



COLLABORATION BETWEEN THE **HEALTH** AND **TRANSPORT SECTORS** IN PROMOTING **PHYSICAL ACTIVITY:** **EXAMPLES** FROM EUROPEAN COUNTRIES



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THE PEP *Transport, Health and Environment
Pan-European Programme*



Keywords

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HEALTH PROMOTION

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PHYSICAL FITNESS

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CASE REPORTS

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ABSTRACT

Between June 2005 and January 2006, examples of collaboration between the health sector and other relevant sectors, especially transport, to promote health-enhancing physical activity were gathered in Europe. Of particular interest were projects with contributions from different sectors and those accompanied by evaluation. Sixty-seven potential case studies were identified; after initial screening, 48 were included. All the projects reported were from the western part of the WHO European Region or Israel, with 19 from the United Kingdom. The case studies were mainly implementation or intervention projects. Most were implemented on a city level (local), followed by projects carried out nationwide. The target population was mostly the “general population”. About two thirds were “behaviour change campaigns” or “engineering or infrastructural measures combined with publicity or motivational measures”. The remaining third mainly comprised “publicity or awareness-raising campaigns to promote active modes of transport”, “research initiatives” and “policy documents describing strategies to promote active modes of transport”. The four sectors most often involved were transport, health, local or sub-national public authorities and the private sector. In 25 projects (52%), the health sector collaborated with the transport sector. In 18 projects (38%), the health sector collaborated with a sector other than transport, and in 5 projects (10%), the health sector was not involved. Many case studies focused either on transport-related objectives or on behavioural changes of individuals or target groups and less on infrastructural changes. Twenty-three case studies (49%) recorded participation in promotional campaigns for physical activity or active travel (such as health walks or walking buses), 9 (19%) collected data on modal shift towards walking and cycling (solely assessing before versus after) and 10 (21%) measured specific health outcomes such as the fitness and body fat values of participants (four projects with before-versus-after assessment). Five case studies (10%) provided figures on total physical activity (two projects with a before-versus-after design and the others cross-sectional). About one third of the projects conducted before-versus-after assessment or longitudinal evaluation

on changes in physical activity levels, health outcomes such as body fat values or changes in travel modes, while the other projects carried out cross-sectional assessment. Case studies involving both the health and the transport sectors were more likely to focus on engineering measures with motivational campaigns to increase physically active transport. Projects not involving the health and the transport sectors more often chose behaviour change campaigns. Information on physical activity levels was often not collected, as it was not considered in evaluating transport-related interventions. Thus, participation of experts from the health sector in planning and implementing interventions – particularly in land use, transport and urban planning – seems to be decisive in assessing the effects on physical activity and other health outcomes. In addition, a standard set of indicators is needed to support more informative evaluation of interventions.

FOREWORDS

Promoting collaboration and integrated decision-making across the sectors for achieving transport patterns that are sustainable for health and the environment is at the core of the Transport, Health and Environment Pan European Programme (THE PEP). In recent years, the desirability and added value of pursuing shared policy goals has been increasingly recognized in different policy settings, at the international, national and local level, as exemplified by the interest towards “Health in all Policy” approaches and implementation of Agenda 21. However, less is known about how collaboration and policy integration between different sectors can take place in practice.

The promotion of safe cycling and walking in urban areas is an area that presents great opportunities for “win-win-win” approaches to achieve goals of the transport, health and environment sectors. The improvement of safety of cyclists and pedestrians is one of the important means that is likely to encourage more people to become physically active in their daily life, reduce the number of injuries among cyclists and pedestrians, as well as congestion, emissions of air pollutants and noise, and increase energy efficiency and the quality of urban life.

Cycling should be promoted by both national and local governments and be coordinated with policies on transport, land-use, environment, health and finance. It should benefit from dedicated infrastructure and be well connected and combined with other modes, notably public transport and walking. In order to enhance the safety of cyclists and pedestrians, the volume and the speed of motorized traffic would need to be limited, whenever appropriate.

Documenting and making these “win-win-win” approaches easily accessible may catalyse further action, expanding the knowledge basis in the area of cross-sectoral collaboration. This is why the European network for the promotion of health-enhancing physical activity (HEPA Europe), in collaboration with THE PEP Task

Force for the Promotion of Safe Cycling and Walking in Urban Areas, carried out this collection of case studies. It documents, analyses and draws lessons from relevant experiences developed in different European countries through collaborations between the transport and other sectors, particularly the health one, in promoting physically active transport modes. It provides also a full description of how cross-sectoral collaborations can work in real life, highlighting opportunities, challenges and possible ways to make these collaborations even more successful, particularly through improved evaluation of their results.

It is our hope that this publication will inspire policy-makers and practitioners from the transport, health and environment sectors to work together towards the achievement of healthier and more sustainable transport.

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It is well documented and widely accepted that physical activity is a major health resource for people of all ages. Currently, the central role of a physically active lifestyle in preventing and reducing overweight and obesity is in the focus of public interest. But there is much more: physical activity has favourable effects on a wide range of noncommunicable diseases such as cardiovascular diseases, type II diabetes, osteoporosis, colon and breast cancer, or depression. And active individuals enjoy a more independent old age. The largest health gains can be obtained for those who overcome their sedentary lifestyles and become regularly active at moderate intensity levels. From a public health perspective it is most important to reach this group.

Despite the well known benefits of an active lifestyle inactivity levels in Europe today are alarming. In some countries, the trend towards inactivity has been halted or reversed, but in many countries inactivity levels still seem to be on the increase. Another important disturbing fact is that inactivity levels are not evenly distributed among the population: they are higher among the elderly and socioeconomically disadvantaged groups.

Walking and cycling for transport or during leisure hours offer opportunities for regular physical activity at low cost, require no or only little practice and are thus suitable for everyone – also for those most in need of more physical activity. Furthermore, such activities can easily be integrated into daily routines at no or marginal additional time costs.

Collaboration between different sectors is essential to achieve positive changes in transport patterns and to also meet the objectives of the other sectors involved, such as reduction of traffic congestion or improvement in air quality. However, implementation of this widely accepted approach is not trivial. Therefore it is of the utmost importance to learn from real-life experiences in changing perceptions and social norms and in creating conditions that make active living an easier choice.

For this reason, the Swiss Federal Offices of Public Health and Sports have supported the elaboration of this report of HEPA Europe and we hope it will be able to contribute to an important development towards more physical activity for people in Europe.

Professor Thomas Zeltner
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The template used for the case study descriptions is adapted from a product and method developed by the WHO Regional Office for Europe, WHO European Centre for Environment and Health, children's health and environment programme to collect case studies, share knowledge and build capacity related to action strategies to improve children's health and environment in the European Region of WHO.

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Annex 1.
Case study candidates that could not be included owing to lack of updated or detailed enough information

Annex 2.
Example of a full case study description

Annex 3.
CD-ROM with the full description of all 48 case studies

1 INTRODUCTION

Scientific evidence clearly demonstrates that regular physical activity is important for health (1, 2). Nevertheless, physical inactivity is becoming increasingly prevalent in European countries (3, 4). Increased access to cars and deterioration in the conditions for physically active transport are two reasons associated with more sedentary and inactive lifestyles and are also related to the likelihood of becoming obese (5–7).

Walking and cycling for transport can play an important role in promoting daily physical activity because non-motorized transport offers opportunities for regular physical activity that can easily be integrated into daily life at minimal cost.

Transport-related physical activity has great potential to promote overall physical activity, but quantifying such effects remains difficult. As a recent review (8) concluded, obtaining more and stronger evidence on the effectiveness of interventions that promote physical activity in transport settings is crucial. Understanding of the relationships between physical activity, transport and health effects is increasing as more research has been carried out in recent years (9, 10). Nevertheless, more research is needed on the links between transport and health policies.

Transport has both beneficial and adverse effects on health, such as through physical activity, road traffic accidents, air pollution or noise, and is therefore an important determinant of public health. But transport-related promotion of physical activity and related research has not yet become a public health priority. However, interdisciplinary collaborative approaches seem to be important to effectively promote active transport (10).

Ideally, the promotion of physically active travel as a means to increase physical activity levels in populations should be integrated into an overall public health strategy at the national and international levels. Moreover, policy-making and science should go hand in hand (11).

Recent international initiatives and developments

At the international level, the field of environment and health has started to discuss transport-related physical activity. In 1999, the Charter on Transport, Environment and Health (12) provided a policy framework that recognizes the importance of transport-related physical activity for the attainment of better health. In 2002, the Transport, Health and Environment Pan-European Programme (the PEP) (13) was launched under the auspices of WHO and the United Nations Economic Commission for Europe to address the key challenges to achieve more sustainable transport patterns and to better integrate environment and health aspects into transport policies.

