARGET AUDIENCE	Paediatricians, parents
TARGET BENEFICIARIES	Children aged 0–6 years
DRIVING FORCE(S)	Grosse schützen Kleine/SAFE KIDS Austria
PARTNERS	Ministry of Health Paediatricians Industry (Johnson & Johnson)
START DATE AND DURATION	May 2004 (ongoing)
TARGET POPULATION REACHED	Each year 80% of all families with children 0–6 years are reached by this project.
RESOURCES	€5 000–10 000 Paid staff: 2 for planning and implementation, 1 for evaluation

Rationale

Since 2003 legislation in Austria has legally bound paediatricians to provide information to parents on childhood injury prevention during regular examinations.

Objectives

The objectives are:

- to support paediatricians in their efforts to inform parents on child safety during regular examinations, as required by law; and
- to reduce the incidence of severe childhood injuries in the home.

Description

Grosse schützen Kleine/SAFE KIDS Austria has developed and distributed a series of Child Safety Tips on medical prescription pads in order to help paediatricians inform parents about child injury

prevention. The prescription pads, which the doctors receive free of charge, include the most important tips on preventing childhood accidents and injuries. The doctors can easily tear off a page during an examination and give it to the parents to take home. The paediatricians are also provided with a child safety manual with in-depth information to prepare them for counselling the parents.

Planning and implementation

Planning process

A needs assessment study on behaviour and attitudes among parents with children under the age of six towards child safety was carried out by a paediatrician in private practice who also runs an emergency hotline and does emergency home visits for parents on the weekend. Meetings of stakeholders, collaborating partners and expert consultants within the Austrian

Ministry of Health were held in order to establish mandatory counselling on injury prevention as a routine component of all regular paediatric examinations. The Austrian Academy of Paediatrics was also involved in promoting the programme. Leading paediatric surgeons who carry out regular retrospective studies on childhood injuries in various risk areas were consulted on the subject of injury prevention measures.

Contribution of each sector/partner

The Ministry of Health funded 50% of the programme costs. Industry funded 50% of the programme costs. The Federation of the Austrian Social Security Associations provided political support.

Results

Although there was no formal evaluation of the programme's impact on the incidence of child injury, change in behaviour or increase in knowledge, the feedback from paediatricians and parents and the repeated orders of the prescription pads and information materials suggest that the pads are very welcome and the information sheets are distributed regularly. A survey of participating paediatricians gave the following results.

Doctors who like the design of the prescription pads very much	47%
Doctors who like the design of the pads	51%
Doctors who are satisfied or very satisfied with the handling of the pads	94%
Doctors who hand out the pads only during the routine "mother child passport" examinations	nearly 70%
Parents who react positively or very positively to the pads	over 90%
Doctors who think that the information included on the pads is sufficient	91%
Doctors who say that parents are interested in child safety	76%

Lessons learned

Key factors leading to success

Factors include:

- integration of child safety awareness into the routine paediatric examination;
- support of industrial sponsors; and
- participation of the paediatricians in educating and informing parents about child safety.

Sustainability

Paediatricians are the major source of information for parents with young children and play a key role in the child's health during this period of growth and development. Their participation in the education of parents strengthens the long-term sustainability of the campaign to prevent childhood injury. From a practical point of view, the prescription pads come with an order form for easy reordering of pads.

Challenges

The main challenges were to find sponsors for the programme and to motivate paediatricians to distribute information using the prescription pads. Securing the support of the Austrian Academy of Paediatricians and presenting the programme at the academy's annual conference and on its web site helped garner the necessary political and financial support.

Transferability

Disseminating information in the form of sheets from prescription pads, which do not require much space, could easily be transferred to other settings.

Considerations for future implementation or duplication of programme

With sufficient financial resources, the programme could be extended from paediatricians to all physicians. In addition, it is advisable to obtain feedback from the paediatricians and the parents regarding the specific injury prevention information they perceive to be lacking. A needs assessment for paediatricians and a separate needs assessment for parents in the planning stage would strengthen the programme.

Additional information

Brochures and pads are available in German from the organization's web site (<http://www.grosse-schuetzen-kleine.at>).

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A SCHOOLYARD GUIDEBOOK (FINLAND)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Knowledge building
SCOPE	National
SETTING	Schools
TARGET AUDIENCE	Local authorities, teachers/school administrators, parents/family, community, children aged 5–14
TARGET BENEFICIARIES	Children aged 5–14 years
DRIVING FORCE(S)	Mannerheim League for Child Welfare Finnish National Board of Education Finnish Association of Landscape Industries
PARTNERS	Ministry of Environment
START DATE AND DURATION	2000–2003 (3 years)
TARGET POPULATION REACHED	5000 copies of the guidebook were distributed.
RESOURCES	Total €60 000: €20 000 for materials and printing, €40 000 for staff (1 staff member for planning, implementation and evaluation)

Rationale

Children spend a considerable amount of time in schoolyards during physical education classes and breaks. If the yard is well-planned it can encourage safe physical activity, and teacher supervision can prevent bullying.

Most recent figures suggest that 10–15% of pupils suffer from accidents that happen during the school day. Twenty-five percent of these injuries require medical assistance from outside the school, and fifty percent of accidents occur during breaks.

Objectives

The objectives were:

- to encourage and motivate school personnel to make the best use of schoolyards; and
- to improve the safety and comfort of schoolyards.

Description

This initiative consisted of a knowledge-building project aimed at developing safety guidelines for schoolyards.

Planning and implementation

Planning process

During the planning stage of the project, consultations were held with planning officers, and meetings were held with school staff, parent groups and students.

Contributions of each sector/partner

No information was available.

Results

The schoolyard guidebook features information on general planning, educational importance, equipment, safety and delegation of responsibility for such a project. The book contains the following chapters:

general information on the importance of schoolyards; the yard as an educational space; the yard as a space for exercise; the yard as space for fellowship; and security aspects.

Lessons learned

Key factors leading to success

The fact that the main partners in this project are well-known and respected institutions increased project visibility to the general public and stakeholders.

Sustainability

No information was available.

Challenges

The main challenge to the development of guidelines was that the requirements in the building and construction sector are not easily understood by people outside that sector.

Transferability

The development of guidelines for a safe schoolyard is an easily transferable initiative.

Considerations for future implementation or duplication of programme

The existence of a guidebook does not imply action. Interventions that take place to implement the guidebook recommendations need to be documented. It is advisable to allow sufficient time for dissemination of the guidebook and to follow up with an evaluation of its impact. Closer cooperation with the authorities responsible for registering accidents in schools would have been helpful.

Additional information

The schoolyard guidebook was published and is available in Finnish.

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MAKING HOMES SAFER (GERMANY, UNITED KINGDOM AND LITHUANIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Monitoring of environmental exposure and knowledge building
SCOPE	International: Germany, United Kingdom and Lithuania
SETTING	Households
TARGET AUDIENCE	Local authorities
TARGET BENEFICIARIES	Children and youth aged 0–19 years
DRIVING FORCE(S)	Ministry of Health (Germany) in collaboration with other relevant sectors (housing, environment, consumer protection)
PARTNERS	Public institutions: Danish Institute of Public Health, United Kingdom, Lithuania NGOs: European Child Safety Alliance, Institute Sicher Leben
START DATE AND DURATION	15 December 2004 – June 2005 (6 months)
TARGET POPULATION REACHED	No information was provided.
RESOURCES	€50 000–100 000 Paid staff: 2 for planning, 10 for implementation and evaluation

Rationale

Detailed information on the physical features of the homes in which childhood accidents occur is unavailable in many countries, as is information on the circumstances surrounding accidents in the home. Politically, there is a need to provide recommendations for preventive actions that cover both methodology for appropriate collection of technical evidence on the impact of housing on children's accidents and policy options for reducing the risk of child injury in the home.

Objectives

The objectives were:

- to review the available evidence on the role of housing design, construction and maintenance in domestic accidents;
- to identify the strengths and weaknesses of surveillance systems intended to provide evidence on the relationship between the home environment and accidents; and

- to develop in a relatively short time an initial set of action plans covering the issues of prevention, child health and accidents, from methodological and political points of view.

Description

The goal of this project was to identify appropriate ways of addressing the problem of childhood accidents, in particular by assessing and reducing the safety risks found in residential buildings and environments. To this end, the known causes of childhood accidents, according to WHO statistics and the large analysis and review of European housing and health status (LARES) study, were discussed; then experts from selected countries presented national approaches to data collection on domestic accidents. Special attention was paid to the survey methodologies used for collecting the information on the causes of domestic accidents. The discussion focused on reviewing the available information on how to detect the building features that

lead to accidents and how to detect the strengths and weaknesses of the information systems used to identify those features. International surveillance mechanisms, institutional approaches for the prevention of child accidents in the home and the institutions responsible were presented and discussed.

Planning and implementation

Planning process

The project was supported politically, institutionally and financially by the German Ministry of Health. Two reports by the Child Safety Alliance were used as background documents: *Priorities for child safety in the European region – agenda for action*; and *A guide to child safety regulations and standards in Europe*.

Meetings were held with partner institutions; and specialists in epidemiology, statistics and public health were consulted. The results of these meetings and consultations were twofold.

- The experts summarized the existing national and international data collection systems and identified unmet data needs related to children's domestic accidents.
- They identified existing domestic accident prevention policies in selected countries and drafted recommendations for strengthening preventive strategies.

The experts further agreed that strong political support is necessary in order to prevent domestic accidents on a large scale, and they proposed a European Directive on Home Safety. Different policy options for reducing the risk of domestic accidents focus on various hazard types, various actors and various housing conditions. Different types of interventions were identified and discussed as possible means of effecting the prevention of domestic accidents.

Contribution of each sector/partner

The German Ministry of Health financed 60% of the costs. NGOs and the Danish Institute of Public Health offered expertise.

Results

The main result was a summary of the different surveillance systems for domestic accidents in selected countries of the European Region, with a focus on the information gaps related to domestic accidents due to building characteristics.

Lessons learned

Key factors leading to success

The collaboration among a variety of experts on data collection and national case studies was the key factor that led to the project's successful conclusion.

Sustainability

The first important step was to assess the status of data collection on building-related hazards and currently available national prevention strategies based on the review and discussion of existing national action plans. This preparation set the stage for sustainable interventions to be implemented.

Challenges

The main challenge was to develop a multisectoral approach which brought together representatives of different ministries (construction, environment, consumer protection and health) as well as nongovernmental stakeholders.

Transferability

The review that was carried out could be extended to other countries, as could the recommended strategies.

Considerations for future implementation or duplication of programme

More national examples should be compared and evaluated so as to broaden the spectrum of lessons learned. Best practices not only in the data collection mechanisms but also in accident prevention interventions should be made more widely available. Experiences in other sectors could be applied to the domestic accident field. In the area of traffic accident prevention, for example, groups such as victims' associations have advocated effectively for improved surveillance, data collection and implementation of prevention activities. Successful duplication of best practices requires a common denominator.

Additional information

The meeting report is published on the WHO Regional Office for Europe web site (http://www.euro.who.int/Document/HOH/Bonn_accident_rep.pdf).

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CHILD INJURY PREVENTION (HUNGARY)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Monitoring of environmental exposure, education and communication
SCOPE	National
SETTING	Kindergartens, schools, households, public places, internet
TARGET AUDIENCE	Teachers and schools administrators, parents and family, children aged 0–6 years
TARGET BENEFICIARIES	Children 0–6 years
DRIVING FORCE(S)	National Centre for Public Health (from 2006: National Centre for Healthcare Audit and Inspection) as driving force Health professionals: district nurses (nurse visitors, nurse practitioners) as key players and local authorities
PARTNERS	Parents and teachers
START DATE AND DURATION	Pilot project in 2004 Main project started in 2005, but has been modified in recent years.
TARGET POPULATION REACHED	All parents, teachers and children 0–6 years in Hungary
RESOURCES	Less than €5000 from the Ministry of Health and the National Health Promotion Programme Volunteer staff

Rationale

Most childhood injuries are preventable. Data from developed countries, however, show that economic development alone is not sufficient to decrease the incidence of child injury. Promoting and maintaining a certain level of injury risk awareness in parents, teachers, children and health care professionals is also crucial. The political mandate for taking action on the issue of injury prevention was provided by the 2004 European Commission (EC) Working Party on Accidents and Injuries, Action for a Safer Europe, and the Fourth Ministerial Conference on Environment and Health, 2004, which resulted in the commitment of European countries, including Hungary, to develop CEHAPs.

Objectives

The objectives are:

- to collect data to form the scientific basis for strategic planning for child injury prevention interventions; and
- to raise awareness and increase knowledge of parents and teachers on injury prevention.

Description

The dual objectives of the project were to collect epidemiological data on child accidents and injuries (including circumstances, environmental risk factors and severity of injuries) and to use these data to develop information materials for parents and teachers on accident and injury prevention. The information

materials were then distributed to parents and teachers by district nurses. In the 2004 pilot project, district nurses collected data on child injuries to assess the number of children who are injured per year and the most frequent risk factors in the home, kindergarten and school environments. The project was partly modified recently. It now includes two focus groups: children aged 0–3 years and 3–6 years. In addition, case studies are collected only from kindergartens using the internet (<http://www.gondolkodj.hu>). District nurses continue to give advice and distribute brochures to the parents of small children and promote injury prevention through home visits (only in the focus groups with children aged 0–3 years and without collecting data).

Planning and implementation

Planning process

During the planning stage of the project, experts from the Norwegian Institute of Public Health were consulted about the possibility of using the materials on injury prevention they had produced for their country and adapting them to the Hungarian context.

Contribution of each sector/partner

Teachers and kindergarten administrators supported data collection. District nurses disseminated information on injury prevention in direct consultations and gave lectures to teachers and parents.

Results

At the present time only the epidemiological data have been collected and analysed to identify hot spots of childhood injuries.

Lessons learned

Key factors leading to success

Although it is not a mandatory part of their job description, district nurses were rather eager to provide information to parents on injury prevention. This was mainly achieved through workshops and lessons for the district nurses that emphasized injury prevention. The internet has become a useful and easy to use tool for data collection, provision of information to parents on injury prevention and national dissemination of case studies. This was a key factor in the project's success. Furthermore, the project benefited from a high level of political interest in childhood injury prevention on the part of Hungary's government.

Sustainability

The use of the internet for data collection is usually sustainable with low costs.

Challenges

Two main challenges were identified: to reach the parents of those children at high risk for accident and injury and to determine the causes of child injuries. One way to address these challenges would be to promote more frequent contact between families and their district nurses. By visiting families more often, district nurses would also learn more about injury risk factors on an individual basis.

Transferability

Similar injury prevention programmes could be implemented in countries with centralized public health systems and nurses whose role is similar to that of Hungary's district nurses.

Considerations for future implementation or duplication of programme

Securing funds sufficient for purchasing office equipment and updating existing equipment, developing courses for training of trainers (nurses, in this case) and producing teaching materials would increase the impact of the programme on the target population. Furthermore, injury prevention campaigns in the local and national media would raise public awareness of the issue. In addition, awareness of the problem could be heightened by activities targeting other types of health professionals, such as the regional meeting held in September 2005 for 300 nurse visitors in one of Hungary's poorest counties.

Additional information

Further information is available on the web about a pilot project from 2003 (<http://www.balesetmegeloz.atw.hu>), through a new portal for case study collection (<http://www.gondolkodj.hu>) and on the web site of the Ministry of Health (<http://www.eum.hu/egeszsegpolitika/>). Leaflets are distributed to parents and posters placed in 1500 paediatricians' waiting rooms.

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PREVENTION OF UNINTENTIONAL INJURIES AMONG PRESCHOOL AND SCHOOL-AGED CHILDREN (ROMANIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Knowledge building
SCOPE	Local: Bucharest
SETTING	Kindergartens, schools
TARGET AUDIENCE	Teachers, parents/family
TARGET BENEFICIARIES	Children aged 3–14 years
DRIVING FORCE(S)	The Institute of Public Health
PARTNERS	School nurses and school doctors, experts in child health and hygiene, teachers, parents and school administrators
START DATE AND DURATION	2004–2008 (4 years)
TARGET POPULATION REACHED	Audience: school doctors and nurses, teachers, educators and administrators from two schools and two kindergartens Beneficiaries: 155 children (3–7 years) from two kindergartens in Bucharest and 1224 children (7–14 years) from 2 schools in Bucharest In 2007, the project was expanded to another two schools in Bucharest for a total of 1612 children (7–14 years).
RESOURCE	€5000–10 000 Paid staff: 5 for planning, 8 for implementation Volunteers: 4 for planning, 20 for implementation

Rationale

Injuries are a major unrecognized problem impairing the health and welfare of children in the countries of central and eastern Europe. Schools have the responsibility to prevent injuries from occurring on their property and during school-sponsored events. In addition, schools can teach students the skills needed to promote safety and prevent unintentional injuries at home and in the community.

Objectives

The objectives were:

- to reduce morbidity and mortality caused by unintentional injuries among children;
- to educate children, teachers and parents on safe behaviours for prevention of injuries and first aid procedures to use in case of injury; and

- to encourage local school health programmes to identify their own problems and plan and implement strategies to resolve them.

Description

This initiative developed and implemented a series of recommendations to prevent unintentional injury in schools and kindergartens, taking into account the following seven aspects of school health: a safe physical environment (playgrounds, surfaces, equipment); safe physical education, sports and recreational activities; instruction on health education in school curricula; availability of appropriate crisis and emergency response; involvement of families and communities; safe social environments; and staff training to promote safety and prevent unintentional injuries.

Planning and implementation

Planning process

First, data was collected from school doctors and nurses about all school injuries in order to identify the incidence of injuries, risk factors, protective factors and associated risk. Then populations at high risk for accidental injuries were identified and interventions for these groups developed. Preventive strategies for the schools were planned; finally, meetings of children, educators, health providers, parents and administrators were arranged to discuss their needs and resources and to recruit them for participation in the study.

