



SOCIAL DETERMINANTS OF HEALTH

THE SOLID FACTS



Healthy Cities
Health for All



International
Centre
Health and
Society

HFA Policy on Europe: Target 14

SETTINGS FOR HEALTH PROMOTION

By the year 2000, all settings of social life and activity, such as the city, school, workplace, neighbourhood and home, should provide greater opportunities for promoting health.

Abstract

Policy and action for health need to be geared towards addressing the social determinants of health in order to attack the causes of ill health before they can lead to problems. This is a challenging task for both decision-makers and public health actors and advocates. The scientific evidence on social determinants is strong but is discussed mainly by researchers. This booklet is part of a WHO Regional Office for Europe campaign to present the evidence on social determinants in a clear and understandable form. The booklet identifies the broad implications for policy in ten selected areas. The campaign is meant to broaden awareness, stimulate debate and promote action.

Keywords

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FOREWORD

A call to decision-makers and public health professionals to address the social determinants of health should rest on clear evidence. Most people have an intuitive understanding of the positive and negative effects of living and working conditions on their health. Although there is no shortage of legitimizing evidence, the debate on the social determinants of health continues to be limited mainly to academic fora. The recent history of public health can show many examples of inexcusable inaction, even when the facts are unequivocal, as in the case of tobacco. It is disturbing that the tobacco industry finally admitted that smoking is addictive only a year ago. The lack of sufficient action against tobacco was often blamed on the lack of boldly presented evidence.

Recognizing the health impact of economic and social policies and conditions could have far-reaching implications for the way society makes decisions about development, and it could challenge the values and principles on which institutions are built and progress is measured. The good news is that decision-makers at all levels increasingly recognize the need to invest in health and sustainable development. To do this, they need clear facts as much as they need strategic guidance and policy tools. Nobody expects science to be black or white, but it must be accessible, creating opportunities for debate and informed decision-making.

At the WHO Regional Office for Europe, the Centre for Urban Health, in close partnership with the Communication and Public Affairs and the

new European Health Communication Network, have, has embarked on a campaign to promote awareness, debate and action on the social determinants of health. The campaign aims at reaching the widest possible audiences of public health advocates and professionals, community activists and decision-makers. The campaign will develop and employ materials that are attractive and easy to read and translate. A principal vehicle for the promotion of the campaign throughout the European Region will be the networks of the WHO Healthy Cities project. The timing of this effort is excellent, as it coincides with the launching of the renewed strategy health for all for the twenty-first century, the launching of phase III (1998–2002) of the Healthy Cities project and the increasing commitment of a number of cities to local Agenda 21.

The backbone of the campaign is the provision of up-to-date information on the key areas of social determinants, in a concise, clear and authoritative form. This was achieved through close partnership between WHO and the International Centre for Health and Society, University College London, United Kingdom. I should like to express my gratitude to Professor Michael Marmot and Professor Richard Wilkinson, who coordinated the preparation and edited the materials for this booklet. The drafting process consisted of a series of brainstorming sessions and consultations. I should like to thank all the members of the scientific team who contributed to this excellent piece of work. I am convinced that the booklet will be a valuable tool for understanding and dealing with social determinants.



PREFACE

A special word of thanks is due to Dr Jill Farrington, WHO consultant and focal point for the social determinants campaign, for her creative ideas and valuable editorial input and for ensuring good communications with the Centre. Many thanks are due to Ms Patricia Crowley, administrator the International Centre for Health and Society, for the efficient and effective way she monitored all the stages of the preparation of the scientific papers. Finally, a word of thanks to Mary Stewart Burgher, who edited the text of the booklet on a short deadline.

Dr Agis Tsouros

Head, Centre for Urban Health
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Translating scientific evidence into policy and action is always a complex process. It is particularly difficult when the implications for action may change the way we think about policies that affect health. Governments and decision-makers have taken over half a generation to recognize and begin to address social inequalities in health.

Today, scientific knowledge on the social determinants of health is accumulating quickly. The need to direct our efforts there has become increasingly clear. This means “up-streaming” public health, spreading awareness of and promoting debate on social determinants.

The International Centre for Health and Society is committed to research on the social determinants of health and translating research findings into a form that is useful to policy-makers and the public. This WHO campaign is a most welcome opportunity to contribute to the challenging task of promoting healthy public policies.