From 1996 to 2001, the first European network for the promotion of health-enhancing physical activity existed as a programme funded by the European Union (EU). It was instrumental in facilitating exchange and providing support for the development of integrated national approaches (14). Funding stopped in 2001, and in recent years a platform has been lacking for sharing the development and implementation of evidence-based policies, strategies and initiatives for promoting physical activity. To fill this gap, the European network for the promotion of health-enhancing physical activity (HEPA Europe) was re-launched in May 2005 (14, 15).

HEPA Europe is a collaborative network that works closely with the WHO Regional Office for Europe for better health through physical activity among all people in the WHO European Region by strengthening and supporting efforts to increase participation and improve the conditions for healthy lifestyles. One activity of HEPA Europe is collecting case studies from European countries on collaboration between various sectors promoting physical activity, especially the health and transport sectors. This collection of practical examples is aimed at supporting Member States in promoting physical activity as part of the implementation of sustainable transport policies. The project was also undertaken as a contribution to the

A grayscale photograph of a man with long hair and a beard, wearing a dark jacket and light-colored trousers, riding a bicycle. He is looking towards the camera. A messenger bag is attached to the back of the bike. The background is slightly blurred, showing what appears to be a city street with other bicycles parked in the distance.

implementation of THE PEP and has been implemented in collaboration with the THE PEP Task Force for the Promotion of Safe Cycling and Walking in Urban Areas.

In addition, the project is also aiming to support WHO Member States in addressing obesity through the promotion of physical activity in everyday life settings. It has therefore been made available to the participants of the WHO European Ministerial Conference on Counteracting Obesity on 15–17 November 2006 in Istanbul (16), with the intent of disseminating relevant European experiences on the promotion of physical activity through multisectoral approaches and environmental changes, as advocated by the Global Strategy on Diet, Physical Activity and Health (17).

Aim of collecting the case studies

The overall aims of collecting case studies were:

- to document existing experience of intersectoral collaboration in transport and health to promote physical activity;
- to facilitate the sharing of experiences in planning and implementing initiatives in countries;
- to analyse the case studies with respect to type and amount of intersectoral collaboration and their potential for enhancing physical activity, for inspiring action, and for providing practical indications on key elements that could facilitate adaptation and transfer; and
- to provide more and stronger evidence of the effectiveness of interventions that promote physical activity in the context of daily life.

2 METHODS

Collection of case studies

Between June 2005 and January 2006, members of the THE PEP Task Force for the Promotion of Safe Cycling and Walking in Urban Areas and of HEPA Europe and its Steering Committee as well as other experts active in health promotion, physical activity promotion, the transport and environment sectors, urban planners and others working in related sectors were invited to report examples of collaborative approaches to promoting physical activity in their respective countries.

Case studies could consist of projects, programmes, policies or implementation strategies in the field of transport and health at the local, subnational or national level. Additional candidates were identified through citations in previously published documents (18, 19). Contact people were invited to update the available information and provide details. In addition, an Internet search was performed to obtain more detailed information about relevant projects. The following keywords – alone and in combination – were used: case studies, database(s), transport, transport sector, transport intervention, transport mode, mode of transport, modal shift, non-motorized transport, active transport, active travel, mobility behaviour, health, health sector, physical activity, physical activity sector, physical activity promotion, health-enhancing physical activity, collaboration, intersectoral collaboration, intersectoral collaboration and cross-sector collaboration.

The following case studies were of particular interest:

- projects carried out with the efforts of different sectors contributing to promoting health-enhancing physical activity, such as cycling and walking¹; and
- projects that were accompanied by an evaluation, possibly including measures of health outcomes, modal shifts and changes in levels of physical activity in the target groups.

¹ Collaboration was thus defined as “joint work with partners for a special purpose or endeavour or on a specific project”.

Documentation of project outcomes or progress was desired but not strictly required to be included as a case study. Information about the project had to be available in English or German to be included.

To facilitate standardized reporting of case studies, respondents were invited to use an electronic form with predefined items. The scheme also included three examples for illustration purposes.

After initially reported case studies (which were often incomplete) were screened, project managers were contacted to obtain additional information, such as any in-depth project documentation, monitoring or evaluation reports, scientific papers or leaflets. Case studies with sufficient information were then analysed based on a checklist and the following items were entered into a database (EpiData (20) file).

1) Type of approach

Projects and initiatives were coded either as being an intervention or implementation project or as a policy initiative at the strategic or administrative level.

2) Level of action

“National”, “subnational” or “local” activities were distinguished.

3) Type of action

The activities were coded as:

- a. behaviour change campaigns (such as personalized travel planning or organized walking programmes);
- b. engineering or infrastructural measures combined with a publicity or motivational campaign and/ or practical offers to promote active modes of transport (such as constructing a national cycling network combined with a broad range of public relations activities promoting cycling, infrastructural measures combined with personalized travel planning, free-of-charge transport between suburbs and swimming pools for elderly people);

- c. publicity or awareness-raising campaigns to promote active modes of transport or physical activity;
- d. survey or research initiatives as a basis for future action (such as a survey on the company-based promotion of cycling);
- e. policy documents describing strategies for promoting active modes of transport (including traffic policies, infrastructural, informational measures etc.); and
- f. financial incentives (such as road pricing).

4) Sectors involved

The partners involved in the projects (such as governmental ministries, nongovernmental organizations, private businesses and local institutions) were divided into the following mutually exclusive “sectors”:

- a. transport: local, subnational or national departments or administrations in transport (such as transport ministries or departments), public transport services or companies or nongovernmental organizations in the transport sector;
- b. environment: public authorities at the national and local levels;
- c. urban planning: public authorities at the national and local levels;
- d. land use: public authorities at the national and local levels;
- e. health care: physicians, pharmacists, nurses, health insurance companies, national health services and primary care trusts;
- f. health administration: national or local health authorities (such as health department or ministry);
- g. health promotion: health promotion units, centres for health promotion and health promotion foundations;
- h. physical activity promotion: departments of sport and physical activity services, (local) sports authorities, federations of fitness professionals, sports ministries etc.;
- i. education: schools, school authorities, kindergartens, departments for family and children etc.;
- j. private: private enterprises without public mandates; and
- k. academic: including university institutes and research centres.

The health sector was defined as including from e to h.

5) Implementation of evaluation

The categories included “planned” or “implemented” evaluation or “no evaluation” and whether the evaluation was carried out either at a project or a strategic level. The type of evaluation (before-versus-after, longitudinal or cross-sectional evaluation or other form of monitoring or documentation) was also assessed.

6) Health-enhancing physical activity objectives or measured outcomes

Health-enhancing physical activity objectives or measured outcomes were defined as:

- a. change in levels of active travel (walking and cycling behaviour);
- b. shift towards walking and cycling (modal shift);
- c. change in levels of overall physical activity; and
- d. specific health outcomes such as physical fitness or functional health.

Subsequently, data were exported from EpiData to Stata statistical software for descriptive analysis (version 8.2, Stata Corp LP, College Station, TX, USA).

As a last step, the projects were described in detail in a standardized way based on a template developed by the WHO Regional Office for Europe children’s health and environment programme (19). This report includes one example (Annex 2).

3 RESULTS

Selection of case studies

Sixty-seven potential case studies were identified, screened and recorded in an overview table. Owing to a lack of updated or detailed information, this report does not include 19 of these candidate projects (Annex 1). The remaining 48 case studies were analysed further (Table 1). Fifteen of these 48 projects have already been included in previous case study reports (18, 19, 21).

For all 48 case studies, a standardized description following the template developed by the WHO Regional Office for Europe's children's health and environment programme is provided (in the form of a separate CD-ROM with Annex 3 as well as a database including separate PDF files on the web site of HEPA Europe; see Chapter 4). This report is based on information received by the Institute of Social and Preventive Medicine of the University of Basel by May 2006.