Contribution of each sector/partner

Teachers promote the acquisition of lifelong injury prevention skills, provide opportunities for disseminating materials and support educational campaigns. The Institute of Public Health collected data from school doctors and nurses on all injuries that happened at school; the school nurses and doctors sensitize teachers, educators and children to health risks in the physical environment. Parents and community encourage safe behaviours in children.

Results

The main achievement was building a partnership between schools, health professionals and parent associations to raise awareness of the dangers of unsafe buildings and injury prevention. Between 2005 and 2007 teachers, parents and health professionals were trained in the field of injury prevention and provided with information on safe school environments. Promotional materials were also distributed to schoolchildren, and educational activities were implemented.

An initial assessment of physical environmental risks and unintentional injuries in two schools revealed 98 traumatic lesions in 2003/2004. A follow-up analysis between September 2007 and June 2008 showed that no traumatic lesions were recorded.

Another important achievement was that one of the two kindergartens has been completely renovated according to the programme's recommendations, and one school has been included in an international programme of school rehabilitation, financed by the World Bank (September 2008 – September 2009).

Lessons learned

Key factors leading to success

Factors include:

- active involvement of all stakeholders in the process;
- good cooperation between pupils, teachers, parents and health professionals; and

- financial support for educational activities from the Institute of Public Health.

Sustainability

Research on environment and behaviours that affect children's health will continue in Romania in the coming years, and further interventions will take place in both social and physical environments. More attention will also be given to strengthening health and safety education curricula, physical safety education and extracurricular activity programmes, health services, response to crises, family and community and awareness among school staff.

Challenges

The challenges are to increase awareness of the physical environment and risky behaviours; to find ways to increase knowledge about injury prevention; and to implement concrete educational activities.

Transferability

All elements of the project can be easily transferred to other countries. Successful implementation of these strategies requires a clear understanding of the circumstances surrounding injuries and the risks and protective factors that influence the likelihood that a child will be injured.

Considerations for future implementation or duplication of programme

Considerations include adequate time for planning and implementation of programme interventions; adequate preparation, such as meetings, for those who will later carry out concrete actions; involvement of all the stakeholders in the process from the beginning and establishment of effective working relationships among them; assistance in identifying funds for implementing activities; practical research on risk factors to enable identification and priority settings for actions; and national and international expertise and technical assistance, along with collaboration with international partners.

Additional information

Annual project reports may be requested from the Institute of Public Health, the Scientific Board Office, by e-mail (csiki@ispb.ro).

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INJURY PREVENTION AND HEALTH EDUCATION INTERVENTION (SLOVAKIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Monitoring of environmental exposure and education
SCOPE	Local: Bratislava
SETTING	Schools
TARGET AUDIENCE	Parents
TARGET BENEFICIARIES	Children aged 10–14 years
DRIVING FORCE(S)	Public Health Authority of Slovakia
PARTNERS	University of Trnava Police Department
START DATE AND DURATION	2003 (ongoing)
TARGET POPULATION REACHED	200 children
RESOURCES	Less than €5000 Paid staff: 3 for planning, 3 for implementation, 3 for evaluation

Rationale

According to national statistical data, injuries are the third leading cause of child mortality in Slovakia. More than 200 000 children suffer from injuries and about 15 000 are hospitalized following an injury each year. About 2000 children remain disabled after an injury, and more than 200 die within 24 hours of being injured. On average, 120 children die each year from injury-related causes, with an increase in the number of child injuries in recent years. It has been estimated that child mortality from injuries is so high in Slovakia that it would be possible to close seven school classrooms each year. According to the Institute for Health Information and Statistics and the Statistical Office of Slovakia, in 2004 about 211 children and adolescents aged 0–19 years died as a result of injuries. Furthermore, injuries accounted for about 15% of child mortality in children under 14 years in 2004, with many of these injuries taking place on roads. More specifically, about one third of fatal injuries in children under 14 years of age are related to road traffic and

another fifth are due to drowning. The places where the largest numbers of injuries take place are schools and homes.

According to the Institute for Health Information and Statistics (2000), the most common child injuries are:

- limb and spine injuries: 4855 children per year;
- head injuries: 2846 children per year;
- burns: 507 children per year; and
- multiple traumatic injuries: 76 children per year.

Objectives

The objectives are:

- to ensure proper data collection on injuries and to contribute to the injury database for comparison among European Union Member States and identification of differences; and
- to draw children's and parents' attention to the problem of injuries.

Description

The initiative consisted of two interventions. First, data on injuries were collected for the community programme Maintenance, Development and Promotion of the Injury Database (IDB). This was done in cooperation with the University of Trnava and the public health authorities. After assessment of the data, injury prevention measures were prepared for parents. Then came development of a health education intervention. This school-based intervention focused on injury prevention, prevention of alcohol, tobacco and drug use, safe handling of fires and good treatment of classmates. After the intervention, children were asked to make drawings about injury prevention. Parents also received educational materials about injury prevention at home.

Planning and implementation

Planning process

During planning of the initiative, the following activities took place: development of information materials on injury prevention; collaboration with traffic police on preparation of educational materials for elementary schoolchildren on recognizing and avoiding injury hazards (school injuries, sports injuries, household injuries); introduction of activities to raise children's awareness of their role in protecting their own health and the health of others; and introduction of children to the basic principles of first aid and injury prevention.

Contribution of each sector/partner

The Public Health Authority of Slovakia prepared health education materials for parents on injury prevention. The police department helped in the development and implementation of the health education interventions in schools.

Results

Parent and child awareness of injury risks was raised and knowledge of injury prevention increased as a result of this initiative. The increased awareness and knowledge was due to the educational component of the project and the provision of information on injury

prevention to both children and adults. Increases in knowledge were measured by means of a questionnaire administered before and after the health education lessons.

Lessons learned

Key factors leading to success

Making children the target audience and getting them directly involved in the intervention was a key factor in the initiative's success.

Sustainability

The plan is to continue the health education programme in schools and to expand it to high schools.

Challenges

No information was available.

Transferability

All elements of the initiative are transferable, especially the younger students making drawings on injury prevention.

Considerations for future implementation or duplication of programme

Intersectoral coordination in the development and implementation of the intervention was critical, especially in the early planning stage. For this type of programme to be successful, injury prevention must be considered a priority in the country.

Additional information

No additional information was available.

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BUCKLE UP, BUCKLE TO LIFE (SPAIN)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Education
SCOPE	National, all road networks (urban and rural)
SETTING	Internet, television, cinema, press, other mass media
TARGET AUDIENCE	Drivers and passengers of vehicles
TARGET BENEFICIARIES	Children aged 0–3 years and older
DRIVING FORCE(S)	National Road and Traffic Authority; Ministry of Interior
PARTNERS	Driver associations including the Royal Automobile Club of Spain (RACE) International organizations including the Foundation for the Automobile and Society (FIA)
START DATE AND DURATION	April 2003 (ongoing, continuous throughout the year 2003, and periodic every year thereafter (more than once per year))
TARGET POPULATION REACHED	The spots have been aired on television 2330 times, in 2649 cinemas and have appeared in 2184 press and internet publications.
RESOURCES	About €14 million

Rationale

The rationale for this campaign is based on the fact that seat belt use can reduce the risk of death in a traffic accident by up to 45%. The evidence shows a reduction in mortality and injury severity when seat belts and restraint devices are used. The probability of suffering severe injuries in an accident is reduced by 50% by using seat belts (Source: *Collaborative study of Traffic Police, Traffic General Directorate, Ministry of Interior, Royal Automobile Club of Spain, FIA on Use and Effectiveness of Child Restraint Systems (CRS) in Car Accidents in Spain*, April 2003). For children, the risk of dying in an accident is five times higher when they travel with no restraining device. In Spain, the use of seat belts and restraining devices has been mandatory since 1992 (Royal Decree 13/1992).

The latest revision of legislation in 2003 modified the original text to make the use of restraint systems compulsory for all passengers over three years of age. For those under 150 cm tall or under three

years of age, the use of restraint devices was already compulsory. Nevertheless, use of seat belts and child restraint devices is not universal in Spain.

Objectives

The objectives are:

- to decrease the number of injuries and the severity of injuries resulting from car accidents by educating the public on the correct use of seat belts and restraint devices; and
- to increase the use of seat belts and restraint devices through education and awareness.

Description

The campaign delivered messages through television spots, cinema, internet and other mass media, encouraging drivers and passengers of vehicles to use seat belts and child restraint systems. Since 1992 the strategy followed in these campaigns has been to provide clear and explicit messages about

the consequences of traffic accidents. This particular campaign focuses on traffic situations where accidents are likely to occur. The consequences of not using seat belts are clearly shown. A comparison of the consequences is also presented, such as a simulation of the consequences of not using a seat belt in one scenario as compared to falling from a height equal to the third floor of a building.

Planning and implementation

Planning process

In preparation for this campaign, the Royal Automobile Club of Spain, the Traffic Department and the Traffic Civil Guard carried out a study on the use and efficacy of child restraint systems. The results showed that only 37% of children were using appropriate restraints. A contract to organize a health education campaign promoting seat belt use was awarded to a private advertising company on a competitive basis. Media experts and the media in general, including press, cinemas and internet, participated in the campaign. The spots used innovative and compelling arguments to convince people of the advantages of correct seat belt use.

Contribution of each sector/partner

The Traffic Department of the Ministry of the Interior is the government entity responsible for traffic regulations, traffic statistics and studies on traffic safety. This department made the most significant overall contribution to the campaign. The Traffic Department, the Traffic Civil Guard and the Royal Automobile Club of Spain conducted an initial investigation to assess the prevalence of seat belt use. Traffic education and media experts developed the guidelines for the campaign. The advertising company developed the spots, and the media sector was responsible for dissemination. The Traffic Civil Guard was responsible for enforcement. The National Road and Traffic Authority of the Ministry of Interior provided institutional support.

Results

In 2004 a national survey on the use of seat belts and child restraint systems was carried out. During the duration of this campaign the number of drivers and passengers using seat belts was higher than before, with 97.54% of drivers using seat belts and 91.67% of children using restraint systems, compared to previous studies which showed only 87% of drivers used seat belts. From 2003 to 2004, there was a 12.73% drop in mortality resulting from traffic accidents, from 4029 deaths in 2003 to 3516 in 2004. The percentage of accidents in which no seat belt was used decreased by 19%.

Lessons learned

Key factors leading to success

The existence of explicit legislation on seat belt use and the enforcement of child restraint systems were key factors that led to the project's success.

Sustainability

Legislation is now in place to enforce the correct use of seat belts. Nevertheless, education and enforcement campaigns are periodically implemented to sustain the momentum of the initiative and reinforce the message. In November 2006, for example, the Department of Traffic ran another campaign entitled "Seatbelts save lives: belts for all, belts always", which included both awareness raising and intensive road checks by Traffic Civil Guards. The television spot was originally developed by the Austrian government in 2005 and had a significant impact, achieving an increase in seat belt use from 75% to 92%. In February 2008 a campaign entitled "A safe trip starts with a simple gesture: putting your seatbelt on" was run and also included awareness raising and enforcement. Eight hundred thousand vehicles were stopped and their occupants checked for proper use of seat belts and restraint devices. This campaign was aimed at convincing drivers that seat belts should always be used in both front seats and rear seats, regardless of the length of the trip. The Traffic Department rigorously monitors traffic statistics and safety measures, and the seat belt campaigns will continue to run periodically.

Challenges

No information was available.

Transferability

Combined awareness and enforcement campaigns on the use of seatbelts has been effective in increasing seat belt use in Spain. Although it is possible that seatbelt use reached its highest use during the campaign, it has also been observed that seat belt use in Spain has increased. This may be due to the implementation of the "driving license by points" in 2007. Thus far, a comparison study on the effectiveness of different campaigns has not been conducted, so it is not possible to make recommendation for transfer other than combining awareness with enforcement campaigns.

Considerations for future implementation or duplication of programme

Programmes to increase seat belt and child restraint use by occupants of motor vehicles appear to have moderate short-term effectiveness. The long-term effect of these programmes needs to be evaluated

through high-quality, randomized controlled trials, as the effect appears to diminish substantially after a few months. It would also be important to first assess the contribution and effectiveness of these education programmes alone and then in combination with enforcement measures.

Lateral accidents appear to be the most dangerous accidents when children are travelling with correctly fitted restraint systems. More research and legislation is needed for these situations.

Other interventions such as school-based programmes, incentive-based programmes and making child restraint systems more easily accessible/affordable should be put in place to complement the periodic campaigns.

Additional information

Programme materials from press, television, cinema and internet are available in Spanish at the General Directorate of Traffic web site (<http://www.dgt.es>) and from the Royal Automobile Club of Spain. Complete statistical reports on accidents by year are available (<http://www.dgt.es/portal/es/publicaciones/publicaciones/>).

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SWISS COUNCIL FOR ACCIDENT PREVENTION (SWITZERLAND)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Communication
SCOPE	National
SETTING	Mail
TARGET AUDIENCE	Parents and family
TARGET BENEFICIARIES	Children aged 0–8 years
DRIVING FORCE(S)	Engineers and psychologists for research and statistics of the Swiss Council for Accident Prevention (bfu)
PARTNERS	No information was provided.
START DATE AND DURATION	1980 (ongoing)
TARGET POPULATION REACHED	40 000 new subscribers per year (60% of Swiss parents of newborn babies)
RESOURCES	More than €100 000 per year Paid staff: 4 for planning and implementation, 2 for evaluation

Rationale

The reason for taking action on this issue was the high number of accidents among children in Switzerland. From 2000 to 2003 the top four leading causes of injuries in children aged 0–5 years were traffic (about 38 children per year), drowning (16 per year), falls (11 per year), and suffocation (11 per year).

Objectives

The programme objective is to provide parents and families with written information about causes of accidental injuries in children as well as advice on how to prevent injuries.

Description

The Swiss Council for Accident Prevention distributes the 'bfu-Kinderpost' (direct mailing) informing parents about injury prevention for children aged 0–8 years by sending them a free leaflet every six months. The Kinderpost is made up of 16 editions, starting

with the birth of the child. The eight-page coloured brochures are adapted to the different stages of child development and inform parents about typical accidental injuries. They also include suggestions for increasing the safety of the children in different settings such as at home, on the playground, during sports and in traffic. Parents receive the brochures automatically without having to request them.

Planning and implementation

Planning process

During the planning stage of the project, experts on accident prevention in traffic, at home and during sports and leisure were consulted.

Contribution of each sector/partner

Local authorities provided the programme with the mailing addresses of parents with newborns. Bfu engineers and psychologists defined risks and main sources of injuries. Bfu engineers and architects

formulated tips for injury prevention. Bfu psychologists and educators developed the texts for the Kinderpost to be distributed to parents. The Swiss National Organization of Pharmacists, Paediatricians, Police Traffic Instructors and the Swiss Toxicological Information Centre provided special information for parents. The Swiss Insurance Association provided financial support to the initiative.

Results

Sixty percent of parents with newborn babies received information by means of Kinderpost. The following are the main results of a written survey of parents in 2004 (n=193):

- 100% of the parents judged the text in the brochures to be simple, clear and easy to understand;
- 90% did not feel threatened by the presentation of the many dangers but instead motivated to cope with them;
- 96% found it easy to carry out the suggestions given;
- 95% thought the proposed protective measures were realistic;
- 57% said they received a lot of new information;
- 74% kept the brochures; and
- 18% would prefer to receive information by e-mail.

Lessons learned

Key factors leading to success

Access to a continuously updated database of parent addresses was a key factor that led to the initiative's success, since it ensured wide dissemination of information.

Sustainability

The programme was initiated in 1980 and is ongoing.

Challenges

The main challenge was to obtain the mailing addresses of the parents of newborn babies. This was overcome by working with the local authorities.

Transferability

While the accessibility of parent mailing addresses may vary, this type of initiative could be transferred to other countries.

Considerations for future implementation or duplication of programme

Requirements for implementation of a similar initiative are accident statistics for the target group; identification of prevention measures; accessibility of addresses; and availability of necessary funds for production and dissemination of materials. The programme brochures are available to any interested party. The contents may be reproduced by specific agreement free of charge.

Additional information

Publications in German, French, and Italian can be requested from the Swiss Council for Accident Prevention or downloaded from web sites in German (<http://www.bfu.ch/kinderpost>), French (<http://www.bpa.ch/courrierbpaenfants>) and Italian (<http://www.upi.ch/postaupiperibambini>).

Data on the actual health burden of different types of injuries among Swiss children are updated every year by the Swiss Federal Statistical Office but are only available with a delay of about three years.

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PROMOTION OF PHYSICAL ACTIVITY IN KINDERGARTENS (AUSTRIA)

RISK FACTOR	Lack of adequate physical activity
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure adequate physical activity</i>
TYPE OF ACTION	Education
SCOPE	National
SETTING	Kindergartens
TARGET AUDIENCE	Kindergarten teachers, parents
TARGET BENEFICIARIES	Children aged 3–6 years
DRIVING FORCE(S)	Former Institute Sicher Leben (now Austrian Road Safety Board) as driving force Kindergarten teachers and parents as key players
PARTNERS	Ministry of Health and Sports; Ministry of Education; Institute of Sports Science, University of Vienna; Charlotte Bühler Institute; several organizations for pre-school education; insurance company “Generali”
START DATE AND DURATION	January 2000–2004 (4 years)
TARGET POPULATION REACHED	About 2000 kindergarten teachers, 50 000 pre-schoolchildren 3–6 years
RESOURCES	€100 000 in the first year, €50 000 in subsequent years Paid staff: 4 for development of materials and planning, 2 for local implementation and evaluation in kindergartens

Rationale

Every year in Austria about 50 000 children aged 3–6 years receive medical care for unintentional injuries that take place at home and during leisure time and physical activities. In particular falls are frequently associated with undeveloped and uncertain movements. Moreover, many preschool children with limited skills are going to lose the enjoyment of physical exercise. Therefore motor skills and strength should be developed systematically in kindergarten children. Kindergartens can play an important role in the integration of safe motor activity into daily life.