Sir Donald Acheson

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INTRODUCTION

Even in the richest countries, the better off live several years longer and have fewer illnesses than the poor. These differences in health are an important social injustice, and reflect some of the

most powerful influences on health in the modern world. People's lifestyles and the conditions in which they live and work strongly influence their health and longevity.



Photo by WHO Healthy Cities Project

People's lifestyles and the conditions in which they live and work strongly influence their health.



Medical care can prolong survival after some serious diseases, but the social and economic conditions that affect whether people become ill are more important for health gains in the population as a whole. Poor conditions lead to poorer health. An unhealthy material environment and unhealthy behaviour have direct harmful effects, but the worries and insecurities of daily life and the lack of supportive environments also have an influence.

This booklet discusses ten different but interrelated aspects of the social determinants of health. They explain:

1. the need for policies to prevent people from falling into long-term disadvantage;
2. how the social and psychological environment affects health;
3. the importance of ensuring a good environment in early childhood;
4. the impact of work on health;
5. the problems of unemployment and job insecurity;
6. the role of friendship and social cohesion;
7. the dangers of social exclusion;
8. the effects of alcohol and other drugs;
9. the need to ensure access to supplies of healthy food for everyone; and
10. the need for healthier transport systems.

Together the messages provide the keys to higher standards of population health in the developed industrial countries of Europe. These messages are intended to point out how social and economic factors at all levels in society affect individual decisions and health itself. Each person is responsible for ensuring that he or she eats a healthy diet, gets enough exercise and avoids smoking and excessive drinking. Nevertheless, we now know the importance to health of social and economic circumstances that are often beyond individual control. The booklet is therefore intended to ensure that policy – at all levels in government, public and private institutions, workplaces and the community – takes proper account of the wider responsibility for creating opportunities for health. The booklet therefore provides information on the social and economic environment that is conducive to higher standards of health in the population.



People's social and economic circumstances strongly affect their health throughout life, so health policy must be linked to the social and economic determinants of health.

The evidence

Poor social and economic circumstances affect health throughout life. People further down the social ladder usually run at least twice the risk of serious illness and premature death of those near the top. Between the top and bottom, health standards show a continuous social gradient, so even junior office staff tend to suffer much more disease and earlier death than more senior staff.

Most diseases and causes of death are more common lower down the social hierarchy. The social gradient in health reflects material disadvantage and the effects of insecurity, anxiety and lack of social integration.

Disadvantage has many forms and may be absolute or relative. It can include: having few family assets, having a poorer education during adolescence, becoming stuck in a dead-end job or having insecure employment, living in poor housing and trying to bring up a family in difficult circumstances. These disadvantages tend to concentrate among the same people, and their effects on health are cumulative. The longer people live in stressful economic and social circumstances, the greater the physiological wear and tear they suffer, and the less likely they are to enjoy a healthy old age.

Policy implications

Life contains a series of critical transitions: emotional and material changes in early childhood, the move from primary to secondary education, starting work, leaving home and starting a family, changing jobs and facing possible redundancy, and eventually retirement. Each of these changes can affect health by pushing people onto a more or less advantaged path.

People who have been disadvantaged in the past are at the greatest risk in each transition. This means that welfare policies need to provide not

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Poor social and economic circumstances affect health throughout life.

only safety nets but also springboards to offset earlier disadvantage.

Good health involves reducing levels of educational failure, the amount of job insecurity and the scale of income differences in society. We need to ensure that fewer people fall and that

they fall less far. Policies for education, employment and housing affect health standards. Societies that enable all their citizens to play a full and useful role in the social, economic and cultural life of their society will be healthier than those where people face insecurity, exclusion and deprivation.



Stress harms health.**The evidence**

Social and psychological circumstances can cause long-term stress. Continuing anxiety, insecurity, low self-esteem, social isolation and lack of control over work and home life have powerful effects on health. Such psychosocial risks

accumulate during life and increase the chances of poor mental health and premature death. Long periods of anxiety and insecurity and the lack of supportive friendships are damaging in whatever area of life they arise.

How do these psychosocial factors affect physical health? In emergencies, the stress response

Photo by Morten Overgaard, Polfoto



Lack of control over work and home can have powerful effects on health.

activates a cascade of stress hormones that affect the cardiovascular and immune systems. Our hormones and nervous system prepare us to deal with an immediate physical threat by raising the heart rate, diverting blood to muscles and increasing anxiety and alertness. Nevertheless, turning on the biological stress response too often and for too long is likely to carry multiple costs to health. These include depression, increased susceptibility to infection, diabetes, and a harmful pattern of cholesterol and fats in the blood, high blood pressure and the attendant risks of heart attack and stroke.

