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The Effects of Health Care Reforms on Safety Promotion in Central and Eastern European Countries

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Abstract

This paper analysed the effect of health care reforms on the safety promotion in the central and eastern European countries in the last decade, and showed the injury incidences in these countries depending on the data from national statistical offices and WHO European Health for All database.

Health care reform in central and Eastern countries, and the trends in the health care systems in these countries are analyzed in this thesis as well. The study analyzed the trends in the health care, system changes, reforms in Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia. These countries are transferred rapidly from the old central communist economy or health care system to the market economy and to a growth of private sector within the health care services. In addition, the study examined the changes in the health care system with regard to its effect on safety promotion in these countries from the late 1980th to the end of 2002.

The present study covered the issue of the literature available on the health care reforms, and the changes in the approaches organising health care services and health care partners. The study investigated the general trends in safety approaches due to the reforms and implications on the health care facilities, and other institutions. I have assessed the effect of the reforms on the populations' safety in form of mortality due to injuries and at the end I focused on the possible trends of safety promotion in these countries.

Main emphasis has been on the effect of the reforms and alternative choices of the decision-makers in these countries on the reform process. The level of implementation of the legislations and incentives for safety promotion are assessed, with the impacts on mortality and morbidity. The results showed that there have been changes in some areas of the health care services and safety promotion in these countries, but still it is too early to assure the success or failure of the reforms as there is not only the health care affecting that process. All other socio-economic factors are parallel for the effects on the general health and safety of the population.

2 Introduction

The countries in Eastern and Central Europe have experienced a great change in their political and organisational systems which lead to different types of reforms and restructuring of the services. These reforms have taken place and an increasingly growing private sector has been established. This transition from central economies to open market economies are now starting to emerge from many other type of reforms within all sectors in these countries.

In this study I will try to define these reforms and their effect on the safety promotion in these countries based on the available data on injuries in these countries, and focused on the institutions dealing with safety promotion in the countries in the central and Eastern Europe.

Countries of Central and Eastern Europe (Croatia, Czech, Hungary, Poland, Romania, Slovakia and Slovenia) are now more than thirteen years into the reform process of their societies. The health care sector has been a constituent part of this transformation with the focus was on the development of strategies and policies of health care reform. These possess new challenges as many countries are now developing new systems in primary care, health financing, hospital planning and other segment as appropriate.

Their main aims of health care reforms were focusing on three areas:

- The roles of government in health care through providing and financing health care.
- The problems concerning health care structures and functions.
- Concern over the cost effectiveness and medical technologies.

Then the objective of the reform was to create a health care system that would be more cost-effective and more adapted to the patient's satisfaction. The two main features of the reform are:

- The changes in organisation of the health services.
- The changes in financing of health care services, institutes and health care providers.

The outcomes of the reform on safety promotion indicating that there were many politics and political pressures involved in these reforms. The priority setting for allocation resources were not ranked according to the needs of population, even though the needs rarely assessed.

Financing the health care services are taking the most part of the studies about the health care reform in CEE countries, mainly how to generate a revenue for financing the health care services in those countries, and many of the reforms in health care systems are aimed at achieving macro-efficiency, that is, limiting health expenditures, to an acceptable share of national resources. (29)

The countries from CEE have experienced the narrow specialization of health care professionals, and health care institutes as hospitals coupled with a lack of the specialists in the area of general practice or public health. Since the political changes at the end of 1980s, the health care systems in these countries have experienced reforms in the health care services, while there are still no basic information, to evaluate these reforms and the quality of outcomes. This was combined with the increasing expectation of the population in those countries for better health and safety.

The study discussed the re-orientation of health services towards a public health care and better co-ordination with other sectors as well as the implication of priority setting and resource allocation on the macro efficiency of the health care services in central and Eastern European countries.

The study is done with the supervision from the Professor Bjarne Jansson. It is part of the requirements for the Master degree in Safety Promotion at Department of Public Health Science, Karolinska Institutet, Stockholm, Sweden.

The purpose of the study is to highlight the main reasons for failing these health care reforms to achieve the desired goals and objectives in better health and safety. The study can be used by the decision makers to make a better priority setting within the limited resources or budgets allocated to the health care services, and by the international institutes and organisations to overcome the future difficulties related to the priority setting and to emphasis on the importance of safety promotion in the reform process.

3 Goals and objectives

3.1 a) General Objectives

General objectives of this study are:

- 1) To increase overall knowledge about the process of health care reforms in CEE countries.
- 2) To increase the knowledge about the trends in injury incidence in CEE countries.
- 3) To describe and evaluate the trends in safety status of general population in CEE countries during the transition period.

3.2 b) Specific Objectives

This study specifically focuses on the process of health care reforms in central and eastern European countries:

- 1) To assess the effect of changing the health care services and resources allocated for safety promotion the outcomes of these changes in terms of number of injuries.
- 2) To identify the methods of safety promotion that can create better safety for the population with more equitable bases.

4 Materials and Methods

The study carried out by contacting the National Institutions of the Public Health, National Statistical Bureau in these countries, and analysing the preliminary data available in the WHO European Health for All databases. The categorisation of the data was based on the WHO "indicating grouping system"

The key persons working with safety promotion and injury prevention in the CEE countries are contacted by email and phone to collect extra data, information and materials and to get the explanations on the trends in injury incidences in their respective countries.

The databases; Medline, Health Evidence Network, Cochrane, Helath Internetwork, and ECON was searched to find out the publications on the issue of injury prevention and Safety promotion in these countries. The searching key words were: safety, injury, accident, injury prevention, safety promotion, health care reform, Central/Eastren European countries and the name of these countries. the search was limited to the literature in english language. More than 100 papers were reviewd to gain more information on the health care reform process, many of these papers were not relevant to the subject.

The study started in September 2003, and the data was collected till the end of February then the data analysed, and the report will be presented to Karolinska Institutet at the end of May 2004.

This report will start with information on health care reform and followed by the health care reforms in central and eastern European countries, and then focusing on the Safety and safety promotion in central European countries.

In results the last available data on the injuries highlighted with discussions about these results. This is followed by conclusions on the main effects of these reforms. Finally, a set of recommendations is put forward.

5 Health Care Reform

Health care reforms had been one of the areas of research and studies mainly in the last two decades and mainly in the countries, that experienced changes in their system for providing better health care services. Reform in health care is a part of a much wider process of social and political restructuring. (9)

5.1 Health Care Reform Policies

Health care reform is a continuous and complex struggle. Neither the government nor free markets can by themselves allocate resources for health efficiently.(46) Casels (6) defines health sector reform as activities concerned with changing health policies and the institutions through which these are implemented and emphasised that the health care reform is concerned with defining priorities, refining policies and reforming the institutions through which those policies are implemented.

According to the Ljubljana Charter, health care reforms should be value-driven, health-focused, people-centred, quality-based, financially sound, and oriented towards primary health care. (42)

The Charter further outlined these principles for managing change:

- health care reforms should be part of a coherent policy base;
- policy-makers and planners should pay attention to the voice of the people;
- they should re-examine health care delivery methods;
- they should build and strengthen human resources for health;
- they should strengthen management capacity;
- they should learn from the experience of others.

The OECD. (29) carried out many studies regarding the health care reform in its member states and they indicated that the main focus of the reform are the efficiency of the health care systems and they described five dimensions: (i) lowering the cost of achieving a desired outcome; (ii) providing greater consumer satisfaction for patients and relatives; (iii) reducing the time and travel costs for patients and their relatives; (iv) reducing the costs of administration and regulation; and (v) encouraging technological and organizational advance to raise productivity.

The World Bank's recommendations for health care reform in formerly socialist countries emphasized private finance of health insurance and expansion of the private deliver sector (37) Such a system of `insurance medicine` is seen as a way to attract enough additional funds from private firms and individuals to expand the health care sector of the economy.(2) As many World Bank programs are concentrated on the International cooperation and Assistances to these countries to undertake their reforms. Assistance should reinforce

countries' capacities and thus reduce their need for international aid. (10)

It will be hard or impossible to determine what is changing, how rapidly change is occurring, and with what effects. (12) There is some reluctance regarding the outcome of these reforms in general and in certain countries particularly. Some studies indicated that, reforming the system of medical care in a country, or in a number of countries as in Europe today, does not necessarily change their overall health situation very much. (44)

The emphasis on policy change has been much less on shifting the boundary between public and private financing, and more on improving performance under what in most cases is a preponderantly public system. A transfer of responsibility to private financing sources exacerbates inequities, and on its own will do nothing to improve performance in the public sector. (9) The overall access and utilisation of the necessary health care will reduce.