Objectives

The objectives were:

- to increase awareness among kindergarten teachers and parents of the importance of physical activity for young children;
- to increase children's self-confidence through safe motor activity; and
- to raise awareness among children that physical activity is fun.

Description

This initiative sought to promote safe motor activity among pre-school children by providing educational materials and training to kindergarten teachers. The project consisted of the following elements: development of a teaching module with specific suggestions to promote safe motor skills and physical activity in kindergartens (in cooperation with the Charlotte Bühler Institute); production of a video/DVD illustrating the suggestions given; development of guidelines for conducting parent-teacher conferences on safe motor activity; two-day qualification events for kindergarten teachers held in kindergartens; and a public awareness campaign to promote physical activity in pre-school children.

Planning and implementation

Planning process

Consultations with sports medicine specialists, physiotherapists, educational scientists and kindergarten educators took place during the planning stage. The initiative was also presented to parents in parent-teacher conferences. Political, institutional and financial support for the initiative came from the Ministry of Health and Sports, Ministry of Education and an insurance company.

Contribution of each sector/partner

Kindergarten teachers spent two days in seminars and were provided with educational materials and implemented the concept in their pedagogic routine. The Ministry of Health and Sports, the Ministry of Education and an insurance company financed 60% of the costs. The remaining costs were covered by the Austrian Road Safety Board (former Institute Sicher Leben). The Institute of Sports Science at the University of Vienna helped in producing the educational video.

Results

The main achievements of the project were the creation of training materials (training module and video) for kindergarten teachers on the integration of physical activity, safe motor skills promotion and injury prevention in the kindergarten curriculum. Results of an opinion poll showed that teachers considered the information provided by the initiative to be highly relevant and helpful in their daily work with children. Seventy percent of participating teachers reported that they pay more attention to motor training and that they allot more time for physical activity.

Lessons learned

Key factors leading to success

Factors include seminars for kindergarten teachers and use of an effective training video.

Sustainability

Physical exercise has been put higher on the agenda of the vocational training for kindergarten teachers. A follow up campaign, "Fit für Österreich", will also focus on preschool teachers and will further develop and implement the messages and tools of the first campaign.

Challenges

The main challenge was to adapt new theoretical literature and materials for practical use by kindergarten teachers. This challenge was met by forming a working group of scientists and practitioners and by adapting the materials accordingly. The end result was a practical guidebook for kindergarten teachers and educators.

Transferability

All elements of this programme can be easily transferred.

Considerations for future implementation or duplication of programme

Teachers should be actively involved in the planning phase. Workshops or seminars for the teachers are more effective than merely providing them with information materials. Evidence-based studies on the recommended amount of physical activity for kindergarten children and on the correlation between physical activity and learning were used in programme planning and development. Training provided by physiotherapists and technical assistance from experts in video production were also helpful.

Additional information

Two evaluation reports, a video/DVD and a training module are available upon request.

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BICYCLE HELMET FESTIVALS (AUSTRIA)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Education and communication
SCOPE	Regional: Provinces of Vienna, Styria, Burgenland and Vorarlberg
SETTING	Primary schools, municipalities, shopping centres
TARGET AUDIENCE	Primary school teachers, school administrators, community programmes for children, shopping centres
TARGET BENEFICIARIES	Children aged 5–10 years
DRIVING FORCE(S)	Former Institute Sicher Leben (now Austrian Road Safety Board), Traffic Safety Fund
PARTNERS	Ministry of Education and school administrations of federal provinces; initiatives for injury prevention of federal provinces (e.g. Vienna, Vorarlberg, Styria); shopping centres and an insurance company
START DATE AND DURATION	1992–2008
TARGET POPULATION REACHED	4000 children per year during the first 4 years, 500 children during the last years
RESOURCES	€1 million per year during the first four years Paid staff: 1 for planning, 7 for implementation Volunteers: 5–10 for implementation

Rationale

According to the hospital-based monitoring system of external causes of injuries (European Injury Data Base) in Austria 35 000 bicycle accidents happen annually, whereof 18% cause head injuries.

The use of bicycle helmets can reduce the risk of severe head injuries up to 85%. Children are the most vulnerable group, with about 39% head injuries, when not wearing a helmet.

Children should get used to wearing a helmet in early ages when they start bicycling, in order to create long-term habits.

Objectives

The objectives were:

- to raise children's awareness about injury risks when riding bicycles;
- to familiarize children with bicycle helmets;

- to help children understanding their personal limits (regarding perception of situations, physical strength, balancing skills); and
- to reinforce safe behaviour.

Description

This initiative organized about 200 Bicycle Helmet Festivals per year (during the first four years) with the main aim of promoting the use of bicycle helmets. Children have to pass a course with different stations, in particular a hurdle course which trains balancing and riding skills. Additionally they are provided with safety information in a playful way. The Bicycle Helmet Festivals were part of a broader bicycle helmet campaign which included advertising poster, promotional film for cinemas featuring a famous football player, publications in consumer magazines, a media box for schools with information and demonstration materials, flyers and posters for bicycle stores, and gift

coupons for purchasing child bicycle helmets at low costs. Since 1992 rates of helmet use in all age groups are measured periodically and public opinion regarding bicycle helmets is assessed by polls.

Planning and implementation

Planning process

During the planning phase, the former Sicher Leben Institute (now department for Home and Leisure Safety of the Austrian Road Safety Board) has initiated a broad stakeholder forum (Austrian Bicycle Helmet Initiative) in order to coordinate actions, to create synergies, to formulate joint key messages, and to identify the best means to deliver these messages to various target groups. The first Bicycle Helmet Festivals were held and pre-tested in 1992.

Contribution of each sector/partner

The former Sicher Leben Institute initiated, designed, led the campaign, developed most of the promotional materials and carried out accompanying evaluation studies. The Traffic Safety Fund (Ministry of Transport) subsidized the campaign. The Ministry of Education sent letters to schools recommending the booking of Bicycle Helmet Festivals. Local authorities supported the initiative by making public space available for the events, free of cost. Regional initiatives for injury prevention organized and subsidized the Helmet Festivals in their federal provinces (Vienna, Vorarlberg, and Styria) and ran the festivals until 2008. Several private sponsors (sports industry, sport retailers, insurance companies and shopping centers) subsidized certain numbers of festivals in certain regions and/or certain years.

Results

Use of bicycle helmets by children in Austria has increased considerably over the years. From 1992 to 1996, when many parties took place, helmet use increased from 6% to 28%. In 2009 43% of schoolchildren (7–15 years old) wear a helmet when riding a bicycle in public. In an opinion poll in 2009, 84% of the population expressed their support for a law making bicycle helmets compulsory for children up to 15 years of age.

Local organizers of the events were asked by the coordinator to complete a questionnaire for feedback, e.g. on the number of participating children and satisfaction with the programme. Instructors were asked for further suggestions on how to improve the programme. Questionnaires evaluated in 1997, showed that 40% of the events had more than 100 participants, and 27% less than 50. 96% percent of local organizers (mainly teachers) assessed the quality of the events as very good.

Lessons learned

Key factors leading to success

The enthusiasm on organizers and instructors, the involvement of parents and teachers, an entertaining programme providing an enjoyable variety to the daily routine in schools, a clear focus on the target groups (the programme could be easily be adapted to different age groups) were key factors leading to the project's success. Another aspect is that the festivals have been part of a larger and long-lasting campaign for bicycle helmets with many different stakeholders and a great variety of activities. Repeatedly carried out studies on helmet-wearing rates and opinion polls demonstrated a steady progress, also significantly influencing adolescents and adults.

Sustainability

The long-lasting demand for the Bicycle Helmet Festivals was unexpected. After the first four years, different regional initiatives carried on with organizing the festivals until 2008. Even today, certain aspects are incorporated in more general bicycle training festivals for schools, coordinated by the Austrian Workers Compensation Board.

Challenges

Apart from finding suitable sponsors, the main challenge was to get competent staff for a great number of events during a relatively short period (April to June each year). For a successful event it is important to ensure that the location of the festival is suitable, every child participating has a bicycle and a helmet and every station of the course is attended by an instructor.

Transferability

Thematically focused outdoor events are well accepted by primary schools. They provide great opportunities to gain visibility at local level, and may attract sponsors. The parties can be attached to greater local events or can be organized as stand-alone school events. The contents can be varied to a certain extent and adapted to different target groups and settings.

Considerations for future implementation or duplication of programme

Finally, the success of the campaign made itself unnecessary. It can be said that today most parents and children are familiar with bicycle helmets and understand very well the benefit of the device. Today, other messages for riding a bicycle safely have become more important. So, the original Bicycle Helmet Festivals have been incorporated into general bicycle festivals with a broader view on traffic safety.

Additional information

The complete evaluation report of the Austrian Bicycle Helmet Initiative, carried out by the former Institute Sicher Leben in 1997, is available upon request (in German only).

A video explaining and showing the festival, an informational brochure, a checklist of what is needed to hold the event and posters to promote the festival can also be made available upon request.

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PLAYING PATROL (DENMARK)

RISK FACTOR	Lack of adequate physical activity
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure adequate physical activity</i>
TYPE OF ACTION	Education
SCOPE	National
SETTING	Schools, play education courses and internet
TARGET AUDIENCE	Teachers/school administrators, children aged 5–15, municipalities
TARGET BENEFICIARIES	Children 5–15 years
DRIVING FORCE(S)	Health professionals: behavioural researchers and teachers NGOs: the Danish Cancer Society, the Danish School Sports Association and the Danish Gymnastics and Sports Associations
PARTNERS	Private companies: TrygFonden (a private foundation) and Compan (playground equipment producer) were involved in the initial project period
START DATE AND DURATION	2005-2008 (3 years). Pilot test in 2004. The project has been extended until 2011 because of its success.
TARGET POPULATION REACHED	30% of schoolchildren aged 5–10 years among 105 000 pupils (700 schools with 150 pupils aged 5–11 years at each school)
RESOURCES	More than €100 000 Paid staff: 15 for planning, 10 for implementation, 2 for evaluation Volunteers: 1500 teachers and children from 300 schools during implementation

Rationale

The main rationale for taking action is the high prevalence of obesity and physical inactivity among children in Denmark. While children at a young age are not yet at increased cancer risk, an inactive lifestyle and obesity are risk factors that could lead to cancer in the future. A Danish study examined 9-year-olds in 1985–1986 and again in 1997–1998 and found that boys had lower level of physical fitness and higher body fat levels in 1997–1998. In addition, increased polarization was found in 1997–1998 between the fit and the unfit and between the lean and the overweight. In girls, a similar polarization was found, but with no overall change in fitness or obesity.

Another Danish study found an association between children's and young people's physical activity and their self-perceived health and well-being.

A third study found that only half of the older schoolchildren met recommendations for adequate physical activity.

It is important to change children's physical activity behaviour in ways other than offering more sport activities or physical education classes. Some studies have shown that inactive adults did not enjoy sports or physical education classes as children, so promoting these alone would not necessarily ensure that they would become more active. For this reason, the Danish Cancer Society has turned its attention to physical activity through play. Normally children love to play; but in many schools not all small children play and many others stop playing when they get older.

Objectives

The objectives are:

- to increase children's physical activity during breaks at school; and
- to encourage older children to motivate younger children to play games and be physically active.

Description

The aim of the Playing Patrol was to introduce or reintroduce physical activity through games and social interaction, with a plan to educate 750 patrols over six years. The initiative consists of an education and information project involving school board authorities and municipalities to create structures for more active playing in school yards.

The project sought to empower older students to teach younger ones to play games in order to increase physical activity. A Playing Patrol consists of 4–8 older schoolchildren (12–16 years old) from sixth–ninth grades. In courses all over the country the Playing Patrols were taught basic games, how to teach smaller children about playing and how to start games for a group of children. The courses are led by trained playing instructors and every school selects their Playing Patrol members. The Playing Patrols receive playing introduction materials with 32 games and materials such as a jacket, T-shirt, cap and a bag full of play equipment.

Additionally, the Playing Patrol has a web site in Danish (www.legepatruljen.dk) where all the details about the project are listed. The main audience for the web site is the Playing Patrol children with the aim of maintaining their motivation through debate with other Playing Patrol children, competitions and advice. Answers to most questions can be found here.

Planning and implementation

Planning process

During the planning stage of the project 3–4 meetings with collaborating partners took place to agree on the project concept. Experts from the participating organizations were consulted for their professional assessment of relevant issues, such as behaviour, activities and school environment, in order to adapt the project to the local context.

A pilot test in 10 schools was conducted in 2004. The pilot test report was based on interviews with Playing Patrol children and teachers. The purpose was to assess the project's feasibility and fine-tune its design.

Contribution of each sector/partner

Teachers with experience in play provided input to the instruction manual and educated play instructors during local courses that trained playing patrol pupils. The Danish Cancer Society evaluated the pilot programme and adjusted the project accordingly and created the web site (<http://www.legepatruljen.dk>). The Danish School Sports Association and the Danish Gymnastics and Sports Associations contacted their school network in order to introduce the Playing Patrols. Children participated in pilot tests. Private sector companies Compan and TrygFonden contributed with ideas and financial support during the project development phase.

Results

The project was implemented initially for three years. About 700 schools throughout the country now have Playing Patrols, covering about 30% of the primary and lower secondary school population (children 5–15 years old). This figure exceeds the initial target of 300 schools. The responses from teachers and children have been very positive, and there has been a lot of media coverage of the project.

An evaluation carried out in 2007 using a questionnaire and interviews with Playing Patrol children and teachers showed that the project has been quite successful in reaching children who are generally not physically active during school breaks. The evaluation showed that it was more effective than other programmes in engaging children who were normally excluded during school breaks, such as those that did not play football, lacked playmates or were socially less active. One reason is that the project does not focus on specific athletic skills but on games in which all children can participate.

The project was also found to change children's attitudes towards physical activity by providing a positive experience through play; to strengthen the focus on games and physical activity during school breaks; and to improve children's social skills through games and play activities.

Playing Patrols have been used to solve conflicts in groups or classes with social problems, and they can contribute to social cohesion in schools and reduce the incidence of bullying. The fact that children are guided by older students rather than adults has been very well received by both children and teachers.

Municipalities have also been willing to pay for Playing Patrols for their schools because the concept is inexpensive and easy to implement.

Lessons learned

Key factors leading to success

Interest and commitment from the schools and strong organization of the project were factors that have led to the success of the project. Well-trained playing instructors for the Playing Patrol courses and a high level of commitment from supervising teachers have also increased the children's motivation. An important key to success is the unique peer approach using older children rather than adults to teach and motivate younger children.

Sustainability

An important part of the project is that the Playing Patrols at each school educate new patrol members, so as to ensure that the project will continue after the first generation patrol members have left primary school. A solid commitment from the supervising teacher at every school is essential to ensure continuation of the project and integration of the Playing Patrol into the daily school routine.

Challenges

The two main challenges were to ensure sufficient funding for the project and to integrate the needs of different cultural subgroups into the project.

Transferability

The concept of a Playing Patrol can be easily transferred to other countries.

Considerations for future implementation or duplication of programme

For countries that want to carry out similar initiatives, it is advisable to test the project with as many partners and participants as possible prior to full implementation. A pilot project can show whether the playing courses have been well designed and whether the programme will be feasible. It can also be a way to assess what children and teachers think about the project and whether they enjoy the Playing Patrol activities.

Additional information

Progress reports and evaluation reports in Danish as well as leaflets and brochures are available from the Danish School Sports Association and web sites (see below).

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SPORTS AND PHYSICAL EDUCATION (DENMARK)

RISK FACTOR	Lack of adequate physical activity
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure adequate physical activity</i>
TYPE OF ACTION	Education
SCOPE	Local: Taastrup
SETTING	Kindergartens, schools, neighbourhoods, public places
TARGET AUDIENCE	Local authorities, teachers/school administrators, parents/family
TARGET BENEFICIARIES	Children and adolescents aged 4–18 years
DRIVING FORCE(S)	Health professionals: local sports consultants; municipal authorities; teachers
PARTNERS	Health professionals: local consultants, school nurses and other professionals working with children 0–18 years; sport associations
START DATE AND DURATION	January 2003–2006 (3 years)
TARGET POPULATION REACHED	100 children
RESOURCES	€30 000–50 000 Paid staff: 2 for planning, 10–15 for implementation Volunteers: 3 for planning, 10–15 for implementation

Rationale

Many children and adolescents in Denmark do not engage in adequate physical exercise and activity in their daily lives. Lack of physical activity is a serious and growing health risk with long-term effects. Exercise facilities are plentiful, but young people lack the motivation to engage in sports or other physical activities.

Objectives

The objectives were:

- to encourage educational institutions (including both kindergartens and schools) and sports associations to collaborate to ensure adequate amounts of physical activity;
- to make optimal use of all local sports facilities; and
- to create a variety of possibilities for practicing sports in the local environment.

Description

The programme sought to motivate children and adolescents to become involved in physical education and sports. The main intervention took place in 2004 and brought together representatives of all relevant institutions and sports associations to discuss the possibilities for working together in their local area. Five initiatives were established as a result of this meeting.

- In the kindergarten year-circle, each of the six participating kindergartens plans a sports day every year to which they invite the other five kindergartens. There are different themes for the gatherings, such as the Olympic Games, small competitions or ball games.
- As to school sports, some of the pupils in the eighth grade are offered a course where they learn how to organize sports activities for the younger students. In the daily breaks they wear easily visible clothes and start sports activities for the 6–10-year-olds.

- In mini-sports, after-school child-care centres collaborate with local sports clubs. One day each week, over the course of a month, the sports clubs present their activities to the children and the child care centre employees, introducing the children to different sports in the familiar environment of their after-school centre.
- There was a yearly sports day. Once a year, on a Saturday, all students are required to attend a presentation by the local sports clubs, which introduce their sports activities to the different classes (age groups) of children. The kindergartens present their own physical activities to the youngest children. All the children together with their families are welcome to talk to the instructors of the various sports activities.
- For the “Novices’ Team”, the local gymnastics club offers a weekly two-hour play and gymnastics class for children who are unaccustomed to physical activity (not only those who are clinically overweight). School nurses inform the parents of overweight children about this course. Gymnastics instructors inform the school nurses if children stop attending, so as to encourage them to continue.