Table 1. Overview of the 48 case studies included by country

No.	Country	Project title	Type of action
1	Austria	Bicycle-friendly city	Survey as basis for future action
2	Austria	GOAL – Healthy without Car and Noise (Gesund Ohne Auto und Lärm)	Behaviour change campaign
3	Austria	Quiet and healthy on the way (Leise und gesund unterwegs)	Behaviour change campaign
4	Austria	It is never too late to make the first step – lifestyle campaign	Publicity or awareness-raising campaign to promote human-powered mobility
5	Austria	The city – The fitness centre – Movement culture in the urban area (Die Stadt als Fitnesscenter)	Publicity or awareness-raising campaign to promote human-powered mobility (with practical offers)
6	Austria	Trendsetter	Publicity or awareness-raising campaign to promote human-powered mobility
7	Belgium	10 000 steps in Ghent	Publicity or awareness-raising campaign to promote human-powered mobility
8	Belgium	Companies' role in promoting commuter cycling	Survey (telephone survey)
9	Belgium	Commuter cycling: measuring the intensity	Survey (physiological measurements during a trip to or from work)
10	Denmark	Odense – the National Cycle City of Denmark	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
11	Finland	Getting to sports facilities in Jyväskylä	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility (mobility management)
12	Germany	Bike to Work (Mit dem Rad zur Arbeit)	Publicity or awareness-raising campaign to promote human-powered mobility (with practical offers)
13	Israel	Experimental Project – Introducing Physical Activity Programs in the Bayer Home for the Aged	Behaviour change campaign (developing physical activity programmes for nursing home residents)

No.	Country	Project title	Type of action
14	Israel	Popular Sports and Recreation for the Elderly	Behaviour change campaign
15	Israel	Improvement of Physical Activity Programs in Day Care Centers for the Elderly	Behaviour change campaign
16	Israel	Local, Regional and National Marches and Sports Days for the Elderly	Publicity or awareness-raising campaign to promote human-powered mobility (with practical offers)
17	Israel	Physical Activity Programs for the Elderly at the Local Level	Behaviour change campaign
18	Israel	Sports Competitions for the Elderly (part of the celebrations held in Israel for the International Day of Older Persons)	Publicity or awareness-raising campaign to promote human-powered mobility with practical offers to promote sports among elderly people (publicity campaign aimed to change the image of elderly people in the eyes of society)
19	Israel	Training of volunteer leaders for walking with elderly citizens	Behaviour change campaign (promoting walking)
20	Italy	Going to school on foot, by cycle	Behaviour change campaign
21	Italy	Walking Bus Italy (Scuolabus a Piedi)	Behaviour change campaign
22	Italy	Fitness: Move for Health (Fitness: Muoversi in Salute)	Behaviour change campaign (observational study included)
23	Netherlands	Bike to work (Fiets naar je werk)	Publicity or awareness-raising campaign to promote human-powered mobility (with practical offers)
24	Norway	Norwegian Action Plan on Physical Activity	Policy document – intersectoral and multi-approach action plan to promote human-powered mobility
25	Switzerland	Bike to Work	Publicity or awareness-raising campaign to promote human-powered mobility (with practical offers)
26	Switzerland	slowUp – car-free days	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
27	Switzerland	National mission statement “Human-Powered Mobility” (Leitbild Langsamverkehr)	Policy document describes strategies to promote human-powered mobility
28	Switzerland	SwissMobile (SchweizMobil)	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
29	Switzerland	Cycling in Switzerland (Veloland Schweiz)	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
30	United Kingdom	Camden walking plan	Policy programme to promote walking (main focus on engineering measures)
31	United Kingdom	Travel Smart	Behaviour change campaign
32	United Kingdom	Sustainable Travel Towns Health Impact Assessment	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility

No.	Country	Project title	Type of action
33	United Kingdom	Bike it	Behaviour change campaign
34	United Kingdom	Cycling for Health	Behaviour change campaign
35	United Kingdom	UK National Cycle Network	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
36	United Kingdom	The VIVALDI Dings home zone (home zone in the Dings)	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
37	United Kingdom	Spen Valley Greenway	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
38	United Kingdom	Addenbrookes Hospital Travel Plan	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
39	United Kingdom	Cambridgeshire Travel Choice	Behaviour change campaign
40	United Kingdom	Walking the Way to Health Initiative (WHI) and Paths to Health Project (PTH)	Behaviour change campaign
41	United Kingdom	Manchester Airport Green Commuter Plan	Behaviour change campaign
42	United Kingdom	Groundmiles – Walsall Walk On	Behaviour change campaign
43	United Kingdom	Exeter Walking Project and Stroll On, Exeter!	Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote human-powered mobility
44	United Kingdom	Walking Bus – Southend Borough Council	Behaviour change campaign
45	United Kingdom	London congestion charge	Financial incentives
46	United Kingdom	Healthy Transport Project, Wakefield Metropolitan District Council	Behaviour change campaign
47	United Kingdom	Camden cycling plan	Policy programme to promote or encourage cycling (including organizational, informational and engineering measures and research)
48	United Kingdom	Reducing children's car use: the health and potential car dependence impacts	Survey as a basis for future action (to examine the potential for an intervention, developing a method for evaluating such interventions and collecting data to determine the outcome of such interventions)

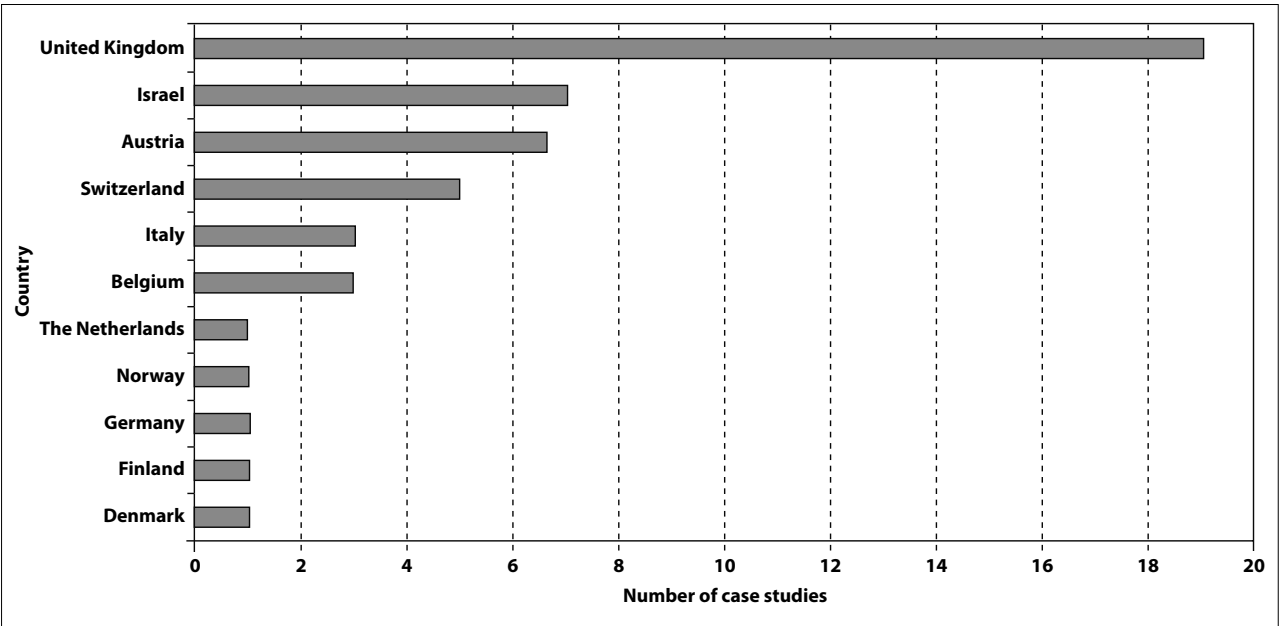
Results of the descriptive analysis

Fig. 1 shows the number of case studies reported by country; 35 were reported from the countries that were members of the EU before May 2004 (including 19 from the United Kingdom), 7 from Israel, 1 from Norway and 5 from Switzerland. Thus, no projects were reported from the eastern part of the WHO European Region. Forty-seven case studies were classified as “implementation or intervention projects”; only one study was a policy initiative on a strategic or administrative level (project 27; Table 1). Three of the implementation projects also had activities at a strategic or administrative level.²