5.2 The Role of Governments

The role of the governments assessed, and it had been stated that, one of the barriers to implementing health system reform is the uniform failure of governments to plan for implementation of policies they develop. Although planning for implementation is seen as a critical component of implementation success.(36) While others are seeking the political backup for sustaining reforms, Borissov and Rathwell argue that without the political backing of the government there is the danger of it being no more than symbolism.(4)

Health policy makers aim to make best use of the limited resources that are available for health care. An important component of this process is knowing how effective a given intervention is in given circumstances (23) Governments are almost invariably involved with resource allocation through such activities as setting budgets for specific services and programmes, and sometimes, also with determining the distribution of resources within particular services and programmes. (39) In general the trend is not towards a free market, but towards regulated competition. The emphasis of government regulation in switching away from command-and-control measures towards pro-competition policies. (47) It had been found that the failure of this organisation to remove deficits, secure much economy in drugs, or improve services, except marginally, and in the south underlies the current initiatives for further radical reform. (29) And find the alternative methods, which increase the funding for the health sector.

The expansion of the role of government into sectors like health is being questioned and rethought in the wake of allegedly disappointing results.(13) Thinking about the role of governments in health has been influenced by the general debate on the relative competence of the market and the state.(9)

5.3 Health Care Expenditure

The countries economic situation and development is found to be one of the major factors affecting the success and failure of the health care reforms. In contrast some studies stated that the relationship between the level of health expenditure relative to GDP and the wealth of a country (measured as per capita GDP) is far from close. There isn't any clear relationship between the public share of health expenditures and the wealth of a country. (29)

Most of the reforms in health care systems are aimed at achieving macro-efficiency that is, limiting health expenditures to an acceptable share of national resources. Although the goal remains elusive in some countries, expenditure trends suggest that movement generally has been in the desired direction: the growth in health expenditures as a percent of GDP was lower during the 1980s than the 1970s. (29) It is to be expected that the total

health care expenditures will increase in the (new) future. The share of health care expenditures in Gross Domestic Product (GDP) may also grow. A growth of health care expenditures is unavoidable, not only because of the need of a further modernization of the health care sector (buildings, equipment, etc.), but also because of an increase of wages. The share of wages in total health care expenditures in 1989 was calculated at about 40 percent which is relatively low compared to a typical figure in western European countries (60-75%).(49)

Priority setting in health care, by contrast, refers to a process whereby governments or public authorities or clinicians make decisions regarding a relative ranking (priorities) to be attached to different programmes, services or types of patients (39), without any consideration to the perspective of the health care providers. In its priority setting, the state is frequently more occupied with privatisation than with health care financing and cost-containment. This generates inequity, impedes access and lowers affordability (high co-payment). (34) The greater the privatisation of health care, the greater the need for a public presence is in respect of its control and regulation. (13)

Throughout the 1980s there has been an increasing use of population-formulas to try and secure a more even distribution of health resources.(29) There is also a close scrutiny of how resources are used and growing scepticism over the assumptions about the appropriate roles of different care settings. In particular, the future role of hospitals is increasingly being questioned, given the possibilities of providing diagnostic and treatment elsewhere.(34) either within the health centres or other prevention interventions that might increase the health status of the population.

The issue of whether to allocate resources to medical care or to other activities primarily designed to improve health must be important. (44) The process of substitution in health systems can be defined as the continual regrouping of resources across and within care settings and exploited the best and least costly solutions in the face of changing needs and demands. In other words, health sector staff, skills, equipment, information and facilities can be recognised in order to achieve better clinical, financial and patient related outcomes.(34) Changes have been used to improve the availability of drugs, for instance. Increasing charges may also have been used to improve the quality of the reception that patients get (officially and unofficially), or to give them greater choice in the matter of where to go for care.(9) There is a great uncertainty if the user charges leading to achieve the efficiency or it will lead to greater inequalities.

5.4 Financing Health Services

The health systems according to the financing methods can be categorised basically as: Bismarck model (a mixture of private and mandatory health insurance); the centrally controlled Semashko model development in the early Soviet Union and based on tight central state control; and Beveridge model the (National Health Service) which experienced in Nordic countries those who believe in the values of the welfare state.(43) The CEE countries experienced one or most of these models within the last few years, and that makes the analysing of health systems in those countries more difficult.

In many (predominantly) publicly financed health care systems market-oriented health care reforms are being implemented or have been proposed. Once for-profit providers achieve entry into health care markets, they can begin to shape and alter the dynamics of those markets. If these markets become sufficiently well developed, then the for-profit providers can begin to destabilise the status and contribution of public and not-for-profit institutions. (13) The purpose of these reforms is to make resource allocation in health care more efficient, more innovative and more responsive to consumer's preferences while maintaining equity.(50)

In many countries for the establishment of health insurance, schemes comes from physicians, who see these as a way to raise their income above the level of a poorly paid public employee, through a fee for service mechanism.

No change of the system of health care is possible if the providers do not support it on the one hand, and the real possibilities of health insurance is on the other. (17) Financial approaches employed by insurance or purchasing agencies often lack incentives for PHC to substitute for secondary care. Funding is allocated according to inputs rather than outcomes, while in many cases the flow of money through different health care organizations discourages co-operation and co-ordination. (34)

The crucial area in the health care reforms is the change of the health care systems to focus more on public health. The direction of the change requires nothing less than shifting the focus of the system and its actors from its predominant emphasis on sickness treatment (negative-health focus) towards an emphasis on maintaining and promoting the highest possible standards of personal health (positive-health focus). (36)

Primary Health Care (PHC) reforms have emphasised the cost-effectiveness role of the PHC physician gatekeeper and first point of contact with the system, providing continuous, individual care within community orientation.(34) Clearly any reform of the payment system will need to address the changes that may be triggered in relationships with other health care providers.(34) The failure of the state planned primary physician gatekeeper model created an environment in which physicians were generally unable to assume responsibility for the patient's long-term health status or level of health education (35), and the change of the population's healthy life styles.

The role of nurses in the health care system are discussed in many studies and nurses are seen as a cost-effectiveness resource for delivering health care services, particularly in the fields of public health and PHC. Thus, nursing development is part of the more general trend to increase the cost-effectiveness of health care delivery (34), and better integration of other health care provider partners.

6 Health Care Reform in Central and Eastern European Countries

The reform of health care in CEE countries has been one of the areas of research and evaluation, particularly after one decade from the shift from the planned central system toward market oriented system. The reform phenomenon has been triggered by the political changes that followed the fall of the Soviet system in the late 1980s.

6.1 The Soviet Health System

The Soviet example had a hierarchical, centrally controlled health care systems based on polyclinics and institutions with extensive specialist services at the first contact level. (43) Some reform models and ideas have been transferred across national boundaries. (34) Several former communist countries have been sorely tempted to copy the changed proposed for Western Europe in undertaking to reform their own health care systems. (30)

The Soviet health system prided itself, and was recognised internationally as an important model, because of its success since the 1930s in making health care available for all as a free public service. With universal access to preventive and curative care, control of infectious disease was achieved, and health indicators improved. (38) A strict hierarchy prevails among members of the health care team. Physicians have seniority, but midwives are of lesser importance and nurses are regarded as the least significant members of the team. Mothers/

families are regarded as of even lesser importance.(7) The black market in the health care sector was typical for the abolished centralist system; the grey health care financing still persists in some countries.(1) These types of supplemental payment to physicians, still called «thank you money» seem to continue. From a western perspective, such payments to physicians are easily seen as bribes to obtain preferential access to care. (2)

In the CEE countries a strong state role is associated with the former regimes, and national policy-makers are now engaged in a concerted effort to create more balanced government and non-government arrangements. (34) At the present the governments are facing strong political pressures to restore the spending on health care once the economy recovers. The change of the government's role in Central and Eastern European countries has been one of the most visible aspects of the overall change in their healthcare systems.(11) The most basic question- primarily raised in the CEE countries has concerned the appropriateness of ministries retaining day-to-day responsibilities for operating provider institutions. This is a sensitive question, and in that change often affects the status and job security of the medical staff who works in these institutions. Such changes are essential, however, to free officials to focus on broader issues of national strategy and health system development.(34) With more emphasis on the effective regulations to be able to monitor and evaluate the outcome, not only with stipulating inputs. The rush to private insurance medicine is more a rush away from the previous Soviet system than it is a well-thought-out-policy direction. (2) It was implemented without proper planning and assessment.