All the partners met every two months for two hours to be sure that the initiatives were working as planned. These meetings also offered opportunities to adjust the initiatives and start new ones. All local partners working with children and physical activity created a common forum. Every year all partners went on a two-day working retreat together to strengthen and enhance the programme and its various elements.

Planning and implementation

Planning process

During the planning stage of the project, ideas were presented and discussed at a meeting of stakeholders and collaborating partners. Each sports federation created its own initiative, adapted to specific local conditions. Precise agreements among the partners were also solidified. Experts from earlier projects between public institutions and sports associations were consulted for advice on how to handle the challenge of cooperation between paid staff members and unpaid volunteers. In addition, the experts gave advice on sports initiatives for children of different age groups, up to age 18.

Contribution of each sector/partner

All local institutions and sport associations participated in the planning phase. Local sports consultants (project leaders) provided ideas for starting initiatives. Administrative staff ensured that the agreements between different sectors were understood by all, supported the sectors in all the initiatives and helped implement the initiatives. City hall (local government authorities) provided access to sport facilities for different initiatives. Sports associations, teachers, school nurses and other professionals working with children 0–18 years were involved in the project and worked together on different initiatives with other participating sectors.

Results

After every meeting, all conclusions and agreements between the different sectors were documented. An external agency was also hired to evaluate the project; this agency sent out questionnaires to all the participants and prepared a report at the end of the project. As a result of this project, there are now more sports activities for local children; levels of physical activity have increased; and the staff of the various institutions involved have received more continuing education courses on ways to initiate physical activity. There is collaboration between the local partners, which motivates them to carry out more activities and to improve the quality and variety of the activities offered to children. These measures have made better use of existing local resources (both human and financial) and forged a connection among the different institutions and federations to fulfil the physical activity needs of local children.

Lessons learned

Key factors leading to success

Factors include:

- multisectoral collaboration at all stages;
- support from local authorities; and
- consultation with experts on sports initiatives adapted to specific age groups and local circumstances.

Sustainability

Sustainability requires continuing financial support for the programme as well as high-priority status for the programme within the various participating institutions.

Challenges

Motivating people to work together when some are paid (teachers, for example) and others are unpaid (volunteers from sports associations) was the main challenge during the implementation of the project. This difficulty was overcome by open discussion.

Transferability

Most elements can be transferred, but sports associations are organized differently from country to country.

Considerations for future implementation or duplication of programme

It is important that everyone involved is aware of the amount of work required as well as the importance of collaborating with people from different institutions

and backgrounds. Agreements between participating parties should be written down and one individual nominated to closely follow the initiative. It is advisable to set up standard contracts that can be used every time there is a new agreement to be recorded. Training courses in project management and the fellowship of competent colleagues with whom to discuss the project were useful elements. More experience in leading and motivating people would have been helpful.

Additional information

Progress reports are available in Danish and Turkish.

Contact

Web site <http://www.pucinfo.dk>
<http://www.htk.dk>



MOVEMENT IN KINDERGARTENS (DENMARK)

RISK FACTOR	Inadequate amounts of physical activity and nutrition
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure adequate physical activity</i>
TYPE OF ACTION	Education
SCOPE	National: communities and counties in the Danish Healthy Cities Network
SETTING	Kindergartens
TARGET AUDIENCE	Parents and kindergarten staff
TARGET BENEFICIARIES	Children aged 1–4 years
DRIVING FORCE(S)	National Healthy Cities Network
PARTNERS	Health professionals: advisers (public health) Ministries: National Board of Health
START DATE AND DURATION	2003–2005 (2 years)
TARGET POPULATION REACHED	205 participants
RESOURCES	€30 000–50 000 Paid staff: 30 for planning, 300 for implementation, 10 for evaluation

Rationale

In order to raise awareness of the importance of nutrition and physical activity in kindergartens, there is a need for systematic integration of relevant information into the educational curriculum. This project was initiated by the Danish Healthy Cities Network, which regularly addresses the issues of diet and physical activity.

Objectives

The objectives were:

- to prevent so-called lifestyle diseases and reduce social inequalities;
- to establish healthy diet and physical activity habits early in life;
- to create a culture of health promotion as well as to provide strategies for improving diet and physical activity in kindergartens;

- to create a professional attitude towards proper nutrition and physical activity among educators and to help educators promote physical activity and improve children's eating habits; and
- to establish networks between kindergartens.

Description

A three-day course, Movement in Kindergartens, was organized for kindergarten educators for programme planning and development purposes. The course provided them with information in the following areas: health promotion, health education and social inequality; children, diet and physical activity; inspiration and training ideas for educational activities on diet and physical activity; experience with project development; strategies for improving diet and increasing physical activity; and networking possibilities between kindergartens.

During the course, there was a period for developing and implementing strategies for promoting good nutrition and physical activity in kindergartens. The participants also received guidance on networking between the institutions and how to get support from the project leader.

Planning and implementation

Planning process

The project was prepared by a multidisciplinary group representing different sectors. It was led by University College South (former CVU Sønderjylland and Kolding College of Social Education).

Contribution of each sector/partner

The project was financed by the Ministry of the Interior and the Ministry of Health. The National Healthy Cities Network had legal responsibility for the project.

Results

University College South carried out an internal evaluation of the project based on participant assessment before and after the intervention. The evaluation showed that there was a positive change in the following areas: creating a culture of health promotion in kindergartens; creating a professional attitude to healthy diet and physical activity among educators; training educators to work with the issues of diet and physical activity in kindergarten; and establishing networks between kindergartens.

Lessons learned

Key factors leading to success

It is very important that project development take place in a group with multidisciplinary skills representing different sectors.

Sustainability

No information was available.

Challenges

Coordination and communication were the greatest challenges, since there were many people and sectors involved in the project.

Transferability

No information was available.

Considerations for future implementation or duplication of programme

A sufficient period of time between the first part and second part of the course is necessary.

Additional information

Project protocol and evaluation report as well as inspirational material for kindergartens are available in Danish.

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HEALTH AND ACTIVITY IN SCHOOLS (LÜBECK, GERMANY AND NYKØBING, DENMARK)

RISK FACTOR	Lack of adequate physical activity
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure adequate physical activity</i>
TYPE OF ACTION	Education
SCOPE	Local: Lübeck and Nykøbing
SETTING	Schools in socially underprivileged districts, school kitchens, indoor swimming pools
TARGET AUDIENCE	Teachers, parents, children aged 10–14 years
TARGET BENEFICIARIES	Children 10–14 years
DRIVING FORCE(S)	Health professionals: school nurses, physicians, dieticians, psychologists Ministry of Health and Ministry of Education Municipality: Health Office Teachers Community sports associations
PARTNERS	Health insurance companies in Lübeck University Hospital Schleswig-Holstein (Institute for Social Medicine Lübeck) University Research Centre for Health and Care in Copenhagen
START DATE AND DURATION	1 August 2003 – 31 July 2006 (3 years)
TARGET POPULATION REACHED	500 children
RESOURCES	More than €100 000 Paid staff: 10 for planning, 45 for implementation and 14 for evaluation

Rationale

Primary prevention of obesity, postural deformities and coronary heart diseases are priorities in both German and Danish national health objectives. According to the report on children's health for the city of Lübeck, 9.2% of the children are obese. For Denmark the data are similar.

Objectives

The objectives were:

- to raise awareness among socially underprivileged children of the importance of proper diet and adequate physical exercise;
- to influence the children's attitudes and behaviours regarding nutrition and exercise by teaching them skills and habits that support and contribute to a healthy lifestyle; and
- to increase the children's confidence and conflict-resolution skills.

Description

This cross-border, Danish-German competence development project for socially underprivileged schoolchildren presents a simple, efficient and sustainable plan of action for obesity prevention by means of lessons at school on nutrition; flexibility and fitness; and conflict resolution. The initiative includes cooking courses for the students as well as opportunities to try different types of physical activities and chi gong relaxation exercises at professional fitness studios. They were also taken shopping in supermarkets, where they were taught which products are essential for a nutritious diet. The initiative used specialists such as nutritionists, sport therapists and psychologists to develop each training module: diet, nutrition and cooking; physical activity and sports; and relaxation.

The programme has been expanded to other schools; and in Lübeck it will soon be implemented in all primary schools. A best practice model will be developed by means of regular exchange of experiences and ideas between the two cities.

Planning and implementation

Planning process

During the project planning stage, meetings with stakeholders and collaborating European Union representatives as well as expert consultations with health professionals were held. Parents were invited to a meeting to receive information about the programme, its rationale and its objectives.

Contribution of each sector/partner

Teachers provided support for the special lessons. The Health Office of Lübeck was the leader of the project and financed 50% of costs. School nurses, physicians, experts in dietetics, psychologists and community sports associations supported teachers in the special lessons. Local authorities and the local health insurance institutions provided financial support. Children participated in the lessons. The two universities in Lübeck and Copenhagen carried out the evaluation of the project.

Results

Children were interviewed twice a year, and their weight, height, and sports results were documented. The intervention showed an increase in children's knowledge about healthy diet as well as a change in their attitude. The children's body mass index (BMI) was also reduced as a result of the intervention, and children found they were able to move better and were less afraid of other pupils. An important result of the project is that there is now the demand for breakfast and lunch at all schools. Additionally, the fees to enrol in sports clubs will be subsidized by the municipalities in the case of socially deprived children.

Lessons learned

Key factors leading to success

One of the key factors that led to the project's success was the availability of all-day schools in which the children could participate in team sports and other sports activities and receive nutritious meals, all during school hours. Furthermore, the opportunity for international exchange among the children was another key factor. All participants regularly received updates by newsletter with the latest information on the project.

Sustainability

The project has been integrated into the regular school day, and the elements will be implemented in the school curriculum on a permanent basis.

Challenges

Challenges include getting teachers to support the project; developing effective lessons for children, most of whom can only concentrate for five minutes on theory and need 40 minutes of practice; and giving children an opportunity to talk about their personal attitudes and habits with regard to exercise, diet and violent behaviour.

Transferability

All elements can be easily transferred to other countries, especially the cross-border collaboration and exchange of students and experts.

Considerations for future implementation or duplication of programme

The most important modules were the sports and fitness module and the self-esteem and conflict resolution module. It is advisable to set up a network with participants from different sectors such as education, health services, youth welfare offices and universities. Younger children, especially those 6–10 years old, would also benefit from this programme.

Publication of several articles in local newspapers helped the project gather more public support and interest. The support of an evaluator and a consultative European Union representative was also useful.

Additional information

The evidence base for the initiative was provided by the programme document of the BKK Bundesverband from the Symposium *Adipositas Programm – (K)eine Hilfe für sozial benachteiligte Kinder und Jugendliche 2005* about measures for preventing obesity among socially underprivileged children and youth; and the first *Children's health report of Lübeck (2000)*, which demonstrated a significant correlation between children's health and their socioeconomic status.

Project reports and evaluations are available in German and Danish from the web sites below.

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DON'T POISON THE AIR I BREATHE (CYPRUS)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Monitoring of environmental exposure, education and communication
SCOPE	A pilot project at district level in Nicosia will be expanded to national level after first phase.
SETTING	Kindergartens, households
TARGET AUDIENCE	Teachers, parents/family, community
TARGET BENEFICIARIES	Children aged 1–4 years
DRIVING FORCE(S)	Health professionals: chemists and physicians of the National Committee on Environment and Children's Health
PARTNERS	Ministry of Health; parents and teachers
START DATE AND DURATION	November 2004 (ongoing)
TARGET POPULATION REACHED	Audience: 100 000 Beneficiaries: 300
RESOURCES	€10 000–30 000 Paid staff: 3 for implementation Volunteers: 4 for planning and evaluation, 10 for implementation

Rationale

Forty percent of Cypriot parents are smokers. There is, however, a strong political will to cope with the problem of ETS and its related health effects on children.

Objectives

The objectives are:

- to examine the knowledge, attitudes and practices (KAP) of Cypriot parents with reference to ETS;
- to assess the extent of nicotine pollution in houses and the levels of cotinine in the saliva of children (an indicator of exposure of preschoolers to ETS) before and after the intervention; and
- to raise awareness of ETS and design and implement an intervention on ETS targeting parents, teachers and children.

Description

The programme consists of measures to minimize the exposure to and effects of ETS on preschool children.

The programme is divided into two phases.

In the first phase, which took place from November 2004 to March 2005, the programme assessed the knowledge, attitudes and practices of parents with regard to smoking, the levels of indoor air pollution (specifically nicotine) in homes and the levels of cotinine in children's saliva.

In the second phase, an intervention was carried out to raise awareness among parents and children about the adverse health effects of ETS and to create anti-smoking attitudes in parents by distributing an anti-smoking leaflet to 50 000 families at elementary schools. Children were informed about the issue of ETS by their teachers and asked to give the leaflet to their parents. Lectures were given, and a video on ETS was shown at schools and paediatric clinics. Television programmes promoted the initiative, and promotional CDs were distributed to all schools. Indoor air quality was investigated and the cotinine levels of children examined in July 2006 and October 2006,

before and after the intervention. The effectiveness of the intervention was evaluated in order to identify weaknesses in the KAP approach and to maximize the impact of the intervention. Finally, the sustainability of the anti-smoking intervention effect was monitored and the programme expanded to additional districts.

Planning and implementation

Planning process

During the planning stage of the programme, representatives from the Paediatric Association, the State General Laboratory, the Ministry of Education and the Ministry of Health met to identify priorities and best practices and assign responsibilities. In this context, paediatricians were also consulted on best practices for motivating parents.

Contribution of each sector/partner

Teachers were involved in explaining the purpose of the intervention to children and parents. The health sector undertook the investigation of exposure to ETS and developed and distributed the questionnaires for the KAP study and the intervention. Parents and communities supported and cooperated with doctors and pharmacists in the intervention.

Results

In 42.7% of the participating households, at least one parent was a smoker; this is relatively high compared to other European countries, in which the percentage ranges from 25% to 37%. In 5.7% of the households, both parents were smokers.

Fifty percent of the parents who responded to the questionnaire had at least a secondary education, and thirty percent were university graduates. Parents had general knowledge of ETS and how it can threaten their children's health, but their knowledge of its secondary effects was more limited. Specifically, the results indicated that:

- 71% knew what ETS is, and 95% knew that it can harm children's health;
- 80% knew that ETS can affect asthma development and worsen its symptoms, and 82% knew that it can increase the risk for cancer;
- 64%–80% of parents did not know any other specific effects of smoking, such as sudden infant death syndrome (SIDS), otitis, pneumonia or behavioural changes;
- 30% of parents held the incorrect perception that by smoking in another room, next to a window or in a ventilated room, they would protect their children from the effects of ETS; and

- the percentage of parents who gave incorrect answers was higher among smokers than among non-smokers, as was the percentage of parents who were willing to adopt protective or anti-smoking measures.

Smokers in general have unhealthy habits. This can be attributed partially to their lack of knowledge of the multiple, serious and lifelong effects of ETS on their children as well as to their lack of information and understanding of different measures and their effectiveness. The questionnaire showed that:

- 68% of the smokers at least occasionally smoke in the presence of their children, while this number increased to 72% when children are in other rooms or outside; and
- 28% of the smokers smoke in the car even if children are present.

Based on these results, it was decided that the aims of the intervention strategy should be:

- to create antismoking behaviours and attitudes starting in childhood and adolescence by means of education and raising awareness of the health effects of active and passive smoking;
- to teach children how to assert their right to a smoke-free environment and home, how to avoid smoking and how to protect themselves from passive smoking;
- to invest in changing knowledge, attitudes and practices of parent smokers in order to minimize children's exposure to ETS and create smoke-free homes; and
- to provide guidance on how smokers can protect their children from ETS, even if they cannot stop smoking.

Lessons learned

Key factors leading to success

Careful planning, the participation of all stakeholders, strong political support and the enthusiasm and commitment of the volunteers were key factors in the project's success.

Sustainability

The long-term investment of this project in children's knowledge and attitudes ensures that children will act as an anti-smoking pressure group on their parents and that in the future they will have a lower risk of becoming smokers as adults.

Challenges

The main challenges were to raise interest in the issue and to ensure sufficient financial support. These were

overcome by opening channels of communication and providing ample information to all stakeholders, including campaigns directly targeting ministers and members of Parliament.

Transferability

The project design and implementation can be easily transferred to other countries.

Considerations for future implementation or duplication of programme

The active involvement of parents, teachers and doctors is essential. The intervention must be flexible and continuously adjusted in order to have sustainable impact and remain integrated in the national anti-smoking policy. Training of paediatricians on the impact

of ETS on children's health and publicity for the initiative in the mass media were also effective elements of the programme. This campaign will later be integrated into a wider programme to reduce indoor air pollution and the exposure of children to household chemicals, with follow-up activities.

Additional information

An executive summary in English and a full report in Greek are available and may be requested from the Ministry of Health web site (<http://www.sgl.moh.gov.cy>).

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TALK ABOUT SMOKING (DENMARK)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure protection from outdoor and indoor air pollution</i>
TYPE OF ACTION	Education
SCOPE	Local: Copenhagen
SETTING	Schools, households
TARGET AUDIENCE	Teachers/school administrators, parents/family
TARGET BENEFICIARIES	Children aged 10–14 years
DRIVING FORCE(S)	Danish Cancer Society; teachers
PARTNERS	School boards of secondary schools; Danish Board of Health
START DATE AND DURATION	October 2004 (ongoing but materials can no longer be ordered)
TARGET POPULATION REACHED	The campaign material was distributed to all 240 public secondary schools in Denmark.
RESOURCES	More than €100 000 Paid staff: 2 for planning and evaluation Volunteers: 3 for planning and 2300 for implementation

Rationale

Research has shown that attitudes, norms and behaviours of adults as well as rules in the home and in institutions have an impact on the smoking behaviour of children and adolescents. The 2004 monitoring of young people's lifestyles and daily lives (Monitorering af unges livsstil og dagligdag – MULD) survey estimates that 36% of children and adolescents are exposed to smoking in the home. This initiative aimed to raise awareness among parents about the effect of smoking on children and to provide parents and teachers with the skills to engage in discussions about smoking with children.