Humans and various non-human primates studied in the wild and in captivity have similar mechanisms for dealing with psychosocial stress. Studies of primates show that subordinate animals are more likely than socially dominant animals to suffer from clogged blood vessels and other changes in their metabolism. In humans, such changes are linked to a higher risk of cardiovascular disease. The lower people are in the social hierarchy of industrialized countries, the more common these health problems become.

Policy implications

A medical response to the biological changes that come with stress might be to try to control them with drugs. But attention should be focused upstream, on tackling the causes of ill health.

In schools, businesses and other institutions, the quality of the social environment and material security are often as important to health as the physical environment. Institutions that can give

people a sense of belonging and of being valued are likely to be healthier places than those in which people feel excluded, disregarded and used.

Governments should recognize that welfare programmes need to address both psychosocial and material needs: both are sources of anxiety and insecurity. In particular, governments should support families with young children, encourage community activity, combat social isolation, reduce material and financial insecurity, and promote coping skills in education and rehabilitation.

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The effects of early development last a life-time; a good start in life means supporting mothers and young children.

The evidence

Important foundations of adult health are laid in prenatal life and early childhood. Slow growth and a lack of emotional support during this period raise the life-time risk of poor physical health and reduce physical, cognitive and emotional functioning in adulthood. Poor social

and economic circumstances present the greatest threat to a child's growth, and launch the child on a low social and educational trajectory.

Acting through poor or inappropriate nourishment of the mother and through smoking, parental poverty can reduce prenatal and infant development. Slow early growth is associated with reduced cardiovascular, respiratory, kidney and pancreatic functioning in adulthood. Parents' smoking impedes the child's

Photo by Finn Frandsen, Polfoto



Important foundations of adult health are laid in early childhood.

respiratory development; this decreases respiratory functioning and thus increases vulnerability in the adult.

Poor nutrition and physical development adversely affect the child's cognitive development. In addition, the mental exhaustion and depression associated with poverty reduce the parents' stimulation of the child, and can disrupt emotional attachment.

Parental poverty starts a chain of social risk. It begins in childhood with reduced readiness for

and acceptance of school, goes on to poor behaviour and attainment at school, and leads to a raised risk of unemployment, perceived social marginality and to low-status, low-control jobs in adult life. This pattern of poor education and employment damages health and, ultimately, cognitive functioning in old age.

Policy implications

New action is needed to foster health and development early in life, particularly among people in poor social and economic circumstances. Policy should aim to:

1. reduce parents' smoking;
2. increase parents' knowledge of health and understanding of children's emotional needs;
3. introduce pre-school programmes not only to improve reading and stimulate cognitive development but also to reduce behaviour problems in childhood and promote educational attainment, occupational chances and healthy behaviour in adulthood;
4. involve parents in such pre-school programmes to reinforce their educational effects and reduce child abuse;
5. ensure that mothers have adequate social and economic resources; and
6. increase opportunities for educational attainment at all ages, since education is associated with raised health awareness and improved self-care.

Investment in these policies would greatly benefit the health and working capacity of the future adult population.

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Social exclusion creates misery and costs lives.

The evidence

Processes of social exclusion and the extent of relative deprivation in a society have a major impact on health and premature death. The harm to health comes not only from material deprivation but also from the social and psychological problems of living in poverty.

Poverty, unemployment and homelessness have increased in many countries, including some of the richest. In some countries, as much as one quarter of the total population – and a higher proportion of children – live in relative poverty (defined by the European Union as less than half the national average income). Relative poverty, as well as absolute poverty, leads to worse health and increased risks of premature death. People who have lived most of their lives in poverty suffer particularly bad health.

Migrants from other countries, ethnic minority groups, guest workers and refugees are particularly vulnerable to social exclusion, and their children are likely to be at special risk. They are sometimes excluded from citizenship and often from opportunities for work and education. The racism, discrimination and hostility that they often face may harm their health.

In addition, communities are likely to marginalize and reject people who are ill, disabled or emotionally vulnerable, such as former residents of children's homes, prisons and psychiatric



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People living on the streets suffer the highest rates of premature death.

hospitals. Those with physical or mental health problems often have difficulty gaining an adequate education or earning a living. Disabled children are most likely to live in poverty. Stigmatizing conditions such as mental illness, physical disability or diseases such as AIDS makes matters worse. People living on the streets, who may suffer a combination of these problems, suffer the highest rates of premature death.