6.2 Health Care Resources

CEE countries spend a greater share of national income on health care than might be predicted, given their income level. This proportion has increased during the transition to open economics. Despite the severe contraction (or moderate expansion in the best of cases) in real growth in GDP over the period 1987-1994, real health expenditures either grew faster or contracted more slowly than GDP.(34) The low level of resources devoted to health and the low quality of care have combined to lower effectiveness in the health care sector.(27)

The percentage of the resources allocated to PHC was relatively constant and it was approx. 25%. There was a symbolic co-payment by patients for drugs, consultations and secondary care and for hospitalisations.(37) In the Czech Republic spent some 5.1% of GDP in the health care system in 1991. The compulsory health insurance was introduced in 1992 and since 1995 the health care expenditure represented more than 8% of the GDP.(1) It is important to be mentioned that, the CEE countries that experienced sever economic contraction saw roughly proportional reduction in real public spending on health.(34) There are increasing interest in separating the role of government as third party and provider in order to promote competition within their health care systems.(11) And furthermore implement the Insurance schemes systems experienced in other western countries.

The shift from monolithic state-control model towards a social insurance or market driven solution, with its new incentives but also its market imperfections and uncertainties, creates further problems, especially in the area of legislation.(11) The organizational structure of the health care system was radically changed in Slovakia after 1989. The hierarchical structure based on a three tier system of regional, district and local levels was abolished. All health care facilities became legal entities under the responsibility of the Ministry of Health. (48)

The decentralization of health care system has started with the legal definition of various institutes and health care facilities and delegating the financing of health care to wider providers and organisers Those providing health care covered by the compulsory insurance plan have been transformed into contributory organisations.(48) The management and

financing the private health care institutes and providers are organised without interference from the Ministry of health.

Introducing market system could create important incentives to stimulate efficiency and resort to more effective methods. In almost all of the CEE countries the providers are not satisfied with their economic status. And rightfully, therefore a strong incentive for them to support market system and health insurance is the expectation that it can improve their status. (17) The main objection to a private health care system of this sort would be the lack of income parity. The differences between private and state practices is slightly greater for direct charges than for services delivered.(25) In Poland as a result of the uncontrolled privatization of pharmacies since 1989, drugs now absorb 34.1% of the state's total health budget (43) as the drugs are subsidized by the state budget.

If one looks at medical care and health care in central and Eastern Europe, the critique of that resources allocated to medical treatment were not efficiently used if improved health was the objective. (44) The literature regarding the financing of health services in CEE countries and how to generate the funds to finance the health care services is taking a bigger share of the literature regarding the health care reform in CEE countries.

In Czech Republic the primary focus of health care reform has been through the development of the compulsory health insurance system. (28) Perhaps the greater factor, which will limit the transition to an insurance base health care system, is developing the information systems necessary for a decentralized structure. The setting up of the requisite information system is crucial to the success of the insurance based health care network and it is this, perhaps more than anything else, which will determine the speed and the success of the reforms. (4) The insurance schemes, however, undeniably tend to be more expensive, owing to the higher salaries of physicians, the greater emphasis on high technology and the provision of overlapping the excessive services and, and in some instances, excessive curative services. Paradoxically, the patient's freedom to choose an insurance fund can be rather limited. (43) by the insurance companies or induced by the health care providers.

6.3 Socioeconomic Factors

The development of health care reform in a specific country is influenced by a wide range of contextual factors. Social values and economic recession have played a significant role in triggering reform in several European countries. Here, four contextual areas that particularly influential in the implementation process are reviewed: the macroeconomic situation, the political environment, societal values and external influences.(34) As new health problems emerge in Central and Eastern European Countries or as the respective society adjust to cope with previously unknown health needs.(11)

The equity of health care services are doubted in most of the CEE countries after the rapid introduction of market mechanisms into the health systems and raises concern about the ability of poor citizens to meet the formal and informal charges required for access to health services.(34) If health care in these countries left to private practice and private medical insurance without consideration for cost, access, or quality, existing disparities in the quality, the availability of health care services will widened. This is exactly what has already happened in the Czech Republic, (25) yet many of the reforms deal with cost containment, medical insurance, and health care management. The patient's ability to pay for the basic health care services should be considered more closely. The reason reforms must focus on changing the community's attitude towards health services and increasing the population's level of health awareness. (35)

6.4 Financing Health Services

In most of the CEE countries there are practicing some types of co-payment mainly with regard to drugs, some pharmaceutical products and dental care. The under table payment is also considered to be a part of the costs that the patient bears. Practice shows that out-of-pocket payments generate high administrative costs. The administrative costs of out-of-pocket payments may well consume a substantial portion of the revenue raised (49) for financing health care services or providing extra care.

In the CEE countries, over expanded hospital systems consume too high a proportion of the available finances, and many CEE countries has started a new strategies such as the reforms in Poland for establishment of local self-governing councils with health committees. Despite centralized financing and provision of health care, many local governments have taken over some health care responsibilities, typically with regard to PHC. (34)

The health care system must, to a large extent, become differentiated: preventive as well as curative, primary as well as secondary health care. (11) One of the major objectives of contracting is to encourage shift from inpatient to outpatient care, and also to more cost-effective medical interventions. The need for shift in focus from curative services to preventive care and health education was recognised as early as 1980.(35) This strategy is of particular importance of the CEE countries, where previous bureaucratic control led to severe distortion in the structure of health care provision.(34) Family-oriented primary care was accepted as a new model, which should restore the cultural role of the general practitioner. (37) These developments are also dependent on the ability of health authorities to transfer resources from secondary to primary care.(32)

6.5 Focus on Primary Health Care

Promoting links between ambulatory care (PHC) and secondary care (hospitals) are to achieve a well functioning health care system, good links between ambulatory and hospital care are essential. It was felt that the joint provision of primary, specialized outpatient care and inpatient care in a single organizational unit was an obstacle to Primary Care development. (48) All the CEE countries have a surplus of specialists would call for special arrangements. It is technically possible to make special arrangements so that hospital polyclinics can continue their work and improve their output providing necessary services and backing up PHC, (49) and promote the health system that can have smooth and controlled referrals between different levels of health care.

A shift in balance from secondary to primary care, and consequences expansion in the range of services provided by primary care team will lead to a better health care system.(8) The strategy of shifting the system from the tertiary and secondary health care to primary health care, are considered one of the main strategies for the CEE countries. If we look at the structure of health care services in those countries we will recognise that, the CEE countries have more beds than Western Europe, mainly as a result of the large number of small hospitals. These numbers are associated with notably higher admission levels than those in Western Europe. (34) Then we can predict that PHC can act as partial substitute for secondary care services, thus reducing admissions. (34) while other studies (45) concluded that no real change achieved, and attention continued to be placed on curative services by teams of planners dominated by physicians.

The primary care infrastructure in CEE countries suffers most from shortage of basic diagnostic tools, equipment and drugs. This kind of problems is likely to be more acute where there are institutional barriers between different types of care delivery, such as in a number of CEE countries, where most countries have replaced or are seeking to replace their Soviet-style polyclinics with some type of PHC physicians. Primary health care could consist of general practitioners, dentists, pharmacists, home assistance, district nursing,

social service, midwifery and maternity care, and para-medical profession such as physiotherapists.(11) Although these efforts were initially hampered by the lack of trained GPs. Or even of appropriate training programmes, the process of establishing a new model of PHC delivery is well under way in central and Eastern Europe. (34)

6.6 The Role of PHC Physicians

A realistic, sustainable restructuring of health care system is possible, with a focus on preventive care. (35) And more emphasis on health centres is to provide universal coverage for the population of a given area and to control either important health problems. (37)

The combined process of needs assessment and priority setting had a powerful effect on team building. (32) There has been an underestimating of the role of the PHC physician's as most of their work mostly covered issuing of certificates, issuing the absence of working permissions and issuing the referrals to the specialised care. In addition they were largely orientated towards curative rather than preventive services. There are a number of plans to strengthen their role by introducing self-certification of short periods of illness. As there are now financial incentives for primary health care doctors to take on more tasks, some are providing more specialised services to their patients. (47) To look at the opportunities for specialised physician versus general practitioners and their roles in providing health care services we can see clearly the specialists gradually look over a lot of GP role.