Objectives

The objectives are:

- to develop a systematic approach for parents to address the issue of smoking with their children; and
- to give schools a larger role in educating parents on smoking issues.

Description

The initiative consisted of a campaign encouraging parents to discuss smoking-related issues with their children in a constructive and respectful manner and to create smoke-free environments for children. The materials, developed by Dorte Schiøler of the Danish Cancer Society's Department for Health Promotion, were distributed by teachers during regular school meetings with parents.

Planning and implementation

Planning process

During the planning stage of the campaign meetings with teachers, health promoters, local authorities and parents were held in order to assess their attitudes as well as to test the materials and get feedback from the target audience.

Contribution of each sector/partner

Teachers offered their time to test the materials and give feedback to the programme organizers. Health promoters gave feedback on the planning of the project. Members of school boards gave feedback on the recommendations. Parents tested the materials and gave feedback.

Results

An evaluation of the project was carried out in 2005 to assess what happened to the materials after the schools received them; how teachers used school meetings with parents to discuss children and tobacco use; and the actual effect of the materials in practice.

The evaluation used both quantitative and qualitative methods. The main findings were that few teachers had seen the materials at school, and as a result not many had been able to use them. Those who had been able to use the materials were very positive about the content. The material helped teachers to structure the school meeting, provided information and tools to handle the subject of child smoking and created debate and reflection among the parents. Time pressure and lack of recognition of the importance of including parents were the main barriers to wider use of the materials. Materials were sent to the headmaster of each school but in many cases were not distributed to teachers or placed in visible, strategic locations. For this reason, it is recommended that materials be sent to the appropriate person at each school, such as the school librarian, who would ensure distribution among staff.

In 2006 a follow-up letter was sent to all school librarians introducing the materials. This package included another letter for the librarian to copy and distribute to teachers of the relevant grades. An article about the campaign was published in a national teacher journal in a special issue on health in schools.

Lessons learned

Key factors leading to success

The extent to which schools and teachers are involved is critical to the project's success.

Sustainability

No information was available.

Challenges

Motivating the schools and teachers to devote resources, especially time, to the programme was a major challenge during the implementation of the project.

Transferability

The project is easily transferable to other countries with a school structure similar to the Danish school system. It requires a structure in which subjects such as smoking can be discussed at parent–teacher meetings. Including and educating parents should be a universal goal.

Considerations for future implementation or duplication of programme

It would be advisable to put more emphasis on promoting and marketing the educational materials.

Additional information

Further information is available from two web sites (<http://www.snakomtobak.nu>; and <http://www.cancer.dk/muld>).

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CHILDHOOD ALLERGIES
(GERMANY)

RISK FACTOR	Indoor and outdoor air pollution
POLICY OBJECTIVE	CEHAPE RPG III – ensure clean indoor and outdoor air
TYPE OF ACTION	Monitoring of environmental exposure, education and communication
SCOPE	Local: Leipzig
SETTING	Kindergartens
TARGET AUDIENCE	Local authorities, community, parents, caregivers
TARGET BENEFICIARIES	Children aged 0–6 years
DRIVING FORCE(S)	Public health officers; municipal council; parents; kindergarten authorities
PARTNERS	Department of Environmental Medicine and Hygiene at the Faculty of Medicine, University of Leipzig Centre for Environmental Medicine at the Faculty of Medicine, University of Leipzig Human Exposure Research and Epidemiology at the Umweltforschungszentrum, Leipzig-Halle
START DATE AND DURATION	1993 (ongoing) Publication of brochures in March 2004 and guidelines in March 2005
TARGET POPULATION REACHED	Indirectly: about 600 000 children. Directly: about 4000 families
RESOURCES	More than €100 000 (financed by the state and federal ministries of research and health) Paid staff: about 20 (permanent), supported by kindergarten staff Volunteers: students and/or doctoral candidates (temporary)

Rationale

This programme was motivated by the need to identify the risk factors in the indoor and outdoor environment for allergic disorders, airway diseases and metabolic dysfunction in order to develop and incorporate preventive measures into education and disease prevention programmes at the Centre for Environmental Medicine.

Objectives

The objectives are to increase knowledge and raise awareness in parents and caregivers of the health risks of indoor and outdoor air pollution.

Description

This initiative assessed the role of exposure to elements in the indoor and outdoor environment and their contribution to allergic disorders, airway diseases

and metabolic dysfunction in children. The results were published in the following international scientific journals.

- Herbarth O et al. Association between indoor renovation activities and eczema in early childhood. *International Journal of Hygiene and Environmental Health*, 2006, 209(3):241–247.
- Herbarth O et al. Is sulfur dioxide or TSP the more dominant risk factor of bronchitis in children? *Environmental Toxicology*, 2001, 16(3):269–276.
- Herbarth O et al. Non-invasive assessment of liver detoxification capacity of children, observed in children from heavily polluted industrial and clean control areas, together with assessments of air pollutions and chloro-organic body burden. *Environmental Toxicology*, 2004, 19(2):103–108.

Furthermore, a brochure for parents called *Childhood allergies* and a handbook with guidelines for kindergarten teachers were published.

Planning and implementation

Planning process

During meetings with stakeholders and collaborating partners, the heads of kindergartens and the parents received information about indoor and outdoor air pollution, the research being carried out and possible preventive measures that could be taken in the kindergartens and homes.

Contribution of each sector/partner

The Municipality of Leipzig (Public Health Centre) provided support and published the handbook. The Centre for Environmental Medicine and the Department of Environmental Medicine and Hygiene (Medical Faculty, University of Leipzig) coordinated the studies and carried out clinical examinations and consultations. The Department of Human Exposure Research and Epidemiology at the Umweltforschungszentrum, Leipzig-Halle carried out the surveys. The centre's main area of research focuses on questions regarding environment-related health effects, the individual's immediate environment, his external and internal exposures and their effects. The research is focused on airway diseases, allergies and metabolic dysfunction in children (newborn babies, preschool children and schoolchildren) and the role of immunological processes in interactions between environment and organism. Parents, communities and children participated in the meetings and offered their free time for the examinations and surveys.

Results

No formal evaluation has been carried out to measure the impact of this initiative. A reduction in morbidity has been seen along with a reduction in exposure to indoor and outdoor air pollutants. Among the results that have been documented in scientific papers, there is a conclusion that extensive building renovation during pregnancy, especially around the time of birth and during the first year of life, seem to affect the development of allergic disorders. The research suggests that avoidance of such activities, especially by parents affected by atopy, would be an effective means of prevention. The research also suggests that general practitioners and specialists should inform prospective parents of these issues. As a result of the initiative, parent and caregiver knowledge about health effects of exposure has increased, and their behaviours have been modified (for example, avoiding high-risk activities such as home renovation during pregnancy).

Lessons learned

Key factors leading to success

The collaboration with local authorities, financial support from the Centre of Environmental Research and the ministries for health and research and cooperation with families were key factors in the initiative's success.

Sustainability

Kindergartens will be involved in new projects carried out by the Centre for Environmental Medicine at the Faculty of Medicine at the University of Leipzig, and parents will continue to receive information at regular intervals on the ongoing research by mail.

Challenges

The main challenge during the monitoring stage was the decreasing response to the surveys over time.

Transferability

The methods of risk assessment used in this initiative and the application of preventive measures from research results are elements that can be easily transferred to other countries that want to implement similar projects.

Considerations for future implementation or duplication of programme

Exposure assessment and medical examinations should be carried out at shorter intervals in early childhood. Critical points for successful project implementation are recruitment of the study participants and the willingness of parents to participate and collaborate with other parents, the staff of the kindergarten and the public health department. More contact with the parents would have been helpful.

Additional information

The programme helped establish closer links between the research institutes and the local authorities. As a result, an advice centre was set up to support local authorities in case of complex questions regarding the impact of environmental factors on health. Support provided to local authorities includes information, measurements (monitoring) and health effect assessment.

In addition, the programme has also led to the initiation of a new study based on the results of the previous studies. This new study starts during pregnancy and examines the influence of the same factors. Recruitment of participants has recently begun.

Further information is available in the *Leipzig allergy*

risk children survey (Leipziger Allergie-Risiko-Kinder-Studie – LARS); the *Kindergarten children survey on respiratory diseases and allergies* (Kindergartenkinder Studie zu Atemwegserkrankungen und Allergien – KIGA); the *Leipzig infectious respiratory diseases allergy survey with school beginners* (Leipziger Infekt-Atemwegserkrankungen-Allergie-Studie mit Schulanfängern – LISS); the *Brochure on allergies in German* (http://www.ufz.de/data/ufz_ALLERGIE_neu2670.pdf); and the *Handbook for kindergarten staff* in German.

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AIR QUALITY AT BAVARIAN SCHOOLS – INVESTIGATION FOR IMPROVEMENT OF AIR QUALITY (GERMANY)

RISK FACTOR	Indoor air pollution
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Monitoring of environmental exposure, education and communication
SCOPE	Local: Munich
SETTING	Schools
TARGET AUDIENCE	Teachers, school administrators, health authorities
TARGET BENEFICIARIES	Children and adolescents 5–19 years
DRIVING FORCE(S)	Bavarian Health and Food Safety Authority (Department for Environmental Health), Bavarian Ministry for Environment, Health and Consumer Protection
PARTNERS	Health professionals from Ludwig-Maximilians University Munich: Institute and Clinic for Occupational and Environmental Medicine, Bavarian Environmental Protection Agency
START DATE AND DURATION	Summer 2005 (about 3 months)
TARGET POPULATION REACHED	About 5000 pupils, teachers and local school and health authorities in Bavaria
RESOURCES	Paid staff: 2 for planning and evaluation, 6 for implementation

Rationale

Teachers and students spend about 30–50% of each day inside schools and similar facilities. A healthy indoor environment and good indoor air quality are important to prevent distraction, tiredness and headache. High levels of carbon dioxide can have an influence on learning ability and attention span. In Bavaria there is no scientific data on indoor air quality in public buildings, including schools.

Objectives

The objectives were:

- to reduce levels of indoor air pollution in schools;
- to increase knowledge of pupils, parents and teachers about measures to improve indoor air quality; and
- to change behaviours of pupils and teachers.

Description

The project consisted of an indoor air quality assessment in schools and the implementation of simple intervention measures to improve air quality. The project developed information materials about air quality in schools and other public buildings and distributed them among teachers and students. The topic of indoor air pollution was also incorporated in the school curriculum in physics and biology lessons. Furthermore, indoor air quality sensors were installed to facilitate regulation of the indoor environment and air quality.

Planning and implementation

Planning process

No information was provided.

Contribution of each sector/partner

The Bavarian Health and Food Safety Authority planned and managed the project. The Bavarian Ministry for Environment, Public Health and Consumer Protection provided financial support. Health professionals from the university carried out measurement of allergens and endotoxins in dust. The Bavarian Environmental Protection Agency carried out measurement of indoor air pollutants (volatile organic compounds). The Bavarian Health and Food Safety Authority carried out measurements of particles (particle mass and number concentration).

Results

Results from this case study can be found in the following publications.

- Fromme H et al. Particulate matter in the indoor air of classrooms – exploratory results from Munich and surrounding. *Atmospheric Environment*, 2007, 41:854–866.
- Fromme H et al. Chemical and morphological properties of particulate matter (PM10, PM2.5) from school classrooms and outdoor air. *Atmospheric Environment*, 2008, 42:6597–6605.
- Twardella D et al. Reduktion der Feinstaubbelastung in Klassenräumen durch verbesserte Reinigung: Ausmaß der Belastung und Ergebnisse einer Pilotstudie in Bayern. *Gesundheitswesen*, 2009, 71:70–76.

Lessons learned

Key factors leading to success

Factors include:

- support of local health authorities and schools;
- availability of specialized technical equipment for indoor use (the use of measuring instruments not made for indoor measurements can produce unpleasant noise and odour); and
- acceptance by teachers and students of taking measurements during lessons.

Sustainability

No information was provided.

Challenges

Challenges include logistical problems, especially transport and configuration of technical equipment within the school buildings in a limited time (before the start of lessons); and identification of commercially

available measuring instruments that are both suitable for measuring indoor particles indoors and easily transportable.

Transferability

The standardized documentation sheets for measurements, the procedures for taking measurements in the schools and analysing indoor air pollutants in the laboratory are easily transferable elements of the project.

Considerations for future implementation or duplication of programme

Those planning to implement such a programme should:

- consider carrying out a comparison of indoor and outdoor exposure to air pollutants for each school building;
- enlarge exposure assessment to include measurement of other air pollutants, analysis of three-dimensional distribution of carbon dioxide, airflow, humidity and temperature in classrooms;
- assess subjective and objective health parameters;
- evaluate simple and inexpensive measurements to improve indoor air quality such as changes in construction;
- distribute project information in more schools;
- motivate local partners;
- plan all logistic procedures extensively before the start of the project;
- review comparable projects and consult with experts on indoor air quality; and
- ensure access to sufficient training, information and assistance from the producers of the technical equipment to be used.

Additional information

No additional information was available.

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SMOKING? NOT IN THE PRESENCE OF THE LITTLE ONE! (THE NETHERLANDS)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Communication
SCOPE	National
SETTING	Health care facilities, homes, internet, mass media
TARGET AUDIENCE	Parents and family
TARGET BENEFICIARIES	Children 0–4 years
DRIVING FORCE(S)	Health professionals: well-baby clinic and maternity care staff, paediatricians STIVORO (NGO for tobacco use prevention in the Netherlands)
PARTNERS	Research organizations Media Health professionals
START DATE AND DURATION	October 1997 (ongoing)
TARGET POPULATION REACHED	95% of all parents with children 0–4 visit the well-baby clinics
RESOURCES	More than €100 000 Paid staff and well-baby clinic nurses and specialists for implementation

Rationale

The health consequences of passive smoking among children are significant. Passive smoking is the cause of about 10 cases of sudden infant death syndrome (SIDS) and 10 000 cases of asthma and other respiratory illnesses in children each year (*The impact of passive smoking on public health*. Health Council of the Netherlands, The Hague, 2003). Passive smoking, even in small amounts, is always harmful.

Objectives

The objectives are:

- to reduce the percentage of children 0–4 years exposed to tobacco smoke from 18% in 2007 to 15% by 2010; and
- to reduce the percentage of children 0–4 years from low income households who are exposed to tobacco smoke from 24% in 2007 to 20% by 2010.

Description

This initiative consists of an information campaign aimed at increasing parental knowledge of the harmful effects of secondary smoke to children's health and increasing their ability to prevent children's exposure to passive smoke. A three-step procedure was developed for health professionals to discuss the subject with parents. The three steps are:

- smoke profile: assessing the prevalence of smoking at home and in the presence of the child;
- health risks: discussing the health consequences of passive smoking; and
- house rules: assessing the readiness of parents to prevent passive smoking and discussing house rules and removing barriers for setting up those rules.

Planning and implementation

Planning process

The intervention has been implemented for over 10 years. In this time period, various qualitative as well as quantitative studies have been carried out to monitor implementation and to gather information to improve the intervention. The original materials and training for professionals were updated in 2004. Another update is planned for 2009–2010.

Contribution of each sector/partner

Health professionals informed parents and distributed brochures on tobacco smoke and its effect on children's health. Mass media communicated the intervention message. The Netherlands Organization for Applied Scientific Research (TNO Leiden) carried out the evaluation of the project. The advertising agency BVH (Rotterdam) developed the communication strategy and materials.

Results

Exposure to tobacco smoke among children 0–4 years at home has decreased from 49% in 1996 to 18% in 2007. The percentage of smoking visitors that do not smoke in the presence of children 0–4 years has increased from 57% in 1999 to 82% in 2007.

Lessons learned

Key factors leading to success

Factors include:

- effectiveness of a structured communication strategy using the three-step procedure;
- individually tailored education appropriate to the current stage of parental attitudes;
- use of motivational interviewing in order to reduce resistance and increase motivation;
- repeated talks with parents about the subject of passive smoking;
- incorporation of the intervention into the daily routine of well-baby clinics; and
- dissemination of a child-centred message (not smoking in the presence of the little one) instead of asking parents to quit smoking.

Sustainability

Programme elements have been institutionalized by incorporation into the regular routine of well-baby clinics.

Challenges

Challenges include increasing the confidence of nurses in their ability to apply the three-step communication strategy; finding time and resources in clinics to train professionals; institutionalizing the initiative in the clinics to achieve sustainability; sustaining communication between project managers and nurses about the programme; and optimizing the intervention strategy to maximize its effect on low-income smoking parents.

Transferability

All elements are easily transferable, especially the involvement of well-baby clinics. There are no country-specific elements.

Considerations for future implementation or duplication of programme

Considerations should include placing more emphasis on children 1–4 years; using child care centres for implementation of such programmes; supporting nurses in their efforts to implement and institutionalize the three-step plan; allowing sufficient time for training of nurses and health professionals; and ensuring continuity of the programme by means of regular communication between programme managers and nurses.

Additional information

Further information is available in English in the following publication.

Crone, Mathilde R. *The prevention of involuntary smoking by children*. Leiden, The Netherlands Organization for Applied Scientific Research, 2003.