Scope of case studies

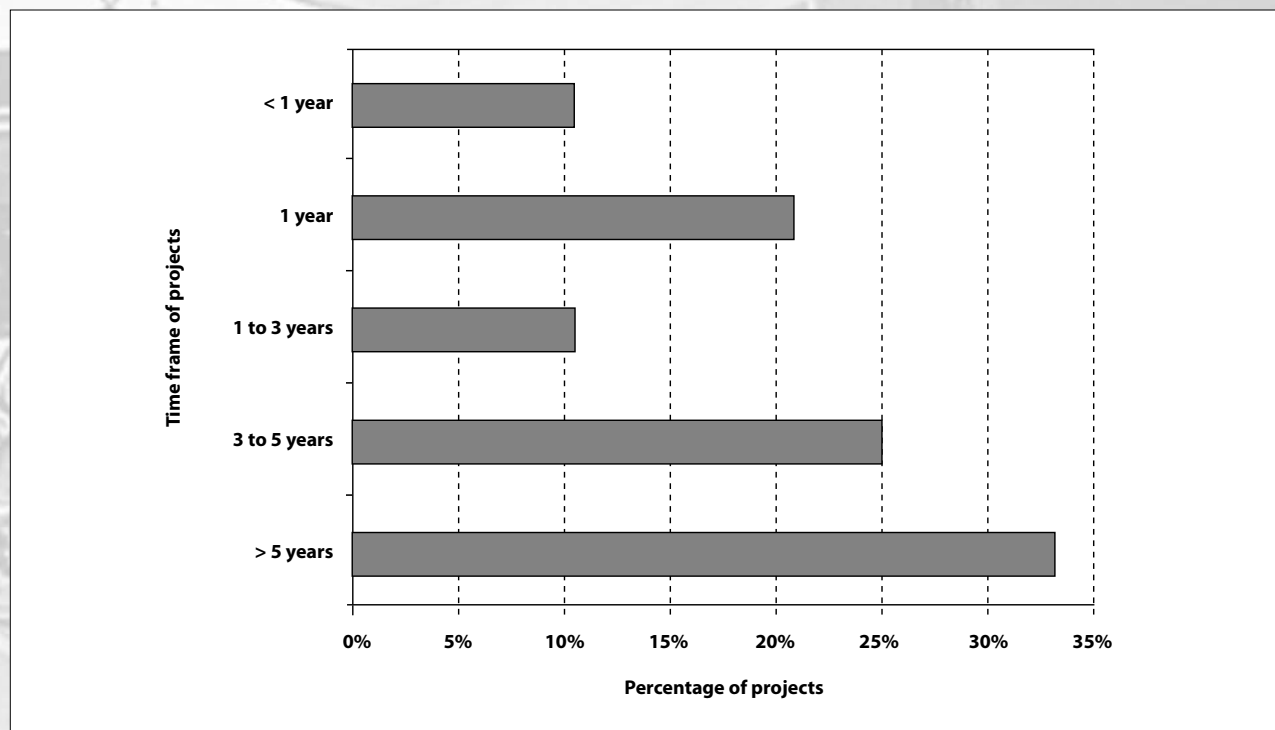
Projects were realized at different levels. Most projects took place at the local ($n = 30$, 63%) or national level ($n = 23$, 48%) and some at the subnational level ($n = 5$, 10%). Six projects were conducted at more than one level simultaneously (projects 2, 16, 17, 32, 33 and 40; Table 1). Two of these projects realized implementation at the national, subnational and local levels (projects 16 and 40; Table 1), whereas four projects were implemented at both the national and local levels (projects 2, 17, 32 and 33; Table 1).

Fig. 1. Number of case studies by country ($n = 48$)



²For example, eight ministries are involved in developing and implementing the physical activity action plan in Norway (project 24), and the Camden walking and cycling plans (projects 30 and 47) required cooperation between different sectors and levels of administration and pulled together policies from different sectors.

Fig. 2. Time frame of case studies ($n = 48$)

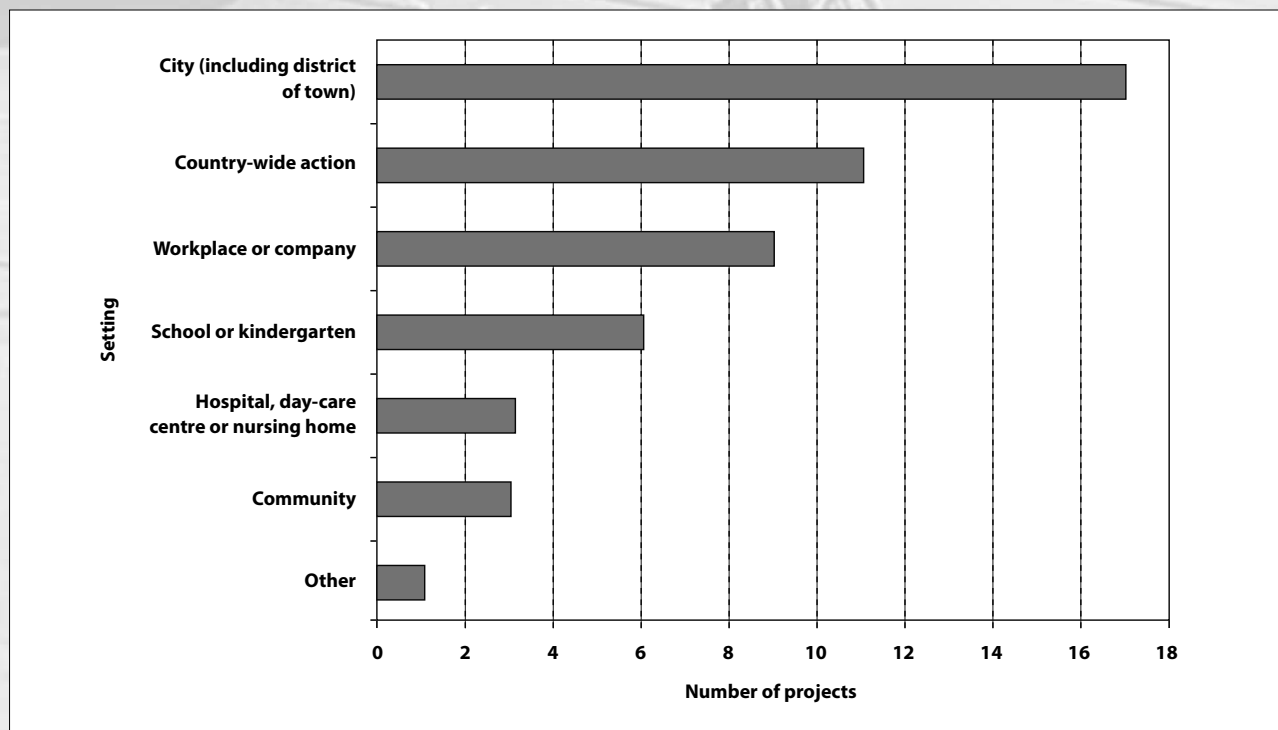


Time frame of case studies

At the time of the analysis, 56% of the projects were on-going; all others were already completed. Fig. 2 shows the distribution of the duration of the case studies.

To a certain extent, the duration also depends on the type of intervention: for example, initiatives such as “cycle to work” events are limited to a period of one month (projects 12, 23 and 25; Table 1). More than half the case studies had a project duration of 3–5 years or more.

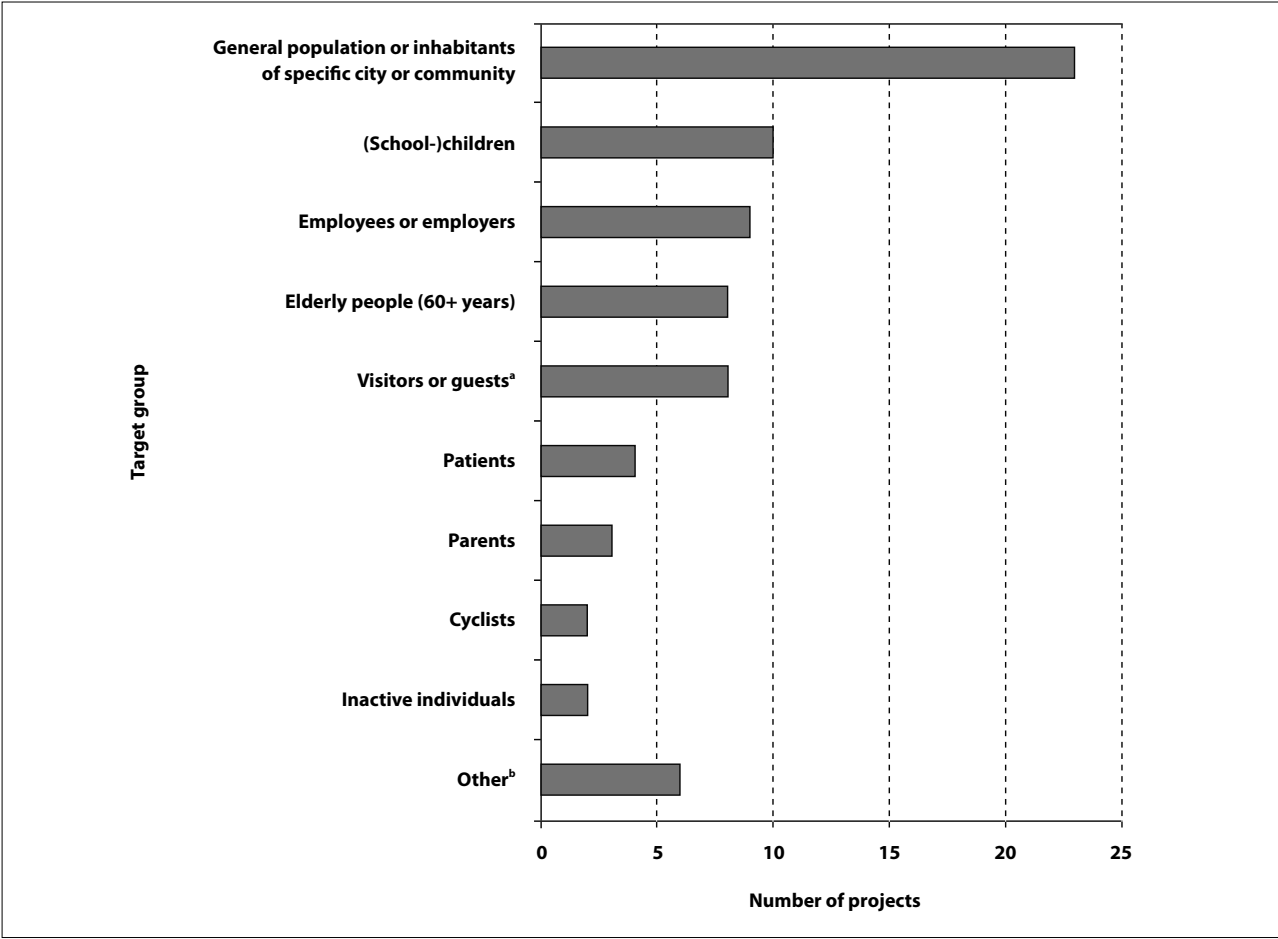
Fig. 3. Settings of case studies (multiple responses possible; $n = 50$)



Settings of case studies

Fig. 3 shows the main settings. Most projects took place at the city level, followed by interventions carried out as nationwide activities.