The other focus of reform is the importance of the training for health care professions. The training family physicians and GPs have become increasingly important. In some countries, family or general practice is now considered an especially in its own right. (34) The primary health physicians had their lists of patients, but it was quite common to see that one person had parallel medical records.

6.7 Nurses in CEE Countries

In the CEE countries, nursing development stagnated for many years in disease oriented health care systems heavily based on medical specialization. Despite broad inter-country diversity in the degree of progress that has been made (or not made) in overcoming such barriers, a reappraisal of the whole of nursing is taking place throughout the European Region.

In many CEE countries, auxiliary and/or unqualified staffs performs nursing duties, comprises 50-90% of all nursing personnel and are included in the statistics on nurses.(34) Shortages of well educated nursing staff and difficulties in recruiting suitably qualified nurses are common in the CEE countries. Recruitment of new staff is difficult in rural areas, the main reasons are like being low status, poor salaries and bad working conditions, which lead to migration and/or reduction of the nursing workforce.(34) The results of some studies showed that the idea of the public health nurse, who performs a generalist role within a PHC framework, has also steadily gained acceptance, such as in the Czech republic, Hungary and Slovakia. Nurses are beginning to be recognized as independent health care professionals, but in other countries they are still subordinate to physicians.(34)

In the CEE countries, the number of health professionals working in PHC is generally very low. There is an enormous shortage of community nurses and Physicians, especially in rural areas, owing largely to the fact that the role of nursing is not recognized or developed in PHC. Much of the problem stems from a lack of sufficient health education to increase the population's understanding of good health practices and healthy lifestyle choices. (35) There are a lack of available education, low status and poor working conditions, with long working hours and low salaries.(34) Extensive plans and programs for health promotion

and health education were never realized because of financial constraints and a strong focus on curative services by the medical profession.(35)

The lack of appropriate health service indicators further hampers assessment.(43) The explicit indicators of the reforms outcome indicating that Health status, life expectancies, and infant mortality rates fell behind most western countries.(25) Life expectancy and mortality steadily improved in Western part of the European region over the last four decades, this improvement could not occur to the same extent in the eastern countries.(27)

It might be very hard to assume that the above achievements can be reached without enormous financial costs. (1) The current systems in CEE countries are no longer entrenched, they have to change. Decision-makers should go beyond the topics currently discussed- such as the financing of health care, competition between different professional groups, and private versus public ownership- and approach the determinants of health much more fundamentally and coherently. (27)

Patient satisfaction, patient rights and patients' participation in clinical decision-making is the other source of pressure on health systems. Beside the general pressure on the national decision-makers regarding the increases of use private sector providers. In the CEE countries, patient empowerment issues have created strong pressures on government policy-makers. (34)

In addition to that in some countries, health personnel have become powerful influence in the political and parliamentary process, and have shaped policy decisions on the funding, payment systems and privatization of health care services. (27) The process of reform has been hindered by political stagnation, economic crises, and a lack of delineation of responsibility for implementing the reforms. (35)

7 Safety Promotion in CEE Countries

7.1 Safety and Safety Promotion

The United Nations report on human development, considered safety to be a fundamental right and an essential condition for any sustainable development by societies. (41) Safety can be viewed as a prerequisite for maintaining and improving the health and welfare of a population it is results from a complex process in which humans interact with their physical, social, cultural, technological, political, economic and organisational environments. (26)

The World Health Organization defines health promotion as a process that aims to give populations the means to ensure better control of their health and the capacity to improve it. Thus, we could define safety promotion as a process that aims to provide populations with the conditions and abilities that are necessary to reach and sustain an optimal level of safety. Safety promotion is the process applied to develop and maintain the basic conditions for safety at local, national and international level by individuals, communities, governments and others. (26)

The need for a shift in focus from curative services to preventive care and health education was recognised as early as 1980. (35) Under the socialist system, however no real change was achieved, and attention continued to be placed on curative services by teams of planners dominated by physicians. (35)

Many studies in these countries have focused on the safety promotion and safety measures regarding to the population's safety as chemicals effect and nuclear basis. To examine how health politics shaped and affected the safety in these countries we need to look at the impact of these reforms on injuries in different countries.

The issue of the safety promotion has not been highlighted in the literature; the concept of safety promotion has been taken as a part of general process of health care reforms.

There is a need to cohort understanding of the public health problems, and there is a need for innovative approaches to use the data already exist and no longer hidden. (22)

Studies looking at the safety issues in the national policies in these countries are very limited. The safety management strategies evolving at the state level and certain institutions to deal with safety issues are underprioritized. For understanding reforms in terms of a change of focus from one system to other enables to cast a new light upon the impact of reforms on these issues and, more generally, upon the changing of injury trends in the society. It allows us to view the safety and safety promotion issues within the context of these countries as there are many similarity among them.

The technical capacity (ability to analyse problems, identify and implement solutions) bureaucratic motivation (view of bureaucrats regarding the impact of taking any particular policy decisions of their own power and prestige), and international leverage (availability of ideas, influence and resources from the international community), all have substantive influence on policy formulation and implementation. All these issues are relevant to injuries in transitional countries. (22)

Safety promotion programmes for prevent injuries are a cornerstone of any sustainable safety and health system, prevention that may take place through the direct provision of services such as health check, public health nurse home visit, and these services are classically dominated by public health sector. The private sector does not have sufficient incentives to supply these services to the population at large.

7.2 Injury Data and National Strategies

The injury registration, and classification is almost unknown in most of these countries. Few countries has started some kind of data collection with regard to injuries occurred mainly in traffic. The supervision, monitoring and evaluation of these data and defining the areas of higher risk for injury and mortality require the establishment of a database and the identification of appropriate protocols to take as models. At present, only a few hospitals/regions registering the data in their primary health care centres, hospitals, quality of these data requires wider investigation.

Occupational safety and health in Central and Eastern European countries at the turn of the 1980s and 1990s was characterised by a considerable number of people exposed to exceeded levels of health standards on harmful physical agents (e.g., noise, vibration, hot microclimate), chemical agents (e.g., highly toxic, carcinogenic, and allergenic), and fibrogenic dusts (including carcinogenic asbestos). The hazard of injury was also high (lack of machinery working zone safeguarding, lack of proper organization of work and work space, etc.).(19) In 1995, the government of Poland established a National Strategic Programme “Occupational Safety and Health Protection in the Working Environment (1995–2001).”(19)

7.3 Social Changes and High-Risk Groups

The primary health services could not bear responsibility for the social, educational, and environmental factors influencing health status.(35) The lack of encouragement of communication and co-operation amongst people and between disciplines under a totalitarian system of role will probably be difficult to implement until such time as a willingness to trust others and to work as teams, rather than as individuals, develops.(7)

Reform may be welcomed by the new middle class and by some health professionals because it is perceived as an opportunity to challenge over centralized, bureaucratized, initiative-stifling health systems. While reforms may be seized on as an opportunity, however, they may be difficult to implement because they are opposed by significant groups that see themselves being placed at a disadvantage—the elderly. (34)

As the lowest-skilled jobs were also most likely to be the most hazardous, many people were employed in dangerous professions during the socialist period, including mining and other aspects of heavy industry such as working with toxic substances. While no statistics are available, the incidence of disability from workplace injury is thought to be disproportionately high among certain groups.

While the liberalization of society has opened many new opportunities for young people, it has also brought new risks and social problems already familiar to Western societies, such as the spread of sexually transmitted disease, alcohol, and drug abuse and suicide. The heightened profile of these social problems among Central and Eastern Europeans youth may be linked not only to new freedoms of risk-taking, but to the increased responsibilities and hardships faced by young people and to the inadequate institutional or social response to these problems. (40)

Much of the problem stems from a lack of sufficient health education to increase the population's understanding of good health practices and healthy life choices. (35)

Alcohol abuse adolescents were prevalent before the transition, and the above factors have presumably increased alcohol abuse. Alcohol mortality due to alcohol-related disease has risen in many countries like Hungary. (40)

Local institutions or initiative planners did not step in to assume the responsibility for improving the population's health status through education or preventive care. (35)

Central and Eastern Europe has a long and rich tradition of civil society organization reaching back into the nineteenth century. Mobilizing citizens and communities for a better health is a central component of what we now call the "new public health," and health promotion, intersectoral action and community participation have been defined as key public health functions.