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Web site <http://www.stivoro.nl>



CLEARING TOBACCO SMOKE POLLUTION FROM THE AIR: CREATING HEALTHY AND SAFE ENVIRONMENTS FOR CHILDREN (POLAND)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Education and communication
SCOPE	Local
SETTING	Kindergartens, schools, health care facilities, households, public places, media and cultural institutions, churches, selected commercial companies
TARGET AUDIENCE	Local authorities, teachers and school administrators, parents and family (especially pregnant women), local communities, health care providers, journalists, cultural educators, priests, adolescent siblings and other children and adolescents aged 13–19 years
TARGET BENEFICIARIES	Children aged 6–12 years
DRIVING FORCE(S)	Health professionals: physicians, nurses and students NGOs: health promotion and public health organizations Parents and grandparents Teachers in kindergartens and primary schools Local media
PARTNERS	Ministry of Health and its local agencies Health institutes and public health schools Community institutions and groups: local (city) government, Roman Catholic church, local cultural institutions and advocates Older siblings and schoolchildren Volunteers, businesses
START DATE AND DURATION	October 2001–2004 (3 years)
TARGET POPULATION REACHED	About 100 000 people
RESOURCES	€50 000–100 000 Paid staff: 10 for planning, 30 for implementation, 20 for evaluation Volunteers: 500 for implementation, 50 for evaluation

Rationale

Tobacco smoke pollution is a major risk factor affecting the health of Polish children under age five and women of childbearing age. In Poland about 60% of children are exposed to second-hand tobacco smoke. About 20% of pregnant women smoke. About 30% of all women of childbearing age smoke, while a further 25% are exposed to second-hand tobacco smoke.

Objectives

The objectives were:

- to increase the proportion of non-smoking pregnant women and women of childbearing age;

- to increase the proportion of smoke-free kindergartens and schools; and
- to increase the proportion of smoke-free homes, especially those with small children.

Description

The programme was part of an international pilot project implemented in China, Latvia, Poland and Viet Nam by WHO and the United States Environmental Protection Agency (EPA). Its goal was to improve child health by reducing exposure to second-hand tobacco smoke in the environment. Health education and communication interventions were the means used to effect behaviour change with regard to tobacco use.

Planning and implementation

Planning process

A planning workshop brought together representatives of three local communities (Bydgoszcz, Ciechanow and Katowice) from different sectors of society (local government, health and education, NGOs, church and media) along with national and international experts in maternal and child health, occupational medicine, cancer and toxicology. These consultants, including representatives of WHO and EPA, provided information on the magnitude of ETS exposure, its health effects, legislative measures and policy, best practices in community intervention and examples of existing prevention and intervention programmes. The strategy and action plans were also developed here. The baseline for the project was an epidemiological analysis of children's health and exposure to ETS.

Contribution of each sector/partner

The Ministry of Health provided partial support for project development through the National Tobacco Control Programme, coordinated by the Maria Sklodowska-Curie Cancer Centre and Institute of Oncology in Warsaw, and the National Programme for Prevention of Heart Disease in 400 Towns (PPM400), coordinated by the Medical Academy in Gdansk.

Teachers volunteered to discuss the educational and ethical aspects of ETS with parents; enforced the smoking bans in schools; and developed and evaluated project activities for children in kindergartens and schools.

Physicians and nurses were responsible for discussing the health effects of ETS on children's health with parents, especially pregnant women and young mothers. They encouraged smoking parents to quit smoking, enforced the smoking bans in hospitals and developed and evaluated project activities in health care settings. Social nurses were responsible for conducting similar activities in the home setting.

Priests were responsible for disseminating information on the ethical aspects of children's exposure to ETS and for promoting the project in the religious media.

City government authorities and local councils were responsible for initiating and enforcing smoke-free policies in public places, especially in children's environments. Industry leaders sponsored and promoted the project at the local level.

Parents promoted the project in their neighbourhoods and supported project activities in schools and during public events. Older children and siblings were involved in preparing public events for younger children and protecting their health from tobacco smoke pollution in the home.

Local media promoted the message of the project and initiated public debate on the problem of ETS, including the perceptions and attitudes of the radio audience, in order to evaluate the impact of the project.

Results

The number of nonsmoking pregnant women, smoke-free homes and smoke-free schools increased as planned. The results from the two Polish cities are as follows.

	Bydgoszcz	Ciechanow
Ban on smoking in all participating educational settings	100%	50%
Indoor ban on smoking in all participating health care settings	100%	100%
Increase in number of smoke-free homes	33–42%	40–50%

In Bydgoszcz 68% of participating parents decided not to smoke in the presence of children. In Ciechanow 38% of smoking parents and 70% of smoking pregnant women decided to attempt to stop smoking. Furthermore, the Ciechanow City Council proposed to enforce a smoking ban at bus stops and other public places.

Lessons learned

Key factors leading to success

Factors include:

- public awareness of the importance of maternal and child health, along with its physical, social and ethical ramifications;
- development of a strategy for intervention and evaluation using scientific methods and evidence-based approaches;
- a multisectoral approach to planning and implementation, in which all stakeholders participate in developing project goals, strategies, activities and materials; and
- extensive media coverage of the project, especially local media coverage.

Sustainability

The project has become a model intervention for other communities and one of the key elements of Poland's national strategy to protect children's health from exposure to ETS. In Ciechanow the project was strengthened by the addition of measures to monitor tobacco smoke exposure using airborne nicotine filters and air particulate matter monitors in all indoor public places, including schools, hospitals and dispensaries,

bars and discos, sports venues and cinemas. There are plans to extend the project to other central and eastern European countries.

Challenges

The main challenge was establishing multisectoral cooperation among many different partners, which required a careful and systematic approach to developing the project strategy.

Transferability

The following key elements of the programme are transferable to other countries: protection of children's health by means of modifying their social environment; development of local coalitions to protect children's health from tobacco smoke pollution, especially in small communities; involvement of health and education sectors (including teachers and parents) and media; and implementation of smoke-free policies in public places at the local level.

Considerations for future implementation or duplication of programme

Such a programme should be conceived as one aspect of local and national strategies for tobacco control and protection of children's health from environmental hazards. The programme's overall coordinator (individual, institution or coalition) needs to focus on the community's interests and resources for effective implementation. In the Polish experience the most effective collaboration was among health professionals, teachers and local authorities. Workshops on project planning and implementation for local communities and project coordinators help ensure effective implementation. Technical assistance on tobacco

control materials enabled the programme to produce effective and project-specific materials of different types. Formation of national and local tobacco control coalitions enhanced public support for the campaign. Advice from WHO and EPA consultants and the EPA Project Advisory Kit and Guidelines were helpful tools in programme planning and development. A best practices paper on the project and a Polish Advisory Kit and Guidelines are works in progress.

Additional information

The EPA Advisory Kit and Guidelines and copies of papers presented at several national and international workshops are available in Polish and English. Use of airborne nicotine filters was based on a research project on evidence-based policy development for the prevention of exposure to passive smoking in European and accession countries coordinated by the Public Health Agency in Barcelona, Spain and sponsored by the European Union Public Health Programme. Use of air particulate matter monitors was based on the Global Air Monitoring Study conducted by the Roswell Park Cancer Institute (USA), the Harvard School of Public Health (USA), and the International Agency for Research on Cancer (France).

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PREVENTION OF ASTHMA AND ALLERGIES (SLOVAKIA)

RISK FACTOR	Indoor air pollution
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Monitoring of environmental exposure, education and communication
SCOPE	Local: Banska Bystrica, Brezno
SETTING	Kindergartens, households
TARGET AUDIENCE	Teachers/school administrators, parents/family, children aged 2–6 years
TARGET BENEFICIARIES	Children aged 1–15 years, parents/families
DRIVING FORCE(S)	Kindergarten directors, teachers Public health professionals from Regional Authority of Public Health in Banska Bystrica, Department of Hygiene of Children and Adolescents, National Reference Centre of Indoor Air Quality at Regional Authority of Public Health in Banska Bystrica
PARTNERS	Parents; kindergarten staff
START DATE AND DURATION	2005–2008 (3 years)
TARGET POPULATION REACHED	1600 teachers, school administrators and parents 800 children aged 2–6 years
RESOURCES	Less than €5000 Paid staff: 5 for planning, 7 for implementation, 4 for evaluation Volunteers:1

Rationale

Indoor air quality and housing are among the priority areas of the updated Slovakian National Environment and Health Action Plan. According to findings of environmental studies, the causes of asthma and allergy are unclear, but many hypotheses blame living conditions and lifestyle factors. The incidence of allergies, asthma and respiratory diseases has risen in recent years. The number of atopic individuals in Slovakia is estimated at about 40% of the population. The prevalence of atopy and the incidence of allergic diseases in children aged 10–11 years in Slovakia were studied in the CESAR Project, which determined the proportions of allergen-specific IgE for a group of household environment allergens: moulds (M_1) –

5.1%; mites dermatophagoides pteronyssinus (D_1) – 27.7%; dermatophagoides farinae (D_2) – 25.0%.

Objectives

The objectives were:

to investigate the level of bacteria, fungi and mite concentrations in indoor air and dust;

- to identify risk factors in the indoor environment affecting sensitization and morbidity;
- to improve health information regarding asthma, allergies and indoor air pollution; and
- to encourage multidisciplinary cooperation on this issue.

Description

The programme consisted of an assessment of exposure to aeroallergens and an educational campaign on the risk factors for asthma and allergies, with special attention to indoor environments and ways to reduce indoor exposure to risk factors. The focus was to assess the microbial and biological status of the indoor environment of kindergartens in particular and to establish a strategy to deal with this type of problem.

Local public health professionals visited 10 randomly selected kindergartens in urban and rural areas to contact directors and teachers in order to identify the main environmental health issues affecting children in the kindergarten environment (moisture, moulds, fungi, mites). The concentrations of microorganisms and fungi were measured by Standards RCS Air Sampler; and samples of settled dust were collected by vacuum cleaner to identify the amounts of house dust mite allergens, expressed as guanine levels related to the antigenicity of the dust. The limit concentration was considered < 0.6 mg guanine/1 g dust. Sources of indoor air risk factors were evaluated by means of questionnaires. Measures to improve indoor air quality in kindergartens were developed based on these results and a leaflet, *Small guide for environmental health*, was prepared for directors and teachers.

Planning and implementation

Planning process

The following actions took place during the planning stage of the programme: meetings with directors and teachers of kindergartens about survey requirements and to request their cooperation; meetings with experts from the National Reference Centre on Indoor Air Quality about methodology for taking samples of air or dust from indoor spaces to detect total counts of microorganisms, moulds, fungi and dust mites; and meetings with professionals from the Regional Authority Department of Education about planned activities and objectives and the request for cooperation to carry out the survey in 10 kindergartens.

Contribution of each sector/partner

No information was available.

Results

The programme's objectives were partially achieved. Experts from the microbiological and biological department of the Regional Authority of Public Health were consulted for the evaluation of the initiative. Experts from the Regional Authority Department of Education and directors and teachers gave advice on remedial measures. Microbiological and biological

indoor air risk factors have been evaluated. Preliminary results consisted of identification of most common indoor problems in 10 kindergartens.

The environments of all monitored kindergartens were in the category of very low or middle levels of pollution with regard to concentrations of fungi (< 500 CFUs/m³).

Seventy-five percent of the monitored kindergartens were found to have high levels of microorganism pollution (> 500 CFUs/m³).

The concentration level of dust mites was positive (concentration higher than the limit concentration 0.6 mg of guanine/1 g dust) in 30% of monitored kindergartens during summer time and 70% of these kindergartens during winter time.

The assessment of indoor air risk factors by means of survey questionnaire gave the following results.

Eight kindergartens were classified as having low-level occurrence of risk factors, meaning that the environment in these kindergartens is acceptable, but it is still necessary to carry out a number of organizational and technical changes.

Two kindergartens were classified as having middle-level occurrence of risk factors, meaning that the environment does not fulfil the criteria for a healthy kindergarten. More extensive measures need to be carried out to correct this situation.

The main achievements of the programme were evaluation of indoor air pollution in the kindergartens; preparation and implementation of guidelines for practical measures to reduce exposure to environmental factors in kindergartens; preparation and distribution of leaflets for teachers and parents; and increase in knowledge of teachers and parents about indoor air risk factors.

In 2008 (three years after the initial visit), all 10 kindergartens were revisited, and a second round of sampling took place. The implementation of the recommended activities had been achieved by means of "house rules" for kindergarten environment maintenance, which were approved by a regional hygienist for each kindergarten. Each kindergarten underwent organizational changes in line with the house rules. Concentrations of dust mite allergens higher than the limit of 0.6 mg guanine/1 g dust were found in 15% of the monitored kindergartens during the summer months and in 35% during the winter months. More extensive measures were not carried out due to financial limitations.

This work is being expanded to other kindergartens and student housing. Continuous improvements in health education and health information are also taking place.

Lessons learned

Key factors leading to success

The collaboration between the education and environment sectors in the district, the institutional support and teamwork among public health professionals, and the support of kindergarten directors, teachers and parents were the key factors in the programme's success.

Sustainability

There is a plan in place to continue programme activities.

Challenges

Challenges include the initial lack of interest in environmental health among the general population, including people involved in this project (teachers, school administrators, parents and kindergarten staff); and inaccurate data on the prevalence of asthma and allergies at district level.

Transferability

Assessing problems like moisture, ventilation, temperatures and moulds by means of sampling and measurement; and the preparation of health education materials for teachers and other school staff, parents and pupils are easily transferable elements of the programme.

Considerations for future implementation or duplication of programme

Considerations include nominating a capable, experienced person to supervise implementation and sustain momentum; monitoring requests and queries regarding the issue of asthma and allergies; spreading more public information about project activities in kindergartens; having a national coordinator and a consultant available for scientific and emerging

questions; cooperating with the Institute of Health Statistics; and arranging for programme staff to be trained in the measurement and sampling method of the microbiological and biological health risk factors and exposure assessment.

Additional information

The following scientific publications from other projects were very useful.

- ISAAC Steering Committee: International Study of Asthma and Allergies in Childhood (ISAAC). *European Respiratory Journal*, 1998, 12:315–335.
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- Slotova K et al. Indoor air quality in kindergartens. In: Petras D, ed. *Proceedings of the International Conference on Indoor Climate of Buildings 2007*. Slovak Society of Environmental Technology, Bratislava, December 2007.

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LET'S PROMOTE NON-SMOKING (SLOVENIA)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure clean outdoor and indoor air</i>
TYPE OF ACTION	Education
SCOPE	National
SETTING	Primary schools
TARGET AUDIENCE	Teachers/school administrators, pupils aged 9–15 years
TARGET BENEFICIARIES	Children and adolescents 9–15 years
DRIVING FORCE(S)	National Institute of Public Health Regional institutes of public health
PARTNERS	Primary school personnel, health professionals, Slovenian Association for Patients with Pulmonary Diseases, parents and teachers, pedagogues and psychologists and Ministry of Health
START DATE AND DURATION	2000–2006 (6 years)
TARGET POPULATION REACHED	About 40% of primary schools (in 2006), i.e. about 140 primary schools, 500 teachers. About 90 000 pupils
RESOURCES	The programme is implemented in primary schools on a voluntary basis, and materials are available on the web site free of charge.

Rationale

Tobacco use is one of the major health risks to young people in Slovenia. Recent data from the 2005–2006 study Slovenian Health Behaviour in School-aged Children (HBSC) has shown significant declines in tobacco use among children aged 11, 13 and 15 years old, with lower rates of initiation and lower rates of regular smoking, as well as a significantly higher age of smoking initiation than that found in the 2002 Slovenian HBSC study. In 2006, 54.2% of 15-year-old pupils reported having ever tried smoking, compared with 64.9% in 2002. Eighteen percent of 15-year-old pupils reported smoking at least once a week or more (regular smoking), compared to 29.4% in 2002. The average age at which 15-year-old pupils reported smoking initiation was slightly over 13 years old.

Objectives

The objectives were:

- to increase knowledge and form positive attitudes about healthy habits;
- to increase knowledge about tobacco use and its consequences and to form positive attitudes towards non-smoking;
- to raise self-esteem of non-smokers; and
- to teach pupils to identify critical moments in smoking initiation and teach them how to combat peer pressure that leads to smoking initiation.

Description

This initiative consisted of an educational prevention programme targeting children in primary school and focusing on the problem of smoking among young

people. A manual for teachers and worksheets for students on the topic of tobacco smoke was developed; and teachers participated in a one-day training course on how to incorporate the topic into lessons. At the end of every school year the programme was evaluated.

Currently the programme is running on a voluntary basis and materials are still available for free from the web site. After the first generation of pupils completed the programme in 2006, the programme has no longer been followed and evaluated as during the first six years of the implementation. There are plans to occasionally review the status of the programme (% of schools implementing the programme).

Planning and implementation

Planning process

During the planning stage of the programme, a meeting took place with the NGO Slovenian Association for Patients with Pulmonary Diseases. Other expert advice was also sought.

Contribution of each sector/partner

Teachers played a key role in the incorporation of programme elements into the school curriculum. The Ministry of Health financed the programme and provided financial support for manuals, worksheets and teacher training. The Slovenian Association for Patients with Pulmonary Diseases played an important role in planning the programme. The Institute of Public Health led the planning and implementation of the programme by providing didactic materials, carrying out teacher training, providing professional support for schools and developing questionnaires for programme evaluation.

Results

Teachers reported being very satisfied with the programme. Pupil awareness and knowledge about the risks of smoking increased. Behaviour change attributable to the programme is currently being evaluated.

The effectiveness of the programme was evaluated in the first generation of pupils that received the programme (in comparison to pupils from schools that did not implement this programme). The evaluation showed that the programme significantly increased the overall level of knowledge about tobacco use and its consequences in both sexes, significantly increased negative attitudes towards tobacco use in girls and significantly increased the share of never smokers in boys.

Lessons learned

Key factors leading to success

Careful planning and financial support from the Ministry of Health, which enabled the programme to distribute (free of charge) materials such as teacher training manuals and pupil worksheets, were key factors contributing to the programme's success. After the period 2000–2006 one of the key factors for continuing success is the inclusion of this topic and the material in the school curricula.

Sustainability

No information was available.

Challenges

Finding the right methods, sufficient time and ways to include the programme in the school curricula as well as ensuring an appropriate budget for the programme were the main challenges. After the period 2000–2006 the key challenges are lack of finances and human resources on all levels. The programme is implemented on a voluntary basis, which will probably lead to a decrease in the share of primary schools implementing it. Inclusion of this topic in schools' regular work is important. Teachers are overburdened with existing curricula and projects and do not have enough time to implement such programmes. There is also a need to update the programme.

Transferability

The programme elements can be adapted to different national settings.