Fig. 4. Target groups of the case studies (multiple responses possible; $n = 75$)



^a Visitors or guests of a district, a city or a country who benefit from infrastructural improvements or measures (such as redesigning streets; designing a vehicular traffic-free greenway; creating national routes for cycling, hiking, mountain biking, skating and canoeing; and local improvement of walking and cycling infrastructure).

^b One mention each: socially isolated people, ethnic minorities, decision-makers, pedestrians, households and teachers.

Target population

Fig. 4 displays the different target groups. Most projects focused on the “general population”, followed by (school-)children, employees or employers and elderly people.

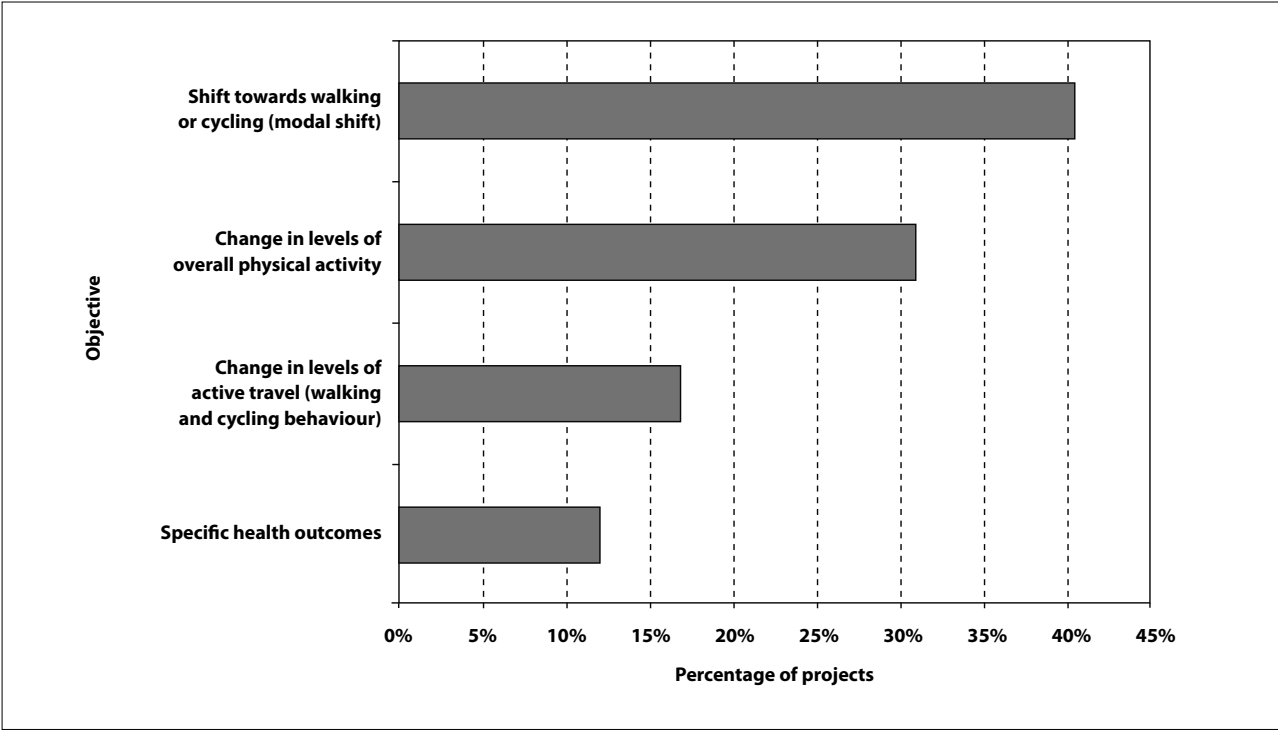
Table 2. Case studies by type ($n = 48$)

Type of action	Number of case studies
Behaviour change campaigns Activities aimed at individual behavioural changes to increase active modes of transport combined with practical offers or activities to experience and train active modes of transport such as organized walking programmes and bicycle rides, individualized travel planning, walking bus etc.	19
Engineering or infrastructural measures combined with a publicity or motivational campaign and/ or practical offers to promote active modes of transport such as constructing a national cycling network combined with a broad range of public relations activities promoting cycling; infrastructural measures combined with personalized travel planning; free-of-charge transport between suburbs; and a swimming hall for elderly people	11
Publicity or awareness-raising campaigns to promote active modes of transport or physical activity (with or without practical offers)	9
Survey or research initiatives as a basis for future action such as a survey on company-based cycling promotion	4
Policy documents describing strategies to promote active modes of transport including traffic policies, infrastructural and informational measures etc.	4
Financial incentives such as road pricing and a congestion charge	1
Total	48

Type of action

Table 2 describes the type of action of the different case studies. The projects were classified according to six categories (see Chapter 2 for definitions). The most common types of action were “behaviour change campaigns” ($n = 19$), “engineering or infrastructural measures combined with publicity or motivational measures” ($n = 11$) and “publicity or awareness-raising campaigns” ($n = 9$).

Fig. 5. Health-enhancing physical activity objectives (n = 42)



Health-enhancing physical activity objectives

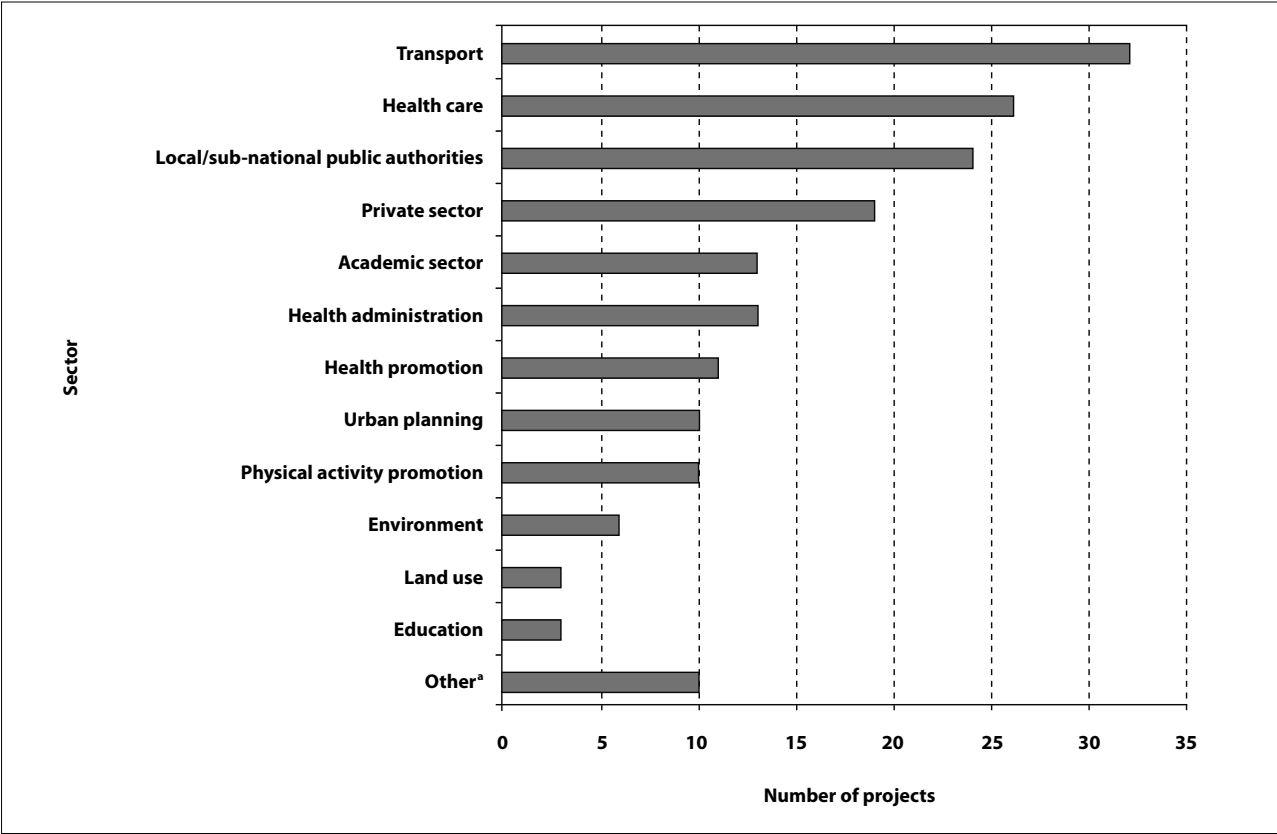
Fig. 5 shows the health-enhancing physical activity objectives of the projects (see Chapter 2 for definitions). Forty percent of the case studies ($n = 17$) planned to influence mobility behaviour or transport-related physical activity. Of these, one third planned to bring about a shift to non-motorized transport but not explicitly promote active transport; 31% ($n = 13$) aimed at changing overall physical activity levels and about 17% of the projects ($n = 7$) intended to promote active travel or physical activity in general. Finally, 12% ($n = 5$) had the intention of improving the health status of project participants by promoting physical activity.