8 Results

Injuries are an increasing health threat and they occur in any society and at among any age groups. Health promotion strategies aimed at injury prevention can be one of the attempts to conduct any actions toward the promoting the peoples health and well-being.

Since the end of 80's and after many more than one decade with health care reforms in the CEE countries, and having great efforts from the national health institutions, other institutions and remarkable support from donors. The results showed different segments of the safety situation in these countries. The injury prevention and control approach have contributed to the understanding that injuries are an important health problem with specific risk factors and target groups. (26) and through the injury data we can see the actual situation in these countries.

8.1 Mortality Data

Looking at the mortality data in these countries related to injuries, external causes of injuries and poisonings are a major public health problem in CEE countries. The external cause of injury can be used as a tool to look at the effect of external causes of injury and poison in these countries. The results shows a clear decline of the number of cases per 100 000 population in these countries. All these countries have experienced a reduction of the cases related to external cause of injury.

Hungary and Slovenia have the highest rate of the number of deaths caused by injury or poisoning. Even though the numbers have decreased slightly in the last years. Hungary and Slovenia still have one of the highest rates of this kind of mortality in Europe, exceeding the EU average by 100%. (16)

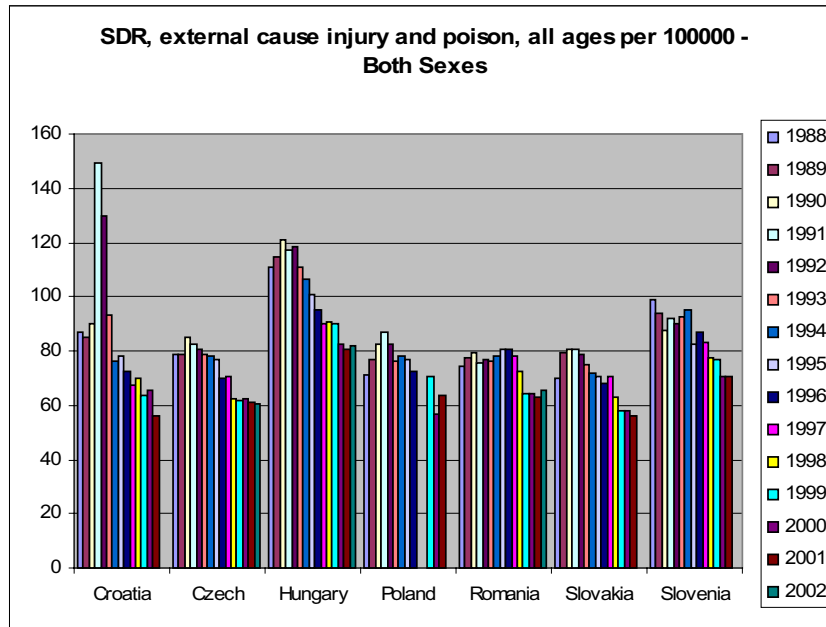


Figure 1. SDR, external cause injury and poison.
Sources: WHO, European Health for all databse

Road accident is a serious problem throughout the world, in social, health and economic terms. The road accident commonly is the second largest cause of deaths for economically active people (5-44 years) in many countries. However, while most countries in other continents and regions have succeeded in checking and even reversing the number of road fatalities, current trends in CEE countries shows similar results, most of CEE countries have remarkable decline, except in Croatia which experiencing an increase since 1994. (see Figure 2)

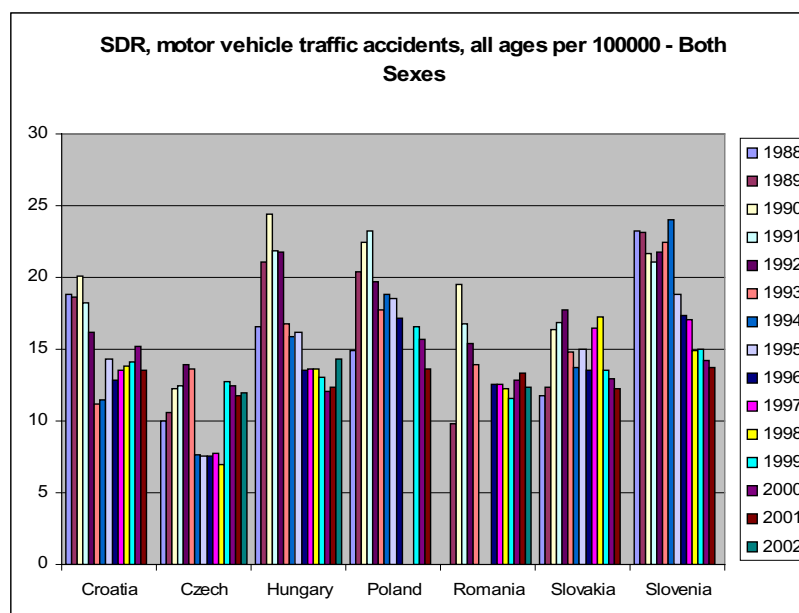


Figure 2. SDR, motor vehicle traffic accidents.
Sources: WHO, European Health for all databse

Suicide is considered to be one of the main causes of death of young people between the ages of 15 and 24 in most of the countries. Suicide rates in Central and Eastern European countries are among the highest in the world, and some parts of the region have shown upswings or steady growth during the transition period. (40) The results showed a decline in Croatia, Czech, Slovakia, but an increase in Romania and Poland. The mortality due to suicide and self-inflicted injuries seems to be higher in Slovenia and Hungary than other countries in the region. (See Figure 3)

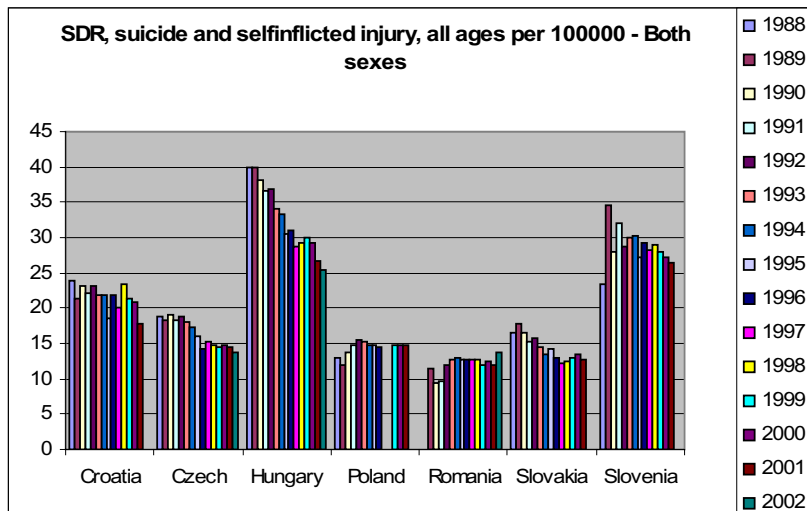


Figure 3. suicide and selfinflicted injury.
Sources: WHO, European Health for all databse.

The homicide and intentional injuries are an increasing problem in many societies. The CEE countries have experienced an increase of homicide and intentional injuries, due to instability at the beginning of the change in political systems, especially in Romania and Croatia. The results indicated a decrease of the death related to the homicide and intentional injuries in these countries. (See figure 4)

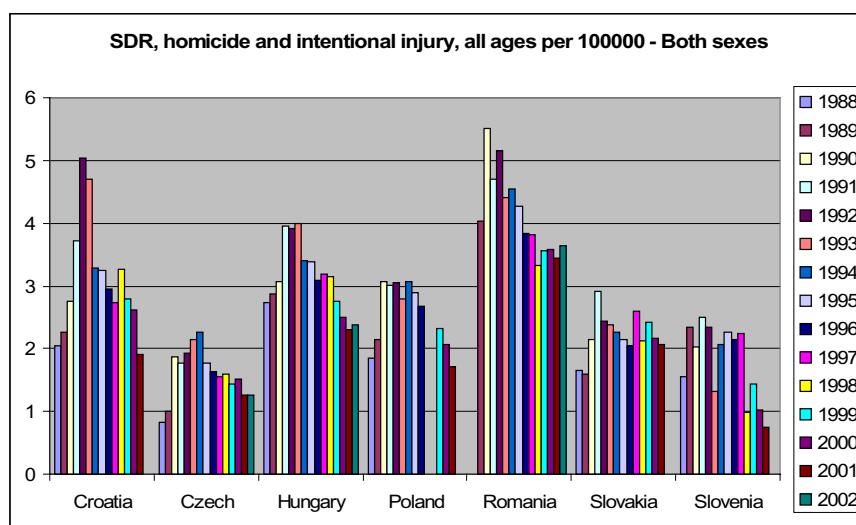


Figure 4. SDR, homicide and intentional injury.
Sources: WHO, European Health for all databse.