Societies that pursue more egalitarian policies often have faster rates of economic growth and higher standards of health.

Implications for policy

A variety of actions at a number of different levels is needed to tackle the health effects of social exclusion. These include the following.

1. Legislation can help protect the rights of migrants and minority groups, and prevent discrimination.
2. Public health interventions should remove barriers to access to health care, social services and affordable housing.
3. Income support, adequate national minimum wages and educational and employment policies are needed to reduce social exclusion.
4. Income and wealth should be redistributed to reduce material inequalities and the scale of relative poverty; more egalitarian societies tend to have higher standards of health.



Stress in the workplace increases the risk of disease.**The evidence**

Evidence shows that stress at work plays an important role in contributing to the large differences in health, sickness absence and premature death that are related to social status.

Several workplace studies in Europe show that health suffers when people have little opportunity to use their skills, and low authority over decisions.

Having little control over one's work is particularly strongly related to an increased risk of low back pain, sickness absence and cardiovascular disease.



Photo by Bavaria Bild, Polfoto

Jobs with both high demand and low control carry special risk.

These risks have been found to be independent of the psychological characteristics of the people studied. In short, they seem to be related to the work environment.

Studies have also examined the role of demands at work. Some show an interaction between demands and control. Jobs with both high demand and low control carry special risk. Some evidence indicates that social support in the workplace may reduce this effect.

Further, receiving inadequate rewards for the effort put into work has been found to be

associated with increased cardiovascular risk. Rewards can take the forms of money, status and self-esteem. Current changes in the labour market may change the opportunity structure, and make it harder for people to get appropriate rewards.

These results suggest that the psychosocial environment at work is an important contributor to the social gradient in ill health.

Policy implications

1. There is no trade-off between health and productivity at work. A virtuous circle can be established: improved conditions of work will lead to a healthier work force; this will lead to improved productivity, and hence to the opportunity to create a still healthier more productive workplace.
2. Appropriate involvement in decision-making is likely to benefit employees at all levels of an organization.
3. Redesigning practices in offices and other workplaces – to enable employees to have more control, greater variety and more opportunities for development at work –benefits health.
4. Work that does not provide appropriate rewards – in terms of money, self-esteem and status – damages health.
5. To reduce the burden of musculoskeletal disorders, workplaces must be appropriate ergonomically as well as in the organization of work.

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Job security increases health, wellbeing and job satisfaction.

The evidence

Unemployment puts health at risk, and the risk is higher in regions where unemployment is widespread. Evidence from a number of countries shows that, even after allowing for other factors, unemployed people and their families suffer a substantially increased risk of premature death. The health effects of unemployment are linked to both its psychological consequences and financial problems, especially debt.

The effects start when people first feel their jobs are threatened, even before they actually become unemployed. This shows that anxiety about insecurity is also detrimental to health. Job insecurity has been shown to increase effects on mental health (particularly anxiety and depression), self-reported ill health, heart disease and risk factors for heart disease. Because unsatisfactory or insecure jobs can be as harmful as unemployment, merely having a job cannot protect physical or mental health. Job quality is important.

During the 1990s, changes in the economies and labour markets of industrialized countries have increased feelings of job insecurity. As job insecurity continues, it acts as a chronic stressor whose effects increase with the length of exposure; it increases sickness absence and health service use.

Policy implications

Policy should have three goals:

- preventing unemployment and job insecurity;
- reducing the hardship suffered by the unemployed; and
- restoring people to secure jobs.

Government management of the economy, to reduce the highs and lows of the business cycle, can make an important contribution to job security and the reduction of unemployment. Limitations on working hours may also be

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beneficial, if they are pursued alongside job security and satisfaction.

To equip people for the work available, high standards of education and good retraining

schemes are important. For those out of work, unemployment benefits set at a higher proportion of wages are likely to have a protective effect. Further, credit unions may be beneficial by reducing debts and increasing social networks.



Photo by Reuters, Polfoto

Unemployed people and their families suffer a much higher risk of premature death.



7 SOCIAL SUPPORT

Friendship, good social relations and strong supportive networks improve health at home, at work and in the community.