Sectors participating in the case studies

To be included as a case study in this report, collaboration between at least two sectors was required.

The four sectors most often involved were the transport sector ($n = 32$), the health care sector ($n = 26$), local or subnational public authorities ($n = 24$) and the private sector ($n = 19$) (Fig. 6).

Fig. 6. Participation of sectors (multiple responses possible; $n = 193$)

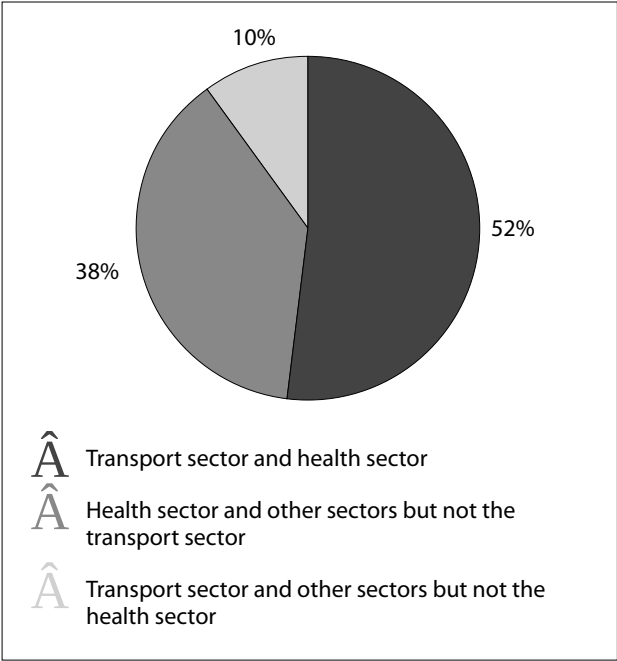


^a Neighbouring boroughs and individuals (residents, parents, children, employers and donors).

The projects had different combinations of sectors. In 25 case studies (52%) the transport and the health sector were involved (including health administration, health care, health promotion and physical activity promotion) (Fig. 7). Two of these case studies were academic projects, thus representing scientific collaboration (projects 1 and 48; Table 1).

In 18 case studies (38%), the health sector jointly worked with other sectors but not with the transport sector. In five projects (10%) the transport sector cooperated with different sectors but not with the health sector.

Fig. 7. Combinations of sectors involved (n = 48)



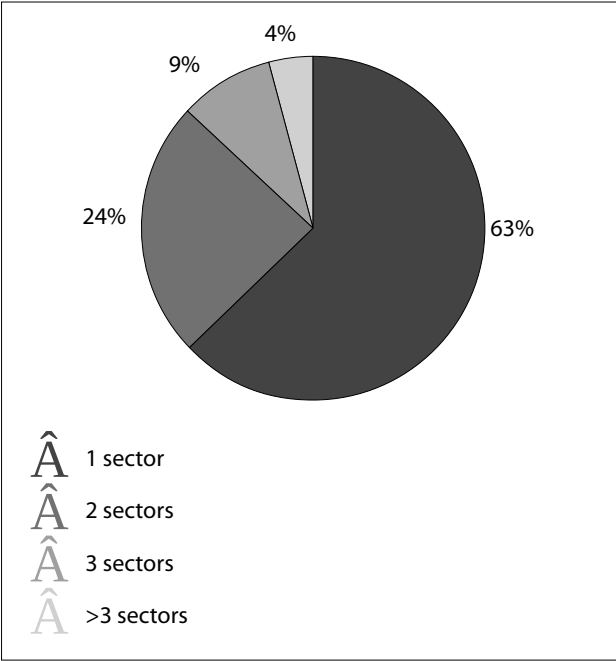
Collaboration by stage of project

For 25 case studies, detailed information was available on collaboration according to the stage of the project (planning, implementation, financing and evaluation). In 10 cases, sectors collaborated in only one stage of the project (Table 3). The sectors collaborated in two project phases in five cases and in three project phases in another five cases. In five projects, collaboration occurred in all stages of the project.

Table 3. Collaboration by stage of project (n = 25)

Status of collaboration	Number of projects
Collaboration in one stage of the project	10
Planning phase	5
Implementation phase	3
Financing	2
Collaboration in two stages of the project	5
Planning and implementation phase	3
Implementation phase and financing	2
Collaboration in three stages of the project	5
Planning, implementation and financing	3
Planning, financing and evaluation	1
Planning, implementation and evaluation	1
Collaboration in all stages of the project (planning, implementation, financing and evaluation)	5

Fig. 8. Leadership by number of sectors (n = 46)



Driving force

One sector initiated and led 63% of the projects, for 24% it was two sectors, for 9% three sectors and for 4% more than three sectors (Fig. 8).

Table 4 gives the details of the leadership for the projects with involvement of the health and the transport sector.

In 15 of these projects (38%), the transport sector provided leadership (including nongovernmental organizations in transport, an academic institution and public authorities in transport such as the Swiss Federal Roads Authority, national department for transport or Transport for London). The transport sector only led 11 of these 15 projects, and the transport sector together with another non-health sector led 4 projects.

The health sector directed 19 projects (49%) (including public authorities such as health ministries, sports departments, nongovernmental organizations such as health insurance companies, health promotion agencies or academic institutions). The health sector only led 14 of these 19 projects and the health sector together with other non-transport sectors led 5.

Only in five cases did the health and transport sectors manage the project together (13%).

Table 4. Leadership by health and/or transport sectors (n = 39)

Status for leadership of projects	Number of projects
Leadership by the transport sector	15
Transport sector only	11
Transport sector and other non-health sectors	4
Leadership by the health sector	19
Health sector only	14
Health sector and other non-transport sectors	5
Leadership by the transport sector and health sector	5

Evaluation

Forty-three projects (90%) monitored or documented project outcomes or progress.³ Thirty-three per cent of the projects conducted a before-and-after assessment (14 projects) such as changes in physical activity levels (project 7; Table 1), in specific health outcomes such as fitness or body fat values (projects 2, 13, 15 and 22; Table 1) or in travel modes (projects 6, 23, 25, 31, 33, 38, 39, 41 and 48; Table 1). Three of these 14 projects used an experimental or quasi-experimental design (projects 7, 31 and 39; Table 1). One intervention was longitudinal in design with a baseline evaluation and two follow-up studies (project 40; Table 1). All other projects (n = 28, 65%) did not assess changes longitudinally.⁴ Four of these evaluations consisted of cross-sectional studies on attitudes towards cycling, on physical activity or on travel patterns. Examples of other monitoring or documentation are monitoring of bikes parked in schools, counting the number of cycle trips, counting the number of participants on walks and rides and annual review reports on plans and implementation progress. Further examples include questionnaires to check the popularity ratings of the projects, survey of the usage of national routes with the aid of automatic bicycle counters or the number of 30 km/h zones that have been implemented.

³ In two cases documentary films were made, but no (formal) evaluation had been carried out. The results are awaited for three case studies.

⁴ Project 32 will provide before and after data in the medium term.