8.2 Morbidity Data

Highlighting the hospital discharge data is important because in most of the countries the injuries are not tracked systematically unless they result in hospitalization or death. And these these hospital data only represent the serious injuries which needed a treatment at a hospital.

When looking to discharge data from hospitalization due to injuries we measure the rate and of discharges from acute care hospital facilities for intentional and unintentional injuries. The measure is expressed as a rate per 100,000 in the population.

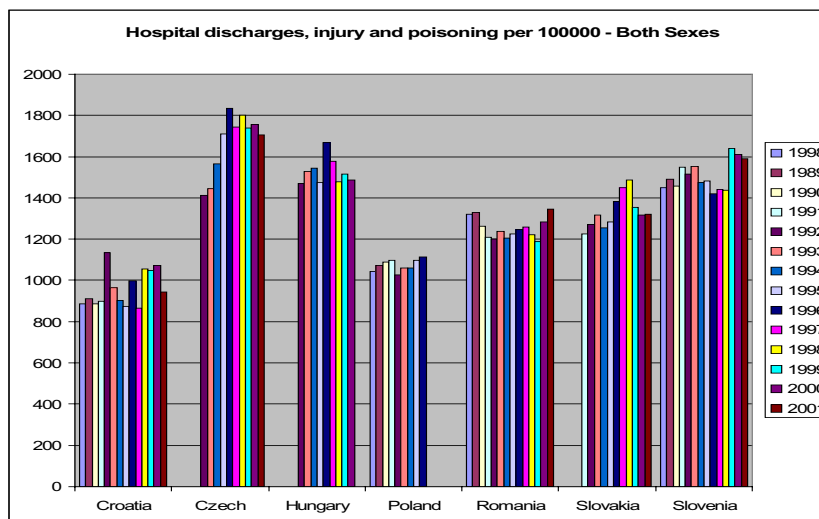


Figure 5. Hospital discharge, injury and poisoning.

Sources: WHO, European Health for all database.

8.3 Life Style Data (*)

Results from the database showing an increase in road traffic accidents resulted in injuries in CEE countries mainly after 1994 and high increase in the road traffic accidents in Croatia and Slovenia. (See Figure 6)

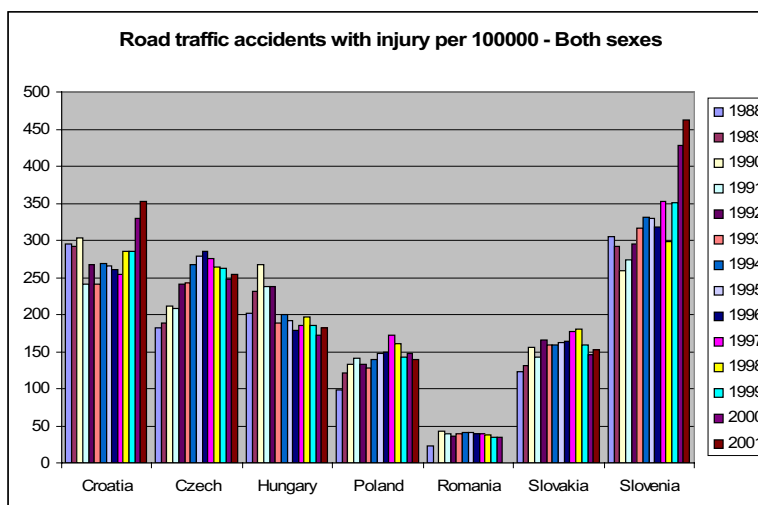


Figure 6. Road traffic accidents with injury.

Sources: WHO, European Health for all database.

As the road traffic accidents increased in these countries the results showed the same increase in all countries in the region, except Hungary. The results from Hungary pointed out a decrease of people injured due to road traffic since 1991. (See figure)

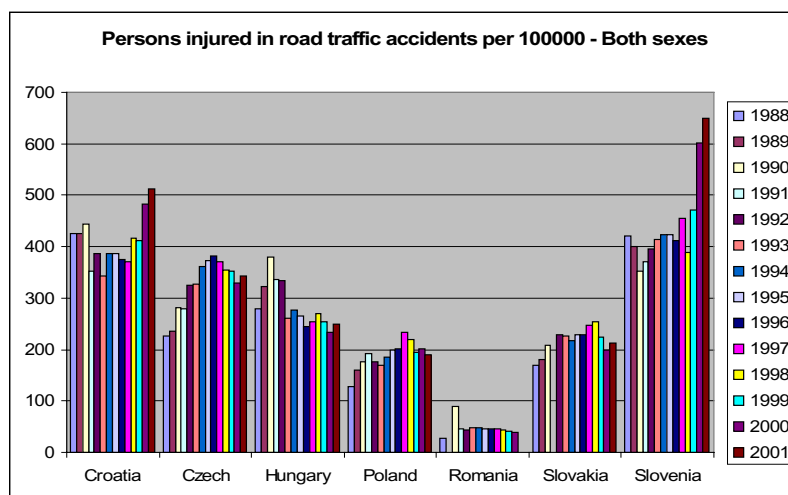


Figure 7. Persons injured in road traffic accidents.
Sources: WHO, European Health for all database.

(*) Road Traffic Accidents are placed under the Life style data category according to the WHO categorization of the road traffic accidents in the WHO Health for All database.

There is a clear relationship between the injuries and alcohol and road traffic accidents. The road traffic accidents are directly attributed to alcohol and lead either to mortality or morbidity. The level of alcohol-related morbidity and mortality in CEE countries is far greater than would be expected from the level of drinking in western European Countries. The highest rates are stated in Slovenia. Alcohol consumption in Slovenia is among the highest in Europe (10.38 litres pure alcohol per person per year in 1998). (16)

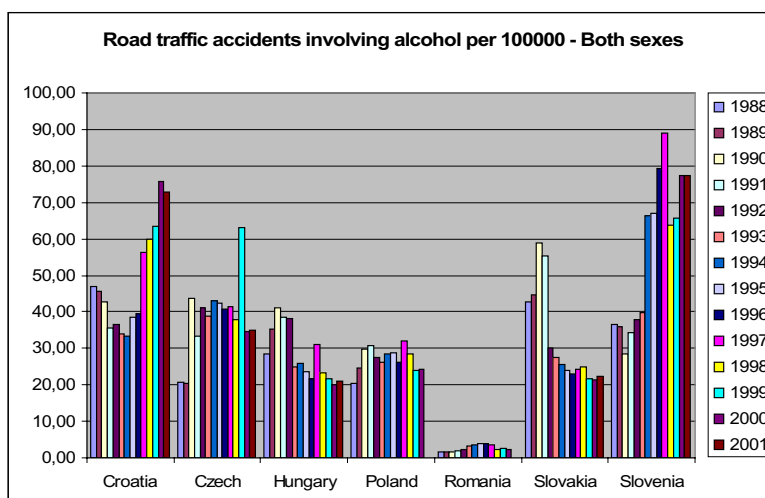


Figure 8. Road traffic accidents involving alcohol.
Sources: WHO, European Health for all database.