Considerations for future implementation or duplication of programme

For countries that want to implement similar programmes, it is advisable to plan carefully, ensure sufficient funding and evaluate the programme afterwards. An evaluation measuring the effectiveness of the programme should be planned from the outset.

Additional information

Further information is available from the contacts below on request.

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SCHOOL-BASED TOBACCO PREVENTION PROGRAMME (SPAIN)

RISK FACTOR	Indoor air pollution (ETS)
POLICY OBJECTIVE	CEHAPE RPG III – <i>ensure protection from outdoor and indoor air pollution</i>
TYPE OF ACTION	Education
SCOPE	Regional: Valencia and Murcia
SETTING	Schools, health care facilities, internet
TARGET AUDIENCE	Teachers, school administrators, parents/family
TARGET BENEFICIARIES	Children and adolescents aged 6–19 years and adults
DRIVING FORCE(S)	Paediatricians, pulmonologists, oncologists
PARTNERS	Parents, teachers, medical students and patient associations
START DATE AND DURATION	2005–2010 (5 years)
TARGET POPULATION REACHED	2200 parents and 12 000 children or adults
RESOURCES	€10 000–30 000 Volunteers: 15 parents, teachers, health workers, medical students and members of patient associations

Rationale

In Spain about 48% of adults between the ages of 25 and 44 years are smokers. Within this age group, 53% of males and 44% of females smoke (see Encuesta nacional de salud [national health survey] 1987–2001. *Revista Española de Salud Pública*, 2003). With such high levels of smoking prevalence in the adult population, active prevention of smoking initiation and raising awareness of the harmful effects of smoking among schoolchildren are critical for preventing the initiation of smoking among children and adolescents.

Objectives

The objectives were:

- to raise awareness of the harmful effects of smoking;
- to provide students with tools to resist peer pressure to begin smoking; and
- to identify students who could act as advocates and school leaders to promote tobacco-free environments.

Description

This programme sought to prevent initiation of smoking among schoolchildren by means of a school-based educational programme to raise awareness of smoking's harmful effects and encourage of smoking parents, students, teachers and school personnel to quit. The key message was that, by changing the environment where the child grows up, one could change the child's behaviour.

The following activities made up the programme: development and integration into the school environmental health programme (paediatric environmental specialty unit (PEHSU)–School Community) of educational materials about smoking prevention; incorporation of four hours of smoking prevention education into the school curriculum; identification of students who could work as advocates and school leaders to promote tobacco-free environments; and provision of smoking cessation support to smokers (adolescents, teachers, parents and others).

Planning and implementation

Planning process

During the planning stage of the project, meetings with stakeholders and collaborating partners took place involving staff from the Valencia and Murcia PEHSUs, parents, patient associations, teachers and medical students.

A descriptive study was carried out in which children assessed smoking in the school community (in schools and the homes of the members of school community) by interviewing parents and teachers.

Contribution of each sector/partner

Teachers reviewed materials and worked with parents during class activities. In Murcia the school committee allocated one-half day of a teacher's time to work exclusively on the project. Parents, members of patient associations and medical students became actively involved in project implementation by supervising student visits to hospitals and interviewing patients, their relatives and their physicians. Health professionals and PEHSUs trained and provided guidance to parents. Specialist tobacco cessation units treated parent and teacher smokers and organized student visits to the hospital. PEHSUs were responsible for coordination and logistics. Local authorities provided previously published print materials on smoking cessation and provided initial funding for the project.

Results

A formal evaluation found an 18% reduction in the number of smokers two years after the initial intervention, with the most marked decrease among teachers and parents. The evaluation also found a decrease in the number of asthma attacks in children of smokers. Quality of life in the school community also improved. Thanks to this programme, 20 school leaders have been identified and actively participate in the programme. Authors of the evaluation attribute an average increase of €6 per day in each family's budget due to smoking cessation facilitated by the programme. It was considered too early to report figures on behaviour change in children, but the authors observed that more children go home to smoke-free environments due to the programme.

Lessons learned

Key factors leading to success

The involvement of individual parents and students in this initiative was critical since they were the main focus of the project. It was also important to involve parent associations. While the PEHSU started the project and provided the school with initial tools, it was

later embraced and continued by the community and is presently being funded by the local health authority of Valencia. The Valencia project is now also being expanded to Murcia with local health authority funding.

Sustainability

As previously mentioned, this activity began with initial support from the PEHSU but was later adopted by the community (students, parents and teachers). The enthusiasm generated by the project has made it sustainable.

Challenges

There were no significant challenges once the project started, since all parties shared ownership of the campaign and were very enthusiastic. A more general challenge is that Spain has a very high prevalence of smoking, especially among key adult groups such as physicians and teachers.

Transferability

Raising awareness of the harmful effects of tobacco smoke within the context of a school environmental health strategy is relevant and transferable to the entire European Region.

Considerations for future implementation or duplication of programme

It is crucial to engage the school community so that they drive the programme forward and sustain it in the long term. It would have been useful to find out more about other country's experiences in this area.

Additional information

This project was awarded a best practice prize at the opening session of the WHO Intergovernmental Meeting, 13–15 June 2007, Vienna, Austria, the midterm review of the implementation of the Budapest Conference Declaration commitments (http://www.euro.who.int/Document/EEHC/IMR_Vienna_mtgrep_en.pdf; or <http://www.env-health.org/a/2577>).

Reports were published in two school newspapers. Summaries have also been presented at national and regional scientific conferences. For a full article on the programme see: Lopez Alonso JA et al. Programa de prevención y tratamiento del tabaquismo desde la escuela: una llamada de atención a los pediatras [school programme on prevention and treatment of smoking: a call for attention of paediatricians]. *Revista Española de Pediatría*, 2008, 64:174-181.

Additional information including a project summary, photographs and power point presentation is available on the PEHSU web site (<http://www.pehsu.org/school/spain.ppt>).

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ALTERNATIVES TO PHTHALATES IN MEDICAL EQUIPMENT FOR BABIES (AUSTRIA)

RISK FACTOR	Hazardous chemicals
POLICY OBJECTIVE	CEHAPE RPG IV – <i>ensure protection from hazardous chemicals</i>
TYPE OF ACTION	Improvement in service delivery and infrastructure
SCOPE	Local: City of Vienna
SETTING	Health care facilities
TARGET AUDIENCE	Industry and hospital management authorities
TARGET BENEFICIARIES	Neonates and infants, children
DRIVING FORCE(S)	Vienna Hospital Association KAV, Ministry of Health, NGO Health Care Without Harm (HCWH)
PARTNERS	Doctors and nurses of the Children's Hospital, Municipality of Vienna
START DATE AND DURATION	2002–2005 (3 years)
TARGET POPULATION REACHED	Cannot be estimated
RESOURCE	About €10 000–30 000 Paid staff: 30 total (5 for planning, 20 for implementation and 5 for evaluation)

Rationale

Phthalates are hazardous chemicals used as softeners in polyvinyl chloride (PVC), a type of plastic commonly known as vinyl. The toxicity of phthalates, particularly di-2-ethylhexyl phthalate (DEHP) is established in the scientific literature. Newborn babies, children and the elderly are most vulnerable to the effects of phthalate exposure.

PVC medical products, such as intravenous tubing and bags typically contain 12–80% DEHP. DEHP is very volatile and leaches from the inner surface of the PVC tubes into the patient's body. Phthalates display hormone-like activity that can damage the foetus and the newborn, especially premature babies. Studies have shown testicular damage in the male offspring of female rats exposed to as little as 3.5 mg/kg body weight daily (via drinking-water). Other effects of DEHP include suppressed or delayed ovulation, suppressed estradiol production, reduced kidney function and liver function and decreases in heart rate and blood pressure.

Different medications, such as tranquillizers and cytostatica can accumulate at the surface of PVC-containing medical products or may be taken into the matrix of the plastic itself. As a result, part of the medication remains in the bags and the tubes instead being taken up by the body of the patient. With the use of PVC in medical settings, additional danger is caused by the effects of chlorine and the different compounds of chlorine.

Objectives

The objectives were:

- to switch to phthalates-free PVC medical devices throughout the neonatal intensive care unit (NICU) of the Children's Hospital in order to prevent DEHP exposure during the critical early period of development; and
- to transfer this experience to other hospitals serving children in Austria.

Description

This initiative aimed at eliminating phthalates and DEHP from medical products, packaging materials and building materials at the Children's Hospital of Vienna and exchanging these for phthalates-free alternatives. The initiative provided doctors and nurses with information about the danger of phthalates exposure to neonates and babies. Alternatives to phthalates-containing medical devices were bought instead of phthalate-containing material. This is the first and thus far the only hospital in Austria that is carrying out such measures.

Planning and implementation

Planning process

Consultations with specialists in biochemistry and synthetic materials from the Department of Environment of the Vienna Hospital Association took place during the planning stage of the project.

Contribution of each sector/partner

Health care professionals (doctors, nurses and hospital administrators) collected data about the toxic effects of phthalates. Industry provided alternative phthalates-free medical devices.

Results

In 1990 phthalates comprised 10% of the total medical waste in the Children's Hospital Kinderklinik Glanzing (Wilhelminenspital der Stadt Wien). In 1995 the percentage of phthalates fell to 2.5%. In 2003, a reduction in phthalates to 0.37% of total medical waste was achieved. The number of phthalates-containing products used per year in the neonatal intensive care unit decreased from 15.9% in 2001 to 5.4% in 2003. With the exception of tubes used for intratracheal ventilation, there are no longer any phthalates in medical products in the NICU. A reduction of phthalate exposure among children was achieved by eliminating phthalates-containing materials from the hospital.

Lessons learned

Key factors leading to success

The motivation of nurses and doctors to support this initiative was a key factor that led to the project's success.

Sustainability

The long-term effects of the project were the reduction in exposure to phthalates at the Children's Hospital.

Challenges

The main challenge was to convince the hospital management of the importance of eliminating phthalates from medical devices.

Transferability

All elements of this initiative can be transferred.

Considerations for future implementation or duplication of programme

The entire team of the department or unit to be targeted must be convinced of the importance of the initiative. The technical assistance by industry in substituting safe alternatives for PVC-containing medical equipment was very helpful. More information from scientific publications on the dangers of PVC would have been helpful; for example, the peer-reviewed *Journal for Pediatric Surgery* provided a useful evidence base for the project.

Additional information

Project information was distributed by means of brochures, public meetings, reports, media and one journal publication (Lischka A et al. Avoidance of phthalates-containing medical products/costs versus health – or simply avoidable risks? *Hospital*, 2004, 6:32–33). Materials are available in English, French and German.

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POISONOUS PERSUADERS (THE NETHERLANDS)

RISK FACTOR	Injuries
POLICY OBJECTIVE	CEHAPE RPG II – <i>ensure protection from injuries</i>
TYPE OF ACTION	Communication
SCOPE	National
SETTING	Kindergartens, health care facilities, households, internet, retail establishments and pharmacies selling poisonous chemicals and pharmaceuticals
TARGET AUDIENCE	Parents and families, industry
TARGET BENEFICIARIES	Children aged 0–4 years
DRIVING FORCE(S)	Consumer Safety Institute (ConSafe), Health professionals: child health centres and professional educators registered with the child health centres
PARTNERS	Retailers and pharmacists, internet outlets and mass media (television), Ministry of Health
START DATE AND DURATION	2000–2003 (3 years)
TARGET POPULATION REACHED	87% of parents with children 0–4 years
RESOURCES	More than €100 000 Paid staff: 6 for planning, 8 for implementation, 2 for evaluation

Rationale

The Consumer Safety Institute (ConSafe) is committed to reducing the risk of injury, particularly in the home and during leisure time, where safety is integrated into the wider context of safety, security and health. ConSafe's goal is to improve safety in the Netherlands from the perspective of health policy in general. ConSafe collects detailed information on injuries; produces research-oriented action plans for prevention; develops and exchanges information on the technology of prevention, particularly through product safety research and standardization; develops and tests model interventions; and expands or duplicates successful interventions.

Objectives

The objectives were:

- to raise public awareness and increase parents' knowledge about prevention of accidents and injuries; and

- to provide parents with practical measures for prevention of accidental poisoning.

Description

This initiative consisted of a broad campaign aiming to reduce the incidence of accidents involving household chemicals and pharmaceuticals among children from birth to age 4 years. ConSafe set up a web site for the campaign, offering tailor-made support on product packaging and measures to facilitate and reinforce safe handling and storage of chemicals and pharmaceuticals in the home. In child health centres, health professionals provided structural education programmes on child safety for parents of children up to age 4 years. Another part of the initiative was the production of a television commercial demonstrating to parents the temptation of chemical household products and pharmaceuticals to young children, who often view these substances as drinks and candies. This commercial won both the Cannes Lion Award and European Best Advertising Award in 2001.

Planning and implementation

Planning process

The planning stage of the project included meetings with stakeholders, expert consultations and research on parent behaviour and the circumstances surrounding poisoning accidents among children from birth to age four.

Contribution of each sector/partner

Consultants from ConSafe, financed by the Ministry of Health, trained child health centre staff. Child health centre staff and other trainees disseminated information materials and gave practical information to parents during their regular visits to the health centres. Organizations financed their own contributions, and the Ministry of Health provided information materials. Industry leaders disseminated information about the packaging of chemical household products and securing such products with safety locks. Mass media informed parents and professional educators by means of an informational web site financed by the Ministry of Health. Media licensees offered ConSafe a cash discount of 75% for broadcasting commercials on television.

Results

Although no formal evaluation was carried out, an increase in parental awareness, knowledge and behaviour modification regarding poisonous chemicals in the home was observed. Furthermore, the number of poisoning accidents fell by 15% and admissions to hospital for poisoning fell by 50% following the campaign.

Lessons learned

Key factors leading to success

Factors include:

- effective use of mass media to raise public awareness;
- dissemination of tailor-made information (via internet and traditional channels) to increase knowledge;
- allocation of sufficient time for preparation and development of network and strategy
- research into the expectations and attitudes of the target group; and
- implementation of measures to facilitate and reinforce preventive behaviours among parents.

Sustainability

Child health care organizations in the Netherlands regularly provide information to parents about child safety. The campaign's web site is permanently available to parents, health professionals and the public.

Challenges

No information was available.

Transferability

The mass media approach to health behaviour modification is an easily transferable element of the project.

Considerations for future implementation or duplication of programme

Familiarity with the cultural norms and health behaviours of immigrant populations is needed to target these subgroups. The combination of raising public awareness and providing specific, practical information strengthens the impact of the campaign. The collaboration between public and private sectors is crucial, encompassing government authorities, health care organizations, business and industry. Advance knowledge of the target audience and target beneficiaries is critical. Current statistical data, such as those collected by the Accident Surveillance System (LIS) comprising the accident and emergency departments of 14 hospitals in the Netherlands, are valuable for defining the nature and extent of the problem and establishing a baseline against which to measure progress.

Additional information

A trend analysis of accidents and evaluation of the effects of the campaign on the behaviour of parents is available in Dutch from ConSafe.

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ENVIRONMENTAL LEAD POISONING IN CHILDREN LIVING IN THE SILESIA PROVINCE (POLAND)

RISK FACTOR	Heavy metals
POLICY OBJECTIVE	CEHAPE RPG IV – <i>ensure protection from heavy metals</i>
TYPE OF ACTION	Monitoring of environmental exposure and knowledge building
SCOPE	Regional: Silesia province, upper Silesian industrial zone
SETTING	Kindergartens, health care facilities
TARGET AUDIENCE	Local authorities, teachers/school administrators, parents/family, industry
TARGET BENEFICIARIES	Children aged 0–7 years
DRIVING FORCE(S)	Institute of Occupational Medicine and Environmental Health (IOMEH) Physicians, nurses, scientists
PARTNERS	Health professionals, municipal authorities, parents and teachers, Ministry of Health, National Fund for Environmental Protection and Water Management, Voivodship Fund for Environmental Protection and Water Management
START DATE AND DURATION	1993–2000 (7 years)
TARGET POPULATION REACHED	Over 20 000 families and 14 000 children
RESOURCES	€10 000–30 000 Paid staff: 5 for planning and evaluation, 6–12 for implementation Volunteers: 2 for planning

Rationale

There is a considerable body of scientific evidence on the adverse health effects of lead exposure in children. Studies from the early 1990s assessed childhood lead exposure in Poland. Experts on environmental quality, especially in the Silesia region, where there is a high airborne lead concentration as well as lead fallout, recommend taking action on this issue and, specifically, implementing recommendations on the prevention of environmental lead intoxication contained in the report of the Toxicological Committee of the Sanitary Epidemiological Council (Ministry of Health, Poland).

Objectives

The objectives were:

- to identify children at risk for lead poisoning;
- to raise awareness about lead poisoning; and
- to prevent environmental lead intoxication.

Description

This initiative consisted of identifying children at risk for lead exposure and poisoning, followed by the development and publishing of guidelines for measures to prevent environmental lead intoxication.

Planning and implementation

Planning process

During the planning stage of the project, meetings with stakeholders and collaborating partners were held. Prior to implementation, a needs assessment was carried out as well.

Contribution of each sector/partner

Physicians and nurses from the Institute of Occupational Medicine and Environmental Health carried out blood lead level (BLL) tests, toxicological analyses, diagnostic and therapeutic procedures and

specialist consultations. Local authorities assisted in identification of participants. Parents completed questionnaires to help identify health problems in their children.

Results

The evaluation of blood lead level in the study group was achieved as planned. Eighty percent of the population participated in the project. Following the initiative, the mean level of BLL in children decreased, and knowledge on how to prevent lead exposure increased. Regional authorities now have a better understanding of the problem.

Lessons learned

Key factors leading to success

Two key factors were effective communication to introduce the project and its objectives; and strong cooperation among programme leaders, target audience and partner institutions.

Sustainability

No information was available.

Challenges

The main challenges of the project were difficulty recruiting participants, lack of legal obligation to screen children for lead exposure and shortage of financial resources for implementation.

Transferability

The project can be easily transferred to other countries, taking into account the different sources of exposure to lead, different levels of socioeconomic status within populations and differences in behaviour and lifestyle.