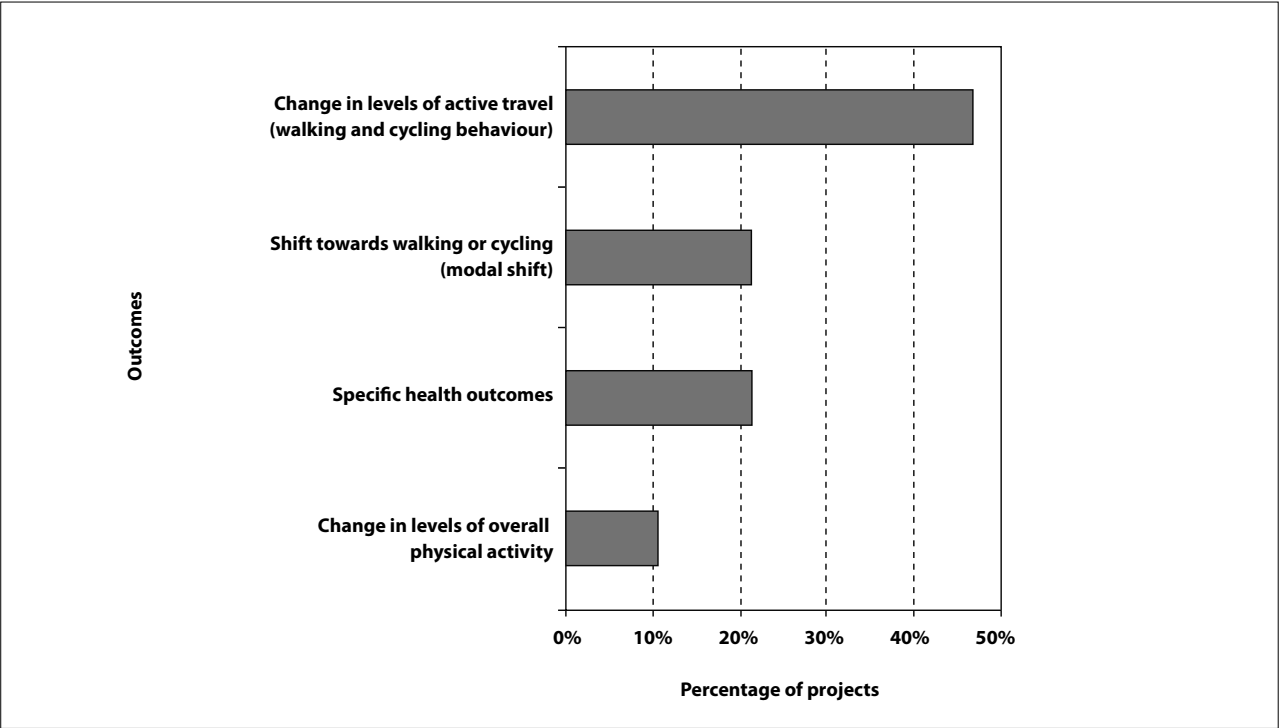
Measured health-enhancing physical activity outcomes

Fig. 9 gives an overview of the measured health-enhancing physical activity outcomes. Twenty-three case studies (49%) collected data on promotional campaigns for physical activity or active travel, such as the participation rates for such activities as health walks, walking buses, group gym exercise or cycling promotion events or the usage of a cycle network (data on walking and cycling behaviour but no data on modal shift). Nine case studies (19%) recorded data on modal shift towards walking and cycling. In the Swiss cycle-to-work intervention (project 25), the shift was limited to the project duration, while the other projects looked at longer-term changes. Ten projects (21%) measured specific health outcomes such as the fitness and body fat values of participants⁵, the relative expenditure of calories for walking, travelling by car and other activities with the help of three-dimensional motion sensors, functional health of participants⁶ or data on casualty reduction (such as the

⁵ Based on the UKK walking test, developed by the Urho Kaleva Kekkonen Institute for Health Promotion Research (the UKK Institute in Finland), which measures the most important factor of a person's health-related fitness: endurance, or aerobic fitness. The test is performed by briskly walking 2 kilometres on a flat surface. The results of the test are recorded as a fitness index that takes into account age, sex, height, weight, time taken to walk the 2 kilometres and the heart rate at the end of the test.

⁶ Functional health was measured using the Physical Performance Test, which measures the time taken to perform seven functional tasks, such as walking 15 metres and picking a coin up from the floor.

Fig. 9. Measured health-enhancing physical activity outcomes (multiple responses possible; $n = 47$)



number of pedestrians killed or seriously injured). Finally, five case studies (10%) provided figures on the levels of total physical activity (all self-reported based on written or oral interviews and in two cases additional objectively measured data). Of these, two projects reported on changes in levels of overall physical activity, whereas three case studies showed data on initial levels of physical activity but change was not assessed at the end of the project.

Collaboration between sectors

We analysed whether the 25 projects in which the health sector and the transport sector collaborated differed from all other projects with respect to:

- the type of intervention;
- the existence of formal before-versus-after evaluation; and
- the type of measured health-enhancing physical activity outcomes.

In addition, we evaluated whether projects with the involvement of more than three sectors would differ from projects involving only two to three sectors (Table 5).

For both analyses, the differences in proportions were analysed using the chi-square test. A P -value ≤ 0.05 was considered statistically significant.

Table 5. Characteristics of projects with involvement of the health and the transport sector versus all other projects (1) and projects with involvement of three or more sectors versus all others (2)

	(1) Type of sectors involved				(2) Number of sectors involved			
	Projects with involvement of the health sector and the transport sector (<i>n</i> = 25)		All other projects (<i>n</i> = 23)		>3 (<i>n</i> = 28)		2–3 (<i>n</i> = 20)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Type of action^a								
Behaviour change campaigns	6	24	13	57	8	29	11	55
Engineering or infrastructural measures combined with a publicity or motivational campaign	9	36	2	9	8	29	3	15
Publicity or awareness-raising campaigns	5	20	4	17	8	29	1	5
Survey or research initiatives as a basis for future action	1	4	3	13	–	–	4	20
Policy documents describing strategies to promote health-enhancing physical activity	4	16	–	–	4	14	–	–
Financial incentives	–	–	1	4	–	–	1	5
Type of evaluation^b								
Formal before-and-after evaluation	5	20	8	35	7	25	6	30
No assessment of changes longitudinally	20	80	15	65	21	75	14	70
Type of measured health-enhancing physical activity outcomes (multiple responses possible)^c								
Change in levels of active travel or physical activity (no modal shift)	13	48	9	45	12	43	10	53
Shift towards walking and cycling (modal shift)	6	22	4	20	7	25	3	16
Change in levels of overall physical activity	3	11	2	10	4	14	1	5
Specific health outcomes	5	19	5	25	5	18	5	26

Chi-square:

(1) Type of sector involved: ^a*P* = 0.02; ^b*P* = 0.25; ^c*P* = 0.96.

(2) Number of sectors involved: ^a*P* = 0.006; ^b*P* = 0.70; ^c*P* = 0.07.

Table 5 shows that projects involving both the health and the transport sector were more likely to choose infrastructural measures in combination with motivational campaigns to increase physical activity or active transport. Projects not involving both the health and the transport sectors more often chose behaviour change campaigns. All policy documents describing strategies to promote physical activity or active travel involved both the health and the transport sectors and resulted from collaboration including more than three sectors. Awareness-raising campaigns, in contrast, more often involved only two to three sectors.

Nevertheless, involvement of both the health and the transport sectors or collaboration of more than three sectors had no impact on measured health-enhancing physical activity outcomes or the type of evaluation.



4 DISCUSSION AND CONCLUSIONS

These case studies include projects involving at least two sectors and emphasized the collaboration between the transport and the health sectors. A broad range of projects has been identified illustrating various ongoing collaborative activities for physical activity promotion in many European countries.

Urban planning policies and large-scale transport interventions (such as projects 35 and 45) have great potential to influence the physical activity behaviour of much of the population. However, the current collection of case studies does not indicate which types of interventions are most effective in promoting health-enhancing physical activity. Projects need to be evaluated more thoroughly to improve the evidence base on which interventions are most effective at changing travel behaviour and promoting active travel, especially among sedentary population groups, which are expected to gain most from becoming moderately physically active. This is particularly relevant in view of the policy recommendations calling for multisectoral action to promote physical activity such as the Charter on Counteracting Obesity adopted at the WHO European Ministerial Conference on Counteracting Obesity in November 2006 (16).

Many of the projects identified primarily focused on either transport-related objectives or on behavioural changes of individuals or target groups (such as school-children, elderly people and patients) and less on infrastructural changes.

Case studies including both the health and the transport sectors were more likely to combine engineering measures with motivational campaigns to increase active modes of transport, whereas projects not involving the health and the transport sectors more often chose classic behaviour change campaigns. The involvement of the health and transport sectors seems to facilitate the implementation of the environmental changes required to promote physical activity (17).