The evidence

Social support and good social relations make an important contribution to health. Social support helps give people the emotional and practical



Photo by Fotokhronika, Polfoto

Belonging to a social network makes people feel cared for.



resources they need. Belonging to a social network of communication and mutual obligation makes people feel cared for, loved, esteemed and valued. This has a powerful protective effect on health.

Support operates on the levels of both the individual and the society. Social isolation and exclusion are associated with increased rates of premature death and poorer chances of survival after a heart attack. People who get less emotional social support from others are more likely to experience less wellbeing, more depression, a greater risk of pregnancy complications and higher levels of disability from chronic diseases. In addition, the bad aspects of close relationships can lead to poor mental and physical health.

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Access to emotional and practical social support varies by social and economic status. Poverty can contribute to social exclusion and isolation.

Social cohesion – the existence of mutual trust and respect in the community and wider society – helps to protect people and their health. Societies with high levels of income inequality tend to have less social cohesion, more violent crime and higher death rates. One study of a community with high levels of social cohesion showed low rates of coronary heart disease, which increased when social cohesion in the community declined.

Policy implications

Experimental studies suggest that good social relations can reduce the physical response to stress. Interventions in high-risk groups have shown that providing social support improves outcome after heart attacks, longevity in people with some types of cancer and pregnancy outcome in vulnerable groups of women.

In the community, reducing income inequalities and social exclusion can lead to greater social cohesiveness and better health in the population. Improving the social environment in schools, the workplace and the community in general will help people feel valued and supported in more areas of their lives and will contribute to their health, especially mental health. In all areas of personal and institutional life, practices should be avoided that cast others as socially inferior or less valuable; they are divisive.



Individuals turn to alcohol, drugs and tobacco and suffer from their use, but use is influenced by the wider social setting.

The evidence

Drug use is both a response to social breakdown and an important factor in worsening the resulting inequalities in health. It offers users a



Photo by Teit Hombak, Pofoto

People turn to alcohol, drugs and tobacco to numb the pain of harsh economic and social conditions.

mirage of escape from adversity and stress, but only makes their problems worse.

Alcohol dependence, illicit drug use and cigarette smoking are all closely associated with markers of social and economic disadvantage. In the Russian Federation, for example, the past decade has been a time of great social upheaval. Deaths linked to alcohol use – from accidents, violence, poisoning, injury and suicide – have risen sharply. Alcohol dependence and violent death are associated in other countries too.

The causal pathway probably runs both ways. People turn to alcohol to numb the pain of harsh economic and social conditions, and alcohol dependence leads to downward social mobility. The irony is that, apart from a temporary release from reality, alcohol intensifies the factors that led to its use in the first place.

The same is true of tobacco. Social deprivation – as measured by any indicator: poor housing, low income, lone parenthood, unemployment or homelessness – is associated with high rates of smoking and very low rates of quitting. Smoking is a major drain on poor people’s incomes and a huge cause of ill health and premature death. But nicotine offers no real relief from stress or improvement in mood.

Policy implications

Work to deal with drug problems needs not only to support and treat people who have developed addictive patterns of use but also to address the patterns of social deprivation in which the

problems are rooted. Policies need to regulate availability through pricing and licensing, for instance, to inform people about less harmful forms of use, to use health education to reduce recruitment of young people and to provide effective treatment services for addicts.

None of these will succeed if the social factors that breed drug use are left unchanged. Trying to shift the whole responsibility on to the user is a clearly inadequate response. This blames the victim, rather than addressing the complexities of the social circumstances that generate drug use. Effective drug policy must therefore be supported by the broad framework of social and economic policy.

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Healthy food is a political issue.

The evidence

A good diet and adequate food supply are central for promoting health and wellbeing. The shortage of food and lack of variety cause malnutrition and deficiency diseases. Excess intake (also a form of malnutrition) contributes to cardiovascular diseases, diabetes, cancer, degenerative eye diseases, obesity and dental caries. Food poverty exists side by side with food plenty. The important public health issue is the availability and cost of healthy, nutritious food. Access to good, affordable food makes more difference to what people eat than health education.

Industrialization brought with it the epidemiological transition from infectious to chronic diseases – particularly heart disease, stroke and cancer. This was associated with a nutritional transition, when diets changed to overconsumption of energy-dense fats and sugars, producing more obesity. At the same time, obesity became more common among the poor than the rich.