8.4 Work-Related Accidents Data

There are remarkable reductions of No. of mortalities due to the work-related accidents and these reduction are more seen in the last years. Croatia had 2,21 accidents per 100 000 inhabitants I 1988 and in 2001 the had 0,56 per 100000 and these results were in Hungary a reduction from 4,43 in 1988 to 1,28 per 100000 in 2001. (see figure 9)

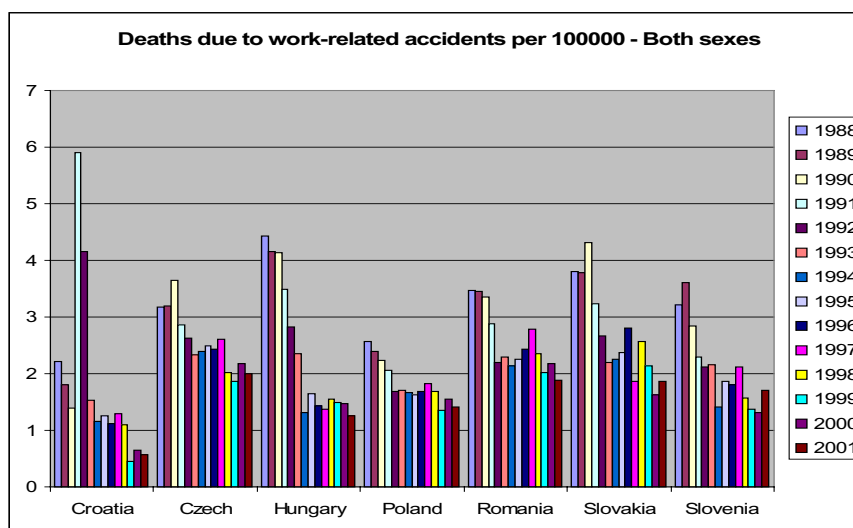


Figure 9. Deaths due to work-related accidents.

Sources: WHO, European Health for all database.

The results showing different pictures for the amount of the people injured due to work related accidents. In 2001 teh Slovenia had the highest figures for persons injured due to work related accidents with 2023 cases per 100000 and Czeck 912, Slovakia 388, Croatia 416, Hungary 259 and Romania had the lowest with only 30 injured cases per 100000 innhabitants. We could not find a real clarification for why data from Slovenia showing the highest among these countries. The available data from Romnia represented 1,48% of the data from Slovenia. (see figure 10).

The study could not found any clarification for these hug edifferents between countries, rather than it might be due to the different work accident registration systems available in differnt CEE countries.

Looking for the trends for each cuntry, we can see that all these countries have experienced the reduction of percent of accidentrs at the first period of reform and tehly have atendance to increase in the last years specially in Croatia and Slovenia.

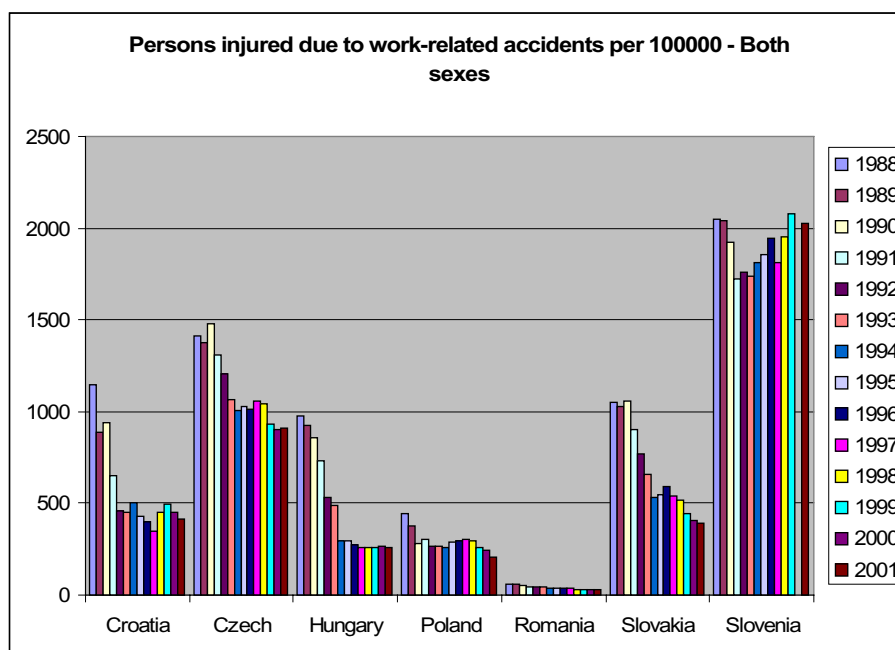


Figure 10. Persons injured due to work related accidents.

Sources: WHO, European Health for all database.

9 Discussion

A brief summary of findings is presented above from available data attempting to highlight the safety situation with regard to the main cause of injuries and the overview of injury incidents among the population since the start of health care reforms. It has shown that mortality rates were changed in the last years, but these changes have not been analysed properly and not been compared with the total changes in the rest of the globe, with regard to the developments in technologies, roads, peoples awarness, ...etc.

The results from these countries showed a wide variation between them and with regard to the cause of mortality and injury. The road traffic accidents were much higher than the rest of Europe. Alcohol consumption can remarkably contribute to increase the amount of mortality and injury due to traffic accidents. The withdrawal of the state from alcohol production and distribution and from its role in regulating consumption through administrative measures, pricing policies and advertising policies have led to the wider availability of alcoholic beverages. There is also evidence that poor regulation has resulted in the production of more toxic alcohol. Finally, in relative terms, there has been tendency for slower growth in alcohol prices as compared with the prices of basic food products. (40)

Slovenia's suicide rate has been among the highest in the world for over two decades: about 28 per 100 000 inhabitants per year. National data have shown for years that suicide is the most common in the marginalized parts of society. This takes into account the specific suicide rates for individual population categories: workers with only primary education, (semi-) skilled workers, unemployed people and alcoholics. (16) There is a sharp gender differential in suicide rates, with males far more likely to take their own lives. (40)

With the data that was available, the study concluded that there is no clear failure or success of the reforms in the CEE countries but there are also no improvements in the safety situation of the population in these countries. The direct effect of the changes on the health care gains or losses is hard to be measured, because the health and safety status

of the population is correlated with the socio-economic indicators and the general picture of the country.

Therefore, it would make more difficult to separate these socio-economic effects from the changes in health care effects and it would be useful to draw on the existing work on quality measures at a micro-level to inform the development of a macro-indicator of success or failure.

Most of the CEE countries proclaimed more concrete objectives, building on the reform process and those changes already achieved. Increasing the efficiency in Macro and Micro level; changing the basic legislation to improve the management of health care institutes and emphasising more on quality improvement of health care providing; insuring more equitable basis for providing health care services. The process of privatisation had been introduced and its effects needed to be assessed, with regard to the positive and negative impacts on the provision of health care and other services.

As the discussions on health status of population and outcomes of thirteen years health care reforms in CEE countries suggests, the existing financing and delivery system do not maximize health gain. The policy-makers should believe that it is necessary to shift the allocation of funds from curative to preventive care and from specialized health care to primary health care and focus more on safety promotion.

There is a need for special institutes for financing health care services in the CEE countries. The remuneration systems in these countries should be re-assessed with regard to the direct effects on the population and the amount of services provided and the quality of these services.

There has been a rapid change in the health care systems in the CEE countries in the last fourteen years and this rapid change has also brought up different methods of insurance and created different settings of health insurance companies to assure the equity of providing health care services, as including the poor, unemployed, soldiers, other categories with special funds or putting the ceiling of payments that the patient be able to contribute to his own health care costs and bills. Some countries such as Slovakia has achieved a relatively smooth transition from the old socialist health care system of central planning to a pluralistic, health insurance based health system.

The readjustment of Physician numbers and decrease in hospital bed numbers can make a significant efficient use of resources devoted to health care. The CEE countries have a large number of hospital beds, and the number of physicians and other health care personal should be re-adjusted with the current economic and health situation of population and to meet the requirement for elements of achieving better outcomes from ongoing reforms.

It seems that there is a great difficulty in finding literature on the issue in English language, and very few literatures available in the original languages. The literature on safety in these countries are mostly related to chemical and nuclear safety, that makes the role of the researcher harder to get the right literature with searching by using the safety terms.

Few literature available on safety and injuries in these countries, and those literature are mostly related to Occupational safety. The governments role in achieving the safety in industry very important and the responsibility to protect the public health and the health and safety of workers are under estimated. Factory inspections by the government should be conducted at the expense of employers at least once every two years. Polish regulatory and control agencies have very limited funding and staff to conduct workplace surveillance.

(20)
The description and assessment of the major factors affecting the health care reforms, should be an area for wider studies and do the research of the factors which may have contributed to the relative success or failure of health care reforms might need more time and personal than to be presented in a one person afford.