Only one third of all case studies evaluated the effect of the intervention by conducting a before-and-after comparison of specific indicators. Some of the projects documented the shift from motorized mobility to non-motorized mobility, and these changes may be assumed to imply an increase in physical activity among those who changed their behaviour. Nevertheless, as physical activity levels have not been assessed among the people who changed to active transport, it remains open whether these interventions reached previously less-active individuals. A standard set of indicators is thus needed to support more informative evaluation of the results of transport interventions.



Many projects could have collected information on physical activity levels if this had been planned in advance. When an intervention mainly emphasized transport-related issues, the evaluation often did not consider indicators of physical activity. It seems crucial to include experts from the health sector in planning (especially of the evaluation) and implementing interventions in land-use, transport and urban planning to fully understand their potential for promoting physical activity (8).

However, several limitations of this report have to be considered in interpreting these findings. Firstly, this collection of projects was not based on systematic collection but on selected input from some 140 experts invited to submit case studies. Secondly, this collection only included case studies for which information material was available in English or German. The extent to which these limitations may have been a factor in the lack of case studies from the eastern part of the WHO European Region is not known.

Directions for further work

Based on the findings of this report, the following directions for further work on this topic can be identified:

- supporting the implementation of better and systematic evaluation of the interventions, particularly by including indicators relevant to health-enhancing physical activity and planning for collecting baseline data and outcome data;
- developing a standard set of indicators that could facilitate the development of plans for evaluating such interventions;
- supporting “upstream” decisions to measure outcomes related to health-enhancing physical activity and to plan in advance (including in terms of timing and budgeting) for the collection of relevant data;
- including experts from the health sector in planning evaluation and implementation to highlight and document the possible effects of the intervention on levels of transport-related physical activity and, ideally, health outcomes; and
- securing a long-term commitment to evaluating the effectiveness of interventions.

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ANNEX 1.

Case study candidates that could not be included owing to lack of updated or detailed enough information

No.	Country	Project title	Type of case study
1	Austria	Healthy Salzburg 2010 (Gesundes Salzburg 2010)	Survey (the two-year lifestyle intervention programme targets physical activity, nutrition and smoking behaviour)
2	Belgium	Safe and healthy on the bike – cycle skills training for senior citizens	Behaviour change campaign
3	Germany	Education for sustainable transport in schools	Publicity campaign (media campaign) to promote human-powered mobility
4	Israel	Walking programme for elderly people to promote health and safety	Behaviour change campaign
5	Netherlands	Safe and healthy on the bike – cycle skills training for senior citizens	Behaviour change campaign
6	Spain	Healthy physical activity	Behaviour change campaign
7	Sweden	Challenge Gothenberg	Behaviour change campaign
8	Sweden	Happiness is cycling	Publicity campaign (media campaign) to promote human-powered mobility
9	Switzerland	It's better on foot! An education campaign in Neuchâtel (A pied c'est mieux)	Publicity campaign (media campaign) to promote human-powered mobility
10	Switzerland	Moving towards sustainability? The consequences of residential relocation for mobility and the built environment. An experimental intervention study (Massgeschneiderte Mobilitätsberatung für NeuzuzügerInnen– Pilotprojekt)	Behaviour change campaign
11	United Kingdom	The Sustrans Safe routes to school project	Behaviour change campaign
12	United Kingdom	Pedal back the years	Behaviour change campaign
13	United Kingdom	Pedal back the years – Cornwall	Behaviour change campaign
14	United Kingdom	Stroll back the years	Behaviour change campaign
15	United Kingdom	Oxford Transport Strategy	Engineering or infrastructural measures with a potential to influence human-powered mobility
16	United Kingdom	Salisbury Doorstep Walks	Behaviour change campaign
17	United Kingdom	Bristol Royal Infirmary Cycle Centre	Engineering or infrastructural measures with a potential to influence human-powered mobility
18	United Kingdom	Metropolitan Police on Bikes (Cycling in the Metropolitan Police Service (MPS))	Behaviour change campaign
19	United Kingdom	An effective city-wide school travel policy – a case study from York	Behaviour change campaign

ANNEX 2.

Example of a full case study description

To illustrate the detailed description of the case studies, one template is presented as an example in full length. The other full templates will be made available online through a searchable inventory (http://www.euro.who.int/hepa/projects/20050615_2, accessed 18 October 2006). The search can be specified using the two search fields “country” and “type of case study”. The amount of detail provided for each of the templates depends on the information the project leader made available.



Country: Denmark

Title:
**Odense – the National Cycle City
of Denmark**

Type of action: Engineering or infrastructural measures combined with a publicity or motivational campaign and/or practical offers to promote active modes of transport

Scope	Local
Setting	Municipality of Odense
Target audience	Cyclists in Odense
Target beneficiaries	Cyclists in Odense Specific campaigns addressed children and workplaces
Driving force (project leader)	Project led by a project manager with the City of Odense
Partners	Ministry of Transport National Road Directorate Municipality of Odense The health sector represented by the University of Southern Denmark
Time frame	1999–2002
Number of target population reached	(No information provided)
Financing and cost	Ministry of Transport National Road Directorate

Description of initiative or action

Aims and objectives

- The citizens of Odense should consciously notice an improvement in their well-being.
- To increase the number of bicycle journeys in Odense by 20% compared with the years 1996–1997 by the end of 2002. During the same period, the number of people who use a bicycle more than three times a week should be increased by 20%.
- The number of cyclists killed or injured in accidents involving more than one party should be reduced by 20% in the same period.

The citizens of the Municipality of Odense should view Odense as a better place in which to cycle.

Description

From 1999 to 2002 Odense was the official National Cycle City of Denmark. The Municipality of Odense received half of the total budget of DKr 20 million as a subsidy from the Ministry of Transport and the National Road Directorate.

Odense is Denmark's third largest city, with 185 000 inhabitants, 37 public schools and 140 kindergartens (for 3- to 6-year-olds).

Over a four-year period, 50 projects were developed and implemented, such as improvement of traffic lights and junction crossing ("green waves"), web site and interactive trip planner, increasing the quality of cycling paths and more and safer parking facilities. Activities also included developing new options and initiatives. Communication aspects were also emphasized.

Activities

A mix of measures (infrastructure or engineering measures, changes in regulations and a publicity or marketing and image campaign). The project concentrates on implementing specific infrastructural improvements

and publicity campaigns but also includes quite extended evaluation that gives new knowledge about cycling and health aspects.

Planning and implementation

Contribution of each sector or partner
(No information provided)

Evaluation

The evaluation report is based on a panel survey, a traffic survey and a survey on traffic safety as well as an attempted health impact assessment.

- Panel survey: a representative sample of the population aged 15–60 years, mainly on the perception of the activities, recall of activities carried out, priorities etc.
- Traffic survey: Statistics Denmark's transport investigation – a national traffic survey.
- Survey on traffic safety: a regular, national survey by the police.

Results

Health-enhancing physical activity outcomes

- Between 1999 and 2002, journeys made by bicycle increased 20%, an estimated 25 000 new cycling journeys per day and some three extra minutes of physical activity per day per inhabitant.
- In addition, the number of km travelled per person per day declined substantially and, accordingly, transport by car or public transport declined by 15% and 45%, respectively.
- The project also reduced the number of cars owned.
- The number of accidents involving cyclists fell by 20%.
- Cyclists and other road users were surveyed to discover the outcomes of the Cycle City project. Results show that 82% of those surveyed believed Odense had excellent urban cycling facilities and over each year of the project, the city had become a better place in which to cycle.

Lessons learned

Sustainability:

It is stated that a sustainable effect is expected due to the reduction in car ownership. In fact, the volume of bicycle traffic remained the same in 2003 after the project ended.

Transferability:

The project experiences could be transferred after the necessary adaptations to the respective local situation. In fact, Odense already served as a basis for other similar projects, such as the Sustrans Safe Routes to School project.

Assessment of the collaboration from the viewpoint of the transport sector:

The project has given a new angle to promote cycling with a very broad list of numerous initiatives. A whole cycling identity has been build up, and the public awareness on cycling is stronger than ever.

Assessment of the collaboration from the viewpoint of the health sector:

It has been proven that cycling can have significant value for people's health because cycling gives daily exercise.

Additional information or specific comments

(No information provided)

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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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Original: English

Physical inactivity is becoming increasingly prevalent in Europe. Walking and cycling for transport can play an important role in promoting daily physical activity because non-motorized transport offers opportunities for regular physical activity that can easily be integrated into daily life at minimal cost. The collection of practical examples provided here is aimed at supporting Member States in promoting physical activity as part of the implementation of sustainable transport policies. Emphasis was therefore placed on examples of collaboration between various sectors promoting physical activity, especially health and transport. The case studies were analysed regarding their approach, the type and scope of intervention, the sectors involved, evaluation and outcomes. This report presents the results of the analysis and directions for further work.

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