World food trade is now big business. The General Agreement on Tariffs and Trade and the Common Agricultural Policy of the European Union allow global market forces to shape the food supply. International committees such as Codex Alimentarius, which determine food quality and safety standards, lack public health representatives, and food industry interests are strong.

Social and economic conditions result in a social gradient in diet quality that contributes to health inequalities. The main dietary difference between

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Photo by Dr. Aileen Robertson, WHO

Local production for local consumption

social classes is the source of nutrients. The poor substitute cheaper processed foods for fresh food. High fat intakes often occur in all social



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groups. People on low incomes, such as young families, elderly people and the unemployed, are least able to eat well.

Dietary goals to prevent chronic diseases emphasize eating more fresh vegetables, fruits and pulses (legumes) and more minimally processed starchy foods, but less animal fat, refined sugars and salt. More than 100 expert committees have agreed on these dietary goals.

Policy implications

Local, national and international government agencies, nongovernmental organizations and the food industry should ensure:

1. the availability of high-quality, fresh food to all, regardless of their circumstances;
2. democratic decision-making and accountability in all food regulation matters, with participation by all stakeholders, including consumers;
3. support for sustainable agriculture and food production methods that conserve natural resources and the environment;
4. the protection of locally produced foods from the inroads of the global food trade;
5. a stronger food culture for health, fostering people's knowledge of food and nutrition, cooking skills and the social value of preparing food and eating together;
6. the availability of useful information about food, diet and health; and
7. the use of scientifically based nutrient reference values and food-based dietary guidelines to facilitate the development and implementation of policies on food and nutrition.



Healthy transport means reducing driving and encouraging more walking and cycling, backed up by better public transport.

The evidence

Cycling, walking and the use of public transport promote health in four ways. They provide exercise, reduce fatal accidents, increase social contact and reduce air pollution.

Because mechanization has reduced the exercise involved in jobs and house work, people need to find new ways of building exercise into their lives. This can be done by reducing the reliance on cars, increasing walking and cycling and expanding public transport. Regular exercise protects against heart disease and, by limiting obesity, reduces the onset of diabetes. It promotes a sense of wellbeing and protects older people from depression.

Reducing road traffic would reduce the toll of road deaths and serious accidents. Although accidents involving cars injure cyclists and pedestrians, those involving cyclists injure relatively few people. Well planned urban environments, which separate cyclists and pedestrians from car traffic, increase the safety of cycling and walking.

More cycling and walking, plus greater use of public transport, would stimulate social interaction on the streets, where cars have insulated people from each other. Road traffic separates communities and divides one side of

the street from the other. Fewer pedestrians mean that streets cease to be social spaces, so that isolated pedestrians often fear attack. Further, suburbs that depend on cars for access isolate people without cars, particularly the young and old. Social isolation and lack of community interaction are strongly associated with poorer health.

Reduced road traffic means decreasing harmful pollution from exhaust. Walking and cycling make minimal use of non-renewable fuels and do not lead to global warming. They do not create disease from air pollution, make little noise and are preferable for the ecologically compact cities of the future. Bicycles, which can be manufactured locally, have a good "ecological footprint" – in contrast to cars.

Policy implications

Despite their health-damaging effects, journeys by car are rising rapidly in all European countries, while journeys by foot or bicycle are falling. National and local public policies must reverse these trends. Yet transport lobbies have strong vested interests. Many industries – oil, rubber, road building, car manufacturing, sales and repairs, and advertising – benefit from the use of cars. Just as the twentieth century has seen a start made on reducing addiction to tobacco, alcohol and drugs, so the twenty-first century must see a reduction in people's dependence on cars.

Roads should give precedence to cycling and walking for short journeys, especially in towns. Public transport should be improved for longer





Photo by Finn Frandsen, Polfoto

oads should give precedence to cycling.

journeys, with regular and frequent connections for rural areas. Incentives need to be changed; this means, for example, reducing state subsidies for road building, increasing financial support for public transport, creating tax disincentives for the business use of cars and increasing the costs and penalties of parking. Changes in land use are also needed, such as: converting road space into green spaces, removing car parking spaces, dedicating roads to the use of pedestrians and cyclists, increasing bus and cycle lanes, and stopping the growth of low-density suburbs and out-of-town supermarkets, which increase the use of cars. Increasingly, the evidence suggests that building more roads encourages more car use, while traffic restrictions may, contrary to expectations, reduce congestion.

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The WHO Regional Office
for Europe

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