Considerations for future implementation or duplication of programme

Criteria for identification of study sites and identification of children at risk should be detailed and specific. Socioeconomic factors should be considered during

the development of recommendations for preventive activities. In the planning phase it is important to identify all stakeholders who are involved in this policy issue, including groups, individuals, leaders and potential partner institutions. Useful partners may include schools, child care centres and primary health care providers. For analysis of BLL, the laboratory tests, equipment, technology, and laboratories participating in international quality control systems need to be of good quality. Advocacy and health education campaigns should be adjusted to specific local conditions. Similarly, the design of educational materials should be appropriate for the target population. Different materials and messages may be required for different child age groups, for example. Securing sufficient financial support prior to implementation is very important. Training of project staff and as many partners as possible in environmental health is helpful in raising awareness and increasing motivation. Trainees should include general practitioners, nurses, teachers and local administrators. The media should be invited to participate in a public relations campaign to raise awareness in the general population.

Additional information

Progress reports in Polish and English may be requested from IOMEH.

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INDOOR LEISURE NOISE (GERMANY)

RISK FACTOR	Noise
POLICY OBJECTIVE	CEHAPE RPG IV – <i>ensure protection from environmental noise</i>
TYPE OF ACTION	Education and communication
SCOPE	Regional: State Baden-Württemberg
SETTING	Schools
TARGET AUDIENCE	Teenagers aged 12–14 years
TARGET BENEFICIARIES	Teenagers aged 12–14 years
DRIVING FORCE(S)	State Health Agency as driving force Physicians from public health offices as key players
PARTNERS	Public health offices Ministry of Social Affairs
START DATE AND DURATION	April 2000 (ongoing)
TARGET POPULATION REACHED	About 20 000 students
RESOURCES	€10 000–30 000 Paid staff: 13 for planning, about 100 for implementation, 3 for evaluation

Rationale

Recent findings suggest that many children, teenagers and young adults have experienced permanent hearing loss caused by exposure to excessive noise from a variety of leisure activities, such as listening to music through portable music players, stereo players, computer and television games or attending concerts and discotheques. Other sources of leisure noise include some types of toys for children (pistols, squibs and crackers) and fireworks. Protection against irreversible ear damage from leisure noise has an important role to play in preventive health care.

Objectives

The objectives are:

- to prevent hearing damage in children and adolescents by raising public awareness of the health risk associated with leisure noise; and
- to increase the understanding of the relationship between hearing damage and leisure noise among children and adolescents.

Description

This ongoing initiative consists of a campaign to draw the attention of young people to the risk of hearing loss from leisure noise. Leisure noise levels were measured; written materials such as leaflets, fact sheets, postcards and posters about noise were distributed; various listening examples were presented to students and noise experiments carried out; personnel were trained; and posters from the students' poster contest were exhibited.

Planning and implementation

Planning process

During the planning stage, project managers organized information meetings for all public health offices and established a working group at the State Health Office, which met regularly to prepare the campaign.

Contribution of each sector/partner

The campaign was designed and managed by the State Health Agency, which supported the regional public health offices by providing Sound Quality Head

and Torso Simulators (Brüel & Kjaer); noise level measurement devices; audiometers for testing hearing levels; written materials such as leaflets, fact sheets, postcards and posters; and educational materials, including a set of presentation transparencies, to be used in training of personnel.

Results

An increase in awareness among the general public and among teenagers of the health risks of leisure noise has been observed. From April 2000 to January 2005 the information campaigns were carried out at schools in 37 different locations in Baden-Württemberg, and more than 20 000 leaflets were distributed. The campaign has received positive feedback from students, teachers, schools and the media.

Lessons learned

Key factors leading to success

The collaboration with the regional public health offices and the technical support provided by the State Health Agency were key factors that led to the initiative's success.

Sustainability

No information was available.

Challenges

The main challenge was motivating the staff of the public health offices to collaborate and implement the campaign. This was addressed by inviting their active participation in the planning of the campaign and holding information meetings and workshops for all the public health offices in the region. A second challenge was ensuring sufficient financial support for the campaign.

Transferability

The design and management of this programme are easily transferable elements. Moreover, the existing information materials can be translated into other languages.

Considerations for future implementation or duplication of programme

Reducing the risk of hearing damage from leisure noise can be achieved by implementing relatively simple informational activities to raise awareness of the problem. Technical assistance from the State Health Agency in preparing the written materials, training personnel and carrying out noise level measurements was an important factor in implementing the campaign. Setting up a network of health professionals and media to collaborate on the production of information materials would strengthen similar campaigns. In addition, the campaign would benefit from more resources (especially staff) in the future.

Additional information

The following publications offer further information.

- Wuthe J et al. Aktivitäten des ÖGD Baden-Württemberg zur Information von Schulkindern über lärmverursachte Gehörschäden. *Umweltmedizin in Forschung und Praxis*, 2000, 5(6):337–338.
- Jovanovic S, Appelt M, Körber JM. Freizeitlärm im Innenraum [aufgehört Poster]. Schwäbisch Gmünd, 50. Kongress der Ärzte und Zahnärzte des Öffentlichen Gesundheitswesens, 11–13 May 2000.
- Jovanovic S, Appelt M, Körber JM. Information activities in Baden-Württemberg, Germany aimed at protecting teenagers against leisure noise induced hearing damage. *2nd WHO Housing and Health Symposium, 29 September – 1 October 2004, Vilnius*.

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INTELLIGENT SUNBATHING INSTEAD OF SUNBURN (GERMANY)

RISK FACTOR	UV radiation
POLICY OBJECTIVE	CEHAPE RPG IV – <i>ensure protection from radiation</i>
TYPE OF ACTION	Education and communication
SCOPE	Regional: Bavaria
SETTING	Kindergartens, schools, health care facilities, pharmacies, Munich Airport, internet, alpine huts, swimming pools, health authorities
TARGET AUDIENCE	Teachers/school administrators, parents/family, community, children and adolescents 5–19 years
TARGET BENEFICIARIES	Children and adolescents aged 0–19 years, parents/family, community
DRIVING FORCE(S)	Bavarian State Ministry for Environment, Health and Consumer Protection
PARTNERS	Ministry of Education and Culture, physicians, dermatologists, opticians, pharmacists, health insurance (AOK), social insurance, German Alpine Association (DAV), Bavarian Sports Club, parents, teachers
START DATE AND DURATION	2000 (ongoing)
TARGET POPULATION REACHED	425 000 distributed materials, about 1500 web site visitors per month in 2004
RESOURCES	More than €100 000 Volunteers: 15 for planning, 5 for implementation, 1 for evaluation

Rationale

An increase in UV radiation levels as well as increased morbidity from malignant melanoma have been recorded in Bavaria. Children and teenagers are most at risk of UV radiation exposure and its long-term, negative effects on health.

Objectives

The objectives are:

- to raise awareness of the risks associated with UV exposure; and
- to change attitudes towards sunbathing and sunbathing practices in the general population and especially among children and adolescents.

Description

The initiative organized by the Bavarian State Ministry for Environment, Health and Consumer Protection consisted of an information campaign to reduce morbidity from malignant melanoma in Bavaria by

means of a series of preventive measures. Posters and brochures about sunbathing, its adverse health effects and how to prevent excessive exposure to UV radiation were distributed by physicians, dermatologists, a health insurance institution (AOK), the German Alpine Association (DAV), opticians, pharmacists, the Bavarian Sports Club, and a social insurance institution. A mini-guidebook was developed to test the current UV radiation, and Frisbees and baseball caps were given out as promotional materials. Physicians and dermatologists gave advice about safe sunbathing and the effects of exposure to UV radiation to patients in their practices.

Planning and implementation

Planning process

In preparation for the campaign, the State Ministry for Environment, Health and Consumer Protection of Bavaria held a press conference with participation of all the involved partners. Expert consultations with

dermatologists took place for the development of the information materials. Furthermore a web site (<http://www.sonne-mit-verstand.de>) was set up to promote the campaign.

Contribution of each sector/partner

Political and financial support was provided by the Bavarian State Ministry for Environment, Health and Consumer Protection. All partners supported the campaign by distributing the materials and information.

Results

Although the results of the campaign were not formally evaluated, an increase in knowledge (about 1500 people per month visited the web site in 2004), a change in the population's behaviour and increased media attention in several newspapers and magazines were observed.

Lessons learned

Key factors leading to success

The support of the Bavarian Minister for Environment, Public Health and Consumer Protection during the campaign, the availability of sufficient financial resources and the will of all partners to take action were key factors leading to the initiative's success.

Sustainability

Following its initial success in changing attitudes and behaviours, the campaign will continue for another three years.

Challenges

No information was available.

Transferability

This initiative could be translated and easily transferred to other settings.

Considerations for future implementation or duplication of programme

In June 2005 the campaign was relaunched, starting with a press conference in Munich. It was incorporated into a special "Sunscreen" project day and the Bavarian health initiative "Healthy.Life.Bavaria" in the context of "sun and leisure activities," with the main target group being children and teenagers as they are most at risk from intensive UV exposure.

Additional information

For more information about the campaign in German visit the campaign's web site (<http://www.sonne-mit-verstand.de>).

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SUN AWARENESS IN MALTESE SECONDARY SCHOOL STUDENTS (MALTA)

RISK FACTOR	UV radiation
POLICY OBJECTIVE	CEHAPE RPG IV – <i>ensure protection from radiation</i>
TYPE OF ACTION	Education
SCOPE	National
SETTING	Schools, households, public places
TARGET AUDIENCE	Teachers, parents/family, community, children and adolescents aged 5–19 years
TARGET BENEFICIARIES	Children and adolescents 0–19 years and parents/family
DRIVING FORCE(S)	Health promotion officers, public health professionals, dermatologists, oncologists Health information specialists, cancer registry
PARTNERS	Ministry of Education, teachers (including personal skills development teachers) Education department directors
START DATE AND DURATION	1998 (ongoing)
TARGET POPULATION REACHED	965 students attending Maltese secondary schools in forms 1–3 were surveyed in May 2002.
RESOURCES	€30 000–50 000 Paid staff: 9 for planning, 15 for implementation, 6 for evaluation Volunteers: 4 for planning, 1000 for implementation

Rationale

Studies have shown that the risk of malignant melanoma and basal cell carcinoma is linked to a history of intermittent skin burning in childhood and adolescence. About 80% of a person's lifetime exposure to UV radiation is estimated to occur in the first 18 years of life.

In Malta, intensive campaigns to convince the population of the harmful effects of exposure to sun on the skin have been carried out. The annual Euro-Melanoma campaign, launched in 2000, has become an established event in the Maltese calendar. The Maltese campaigns were initially media-based and targeted adults, but also included the issue of sun avoidance among children. Following these campaigns, a survey of schoolchildren was carried out to assess sun-related attitudes and knowledge in children aged 11–14 years.

Objectives

The objectives are:

- to educate students about the harmful effects of sun exposure with an emphasis on sun avoidance in children;
- to identify misconceptions adolescents have about sun exposure; and
- to help in the design of school-based interventions to raise sun exposure awareness.

Description

The initiative consisted of a health promotion campaign to increase knowledge of the risks of UV radiation among children and adolescents. The effects of the national sun awareness campaign on knowledge, attitudes and behaviours of Maltese secondary schoolchildren were evaluated afterwards.

Planning and implementation

Planning process

During the planning stage of the project, meetings with stakeholders and collaborating partners took place.

Contribution of each sector/partner

Teachers promoted sun-risk awareness in classes, and the subject was added to the school curriculum; all directors agreed to participate in the project to measure knowledge and analyse attitudes and behaviours of students with regard to sun exposure. The health promotion department organized the campaign, while public health experts, together with dermatologists and health promotion officers, planned the data analysis and evaluation survey. Parents and community were the target of the first campaign and later played an active role by raising awareness in their children. Children cooperated by completing questionnaires during class time.

Results

The first evaluation of children's knowledge on the effects of sun exposure on skin and changes in behaviour in relation to sun exposure was carried out in May 2002. The evaluation revealed a high level of sun awareness, with high scores in knowledge of the effects of sun on the skin, skin cancer and sun protection. For detailed results see: Aquilina S et al. Sun awareness in Maltese secondary school students. *Journal of the European Academy of Dermatology and Venereology*, 2004, 18:670–675.

Lessons learned

Key factors leading to success

Partnerships between different sectors (health and education), cooperation between various professionals within the same sector, support from the media in raising awareness and involving parents and family members were key factors contributing to the initiative's success.

Sustainability

Sustainability was enhanced by increasing public awareness, especially among parents, and including the media as a permanent partner in education campaigns on sun exposure.

Challenges

Financial constraints and the difficulty of measuring changes in attitude were the main challenges in implementation and evaluation.

Transferability

The campaign to raise awareness of is easily transferable. The tools used in the evaluation survey to assess the changes in knowledge, attitudes and behaviour could also be transferred. The small size of the Maltese islands made it possible to disseminate information quickly to the target audience; this may not be the case in other countries.

Considerations for future implementation or duplication of programme

More detailed baseline information should be obtained before the start of the programme.

Future sun awareness campaigns for children and adolescents need to take into account the impact of gender and age differences on children's attitudes and should focus mainly on influencing those attitudes. Greater availability of funding would have enhanced the programme; the sponsorship of private industry, especially from sunscreen producers, should be actively pursued.

The large number of health promotion officers and teachers trained in issues related to sun exposure facilitated programme implementation, as did the technical assistance provided by the Euro-Melanoma programme.

Additional information

Copies of records of all health promotion campaigns in Maltese and English can be requested at the health promotion department (<http://www.health.gov.mt>). For an overview of the Maltese sun awareness and protection practices, please see: Scerri L et al. Sun awareness and sun protection practices in Malta. *Journal of the European Academy of Dermatology and Venereology*, 2002, 16:47–52.

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JUST DO IT! AN INITIATIVE FOR A BETTER ENVIRONMENT FOR CHILDREN IN LOCAL COMMUNITIES (DENMARK)

RISK FACTORS	Lack of adequate physical activity, outdoor and indoor air pollution (ETS), injuries
POLICY OBJECTIVE	CEHAPE RPGs II–IV – <i>ensure protection from injuries; ensure adequate physical activity; ensure clean outdoor and indoor air; ensure protection from hazardous chemical</i>
TYPE OF ACTION	Education and communication
SCOPE	Regional
SETTING	County and community administrations
TARGET AUDIENCE	Local authorities, teachers/school administrators
TARGET BENEFICIARIES	Children and adolescents aged 0–19 years, parents/family, community
DRIVING FORCE(S)	Regional public health officers, National Board of Health
PARTNERS	Regional public health officers, politicians, administrators and personnel working with health promotion and prevention in the municipalities
START DATE AND DURATION	January 2004 (ongoing)
TARGET POPULATION REACHED	11 municipalities with a total population of 225 000
RESOURCES	€10 000–30 000 Paid staff: 10 for planning, 150 for implementation

Rationale

There is a lack of municipal planning for health promotion and injury prevention for children in the Roskilde region. During the restructuring of the Danish municipality system, the need for focusing on health promotion and injury prevention was identified.

Objectives

The objectives are:

- to raise awareness among local authorities of the importance of health promotion and injury prevention; and
- to encourage local authorities to commit, politically and administratively, to initiating programmes in child health promotion and child injury prevention.

Description

This initiative consisted of an information campaign for local authorities to encourage the development of health promotion and injury prevention initiatives for children. The National Board of Health and the regional offices of public health published a brochure entitled *Just do it!* providing information on the topics of children and physical activity, obesity, young smokers, exposure to communicable diseases, indoor environments and exposure to sun and accidents. During meetings held in each county, this brochure was distributed to mayors, politicians, administrators and people working in health promotion and prevention in the community. Additionally, a package of data on CD-ROM with figures describing common health problems among children was provided to the local authorities.

Planning and implementation

Planning process

During the planning stage of the initiative, experts including public health professionals were consulted to assist in the development of the brochure.

Contribution of each sector/partner

Regional medical officers of public health were responsible for contacting the municipalities to inform them of the initiative. The National Board of Health contributed to the development of the materials and was a source of information about health promotion and injury prevention strategies. Local authorities participated in about 30 meetings. The regional officer of public health and local administrators, politicians, and health workers in Denmark were also involved in these. Politicians, administrators and personnel working on health promotion and injury prevention in the municipalities discussed the possibilities and difficulties encountered when implementing health promotion and injury prevention initiatives.

Results

An evaluation took place at the end of 2005 with a focus on the number of meetings that had taken place.

Lessons learned

Key factors leading to success

Among the key factors leading to success was in-depth knowledge of local structures and ongoing activities, as well as personal contacts.

Sustainability

This project was one among several meant to promote and support the understanding, planning and work towards improvement of children's health in communities.

Challenges

Working within the context of a general restructuring of municipalities and regions in Denmark entailed both challenges (lack of concentration, focus and prioritization) and opportunities (receptiveness to change and new focus).

Transferability

While the project is transferable, there is nevertheless a degree of investigation, analysis and discussion that is required to duplicate such a programme in a new setting. Action and involvement is needed from all levels of the relevant sectors – political, administrative, health and community.

Considerations for future implementation or duplication of programme

Representatives from municipalities and regions should be involved in the project planning group from the beginning.

Additional information

Information is available in Danish (http://www.sst.dk/publ/Publ2004/Saa_goer_det_dog.pdf).

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The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Since the Fourth Ministerial Conference on Environment and Health (Budapest, 2004), the children's health and environment programme of the WHO Regional Office for Europe has been collecting case studies on actions to improve children's health and environment. The aim of this exercise was to document experiences in implementing measures to address the risk factors covered by the Children's Environment and Health Action Plan for Europe. These descriptions are intended to serve as examples for future implementation of national children's environment and health action plans. This collection of case studies describes initiatives, with the intention of encouraging countries to share their experiences, focusing on the process of implementing each action, including challenges and lessons learned. Thirty-three case studies from the WHO European Region were selected for inclusion. This report describes them and presents the results of their analysis.

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