10 Conclusion

Reform programmes in Central and Eastern European countries need to place more emphasis on establishing appropriate assessment and training policies for the numbers of staff and mix of skills required in reformed systems. The new management system should be based on the collaborative work with other institutions and based on multidisciplinary decision making.

Legislation should provide an effective framework of standards and direction. And the regulatory authority charged with administering that legislation needs to do so in a professional, constructive and consistent manner. Enforcement of new legislations should not be an end in itself; it must be matched by a continuing decline in preventable harm to the population.

Decentralization of the health systems and developing the responsibility of the regional health centres and physicians and patients themselves, health promotion can become an effective tool in improving safety and health.

Although many of the reforms deal with cost accounting, medical insurance, and health care management, it has been recognized that even the most complete restructuring of the health care system cannot, in itself, improve the health care status of the population. For this reason reforms must focus on changing the community's attitude toward health services and increase the population's level of health and safety awareness.

The CEE countries, has made enormous efforts in the last years to develop new health systems and increasing well-being of their inhabitants. These efforts have been facing many difficulties with regard to political instability and resources limitation.

Apart from the humanitarian aspect of reducing mortalities due to road accidents, suicide, work place injuries in CEE countries, a strong case can be made for reducing road accident deaths on economic grounds alone, as they consume massive financial resources that the countries can afford to lose. It must of course be borne in mind that in CEE countries, road safety is but one of the many problems demanding its share of funding and other resources.

There is a need to define a common policy for injury prevention, mobilizing the resources available and searching for the new possible resources. Some reform failures have partly resulted from the lack of trained staff with appropriate skills. The areas requiring particular attention include public health, general and family practice, nursing and management training.⁽³⁴⁾ Monitoring of the efficiency and quality of health care services also requires specific training and education.

There is a great need to break down the boundary between sectors and specialities, and to have a new system for collaborative work between sectors. The encouragement of having multi-sectoral actions for containing the problems and risks available in their respective communities and countries.

The Safety Promotion should be considered as one of the main goals of future health reforms and resources re-allocation in these countries. The policy- and decision makers in these countries should come to a shared understanding of the importance of safety promotion, and the main risks and hazards facing the people in their communities and countries.

The area of safety promotion in CEE countries is a wide and needs more research and analysis, either as a country case study or for the whole region as a whole. Most of these countries have joined EU or they are in the process of joining the EU, the further development of injury or actions toward the safety promotion in these countries needed to be focused on.

11 Suggestions

Several steps may be taken to improve the safety in CEE countries not only by regulations and legislation but also through re-allocation of the resources in the society in these countries. Some of these concerns health sector directly. Others concern the supportive institutions and organisations.

- Developing national strategies for injury prevention and safety promotion to address this serious challenge and to assure that at least 25 percent of communities in each country have injury prevention programs in place within next 6 years.
- Adequate facilities and financial resources from related ministries should be included in future planning for any health care reforms.
- WHO have resources and tools to support the safety promotion initiatives in these countries. These resources and tools should be utilised based on regional collaborative actions or on bilateral projects.
- Creating some systems for injury registration in all levels. Each country has some sources of data collection in local communities by using these data to identify and describing a country's injury problem and then become a tool of decision making as well as strategies to prevent injuries, and promoting safety.
- Including safety in school curriculum. School-based safety education programmes have long been as a cornerstone for safety promotion, and school children are considered a primary target audience for safety promotion.
- Recognizing the contribution of family nurses will help develop the safety promotion, especially in rural areas.
- Capacity building through training and education possibilities.
- Conduct advocacy activities to promote safety and support any project designed to increase safety and reduce injuries in the society.
- Conduct of safety promotion campaigns (seat belt, helmet use, violence prevention, tolerance,...)

12 References

1. Albrecht V. Reforms of the health care systems in countries in transition, WHO unpublished paper. WHO liaison Officer in Czech. 1994.
2. Barr DA, Field MG. The Current State of Health Care in the former Soviet Union: Implications for Health Care Policy. *American Journal of Public Health* 1996;3:307-312.
3. Berman P. Health sector reform: making health development sustainable. *Health Policy* 1995;32:3-3.
4. Borissov V, Rathwell T. Health care Reforms in Bulgaria: An Initial Appraisal. *Soc. Sci. Med* 1996;11:1501-10.
5. Carr-Hill R. A. Efficiency and Equity Implications of the Health Care Reforms. *Soc. Sci. Med* 1994;9:1189-201.
6. Cassels A. Health sector reform: key issues in the less developed countries. Geneva: WHO (WHO/SHS/NHP/95.4). 1995.
7. Chalmers B. Childbirth in eastern Europe. *Midwifery* 1997;13:2-8.
8. Coulter A. Shifting in balance from secondary to primary care. *BMJ* 1995;311:1447-48.
9. Creese A. Global trends in health care reform. *World Health Forum*, 1994, Vol. 15:317-22.
10. Danzon M, Litvinov SK. Eurohealth Programme. *World Health Statistic Quarterly* 1993;46:153-57.
11. den Exter A P, Hermans H.E.G.M, Hulst HE. Health Care Legislation in Central and Eastren Europe: A problem-oriented methods of legal analysis of health care systems in central and eastern Europe. 23 *Review of Central and East European Law* 1997;2:117-32.
12. Gold M, Burnbauer L, Chu K. How Adequate Are State Data to Support Health Reform or Monitor Health System Change? *Inquiry* 1995;32:468-75.
13. Hunter D. The privatisation of health care. *European Health Reform* 1996;3:1.
14. Institute of Health Information and Statistics of the Czech Republic. Prague: Czech Health Statistics Yearbook.
15. Institute of Health Informatics and Statistics. Health Statistics Yearbook of the Slovak Republic.
16. Jakubowski E, Albrecht T,Toth M. Health Care Systems in Transition: Slovenia. The European Observatory on Health Care Systems, 2002.
17. Jantschulev J. Organisation of Healthcare Providers in a Health Insurance System. *Health Care Reforms in Europe. (EUR/HFA target 27)*. Copenhagen: WHO. 1995. pp.105-8.
18. Kaasik T, Andersson R, Hörte LG. The effects of political and economic transitions on health and safety in Estonia: An Estonian-Swedish comparative study. *Soc. Sci. Med.* 1998. Vol. 47, No.10;1589-99.
19. Koradecka D. Occupational Safety and Health in Small and Medium-Sized Enterprises During Social and Economic Transformation. *International Journal of Occupational safety and Ergonomics.* 2001, Vol. 7, No.1, 3-14
20. LaDou J. International occupational health. *Int. J. Hyg. Environ. Health* 2006;1:11. 2003.
21. Laflamme L, Sanström L, Schelp L. Safety Promotion Research. Karolinska Institutet, Stockholm. 1999.
22. Mackee M, Zwi A, Koupilova I, Seth D, Leon D. Health policy-making in central and eastern Europe: lessons from inaction on injuries? *Health Policy and Planning*; 15(3),2000:263-69.
23. Mant J. Health status Measurement and the assessment of Medical care. *International Journal for Quality in Health Care* 1996;2:107-9.
24. Marree J, Groenewegen. Back to Bismarck: Eastern European Health Care Systems in Transition. Aldershot: Athenaem Press, Ltd. 1997.
25. Massaro TA, Nemeč J, Lalman I. Health System Reform in the Czech Republic. *JAMA* 1994;23:1870-74.

26. Maurice P, Lavoie M, Laflamme L, Svanström L, Romer C, Anderson R. Safety and Safety Promotion: definition for operational developments. *Injury Control and Safety Promotion*. 2001. V. 8, No. 4:237-40.
27. Nada A, Nossikov A, Prokhorskas R, Abou Shabanah M.H. Health in the central and eastern countries of the WHO European Region: an overview. *World Health Statistic Quarterly* 1993:158-65.
28. Nemeč J. Health Insurance in the Czech Republic. *Health Care Reforms in Europe . EUR/HFA target 27*. Copenhagen: WHO. 1995:110-15.
29. OECD. *THE REFORM OF HEALTH CARE SYSTEMS: A Review of Seventeen OECD Countries*. Health Policy Studies No. 5. Paris. 1994.
30. Oreskovic S. Eastern Imitation of Western Convergence. *1 Eurohealth* 1995;3:9-10.
31. Peden M , Scurfield R, Sleet D, Mohan D, Hyder A, Jarawan E and Mathers C. *World report on road traffic injury prevention*. World Health Organisation, Geneva 2004.
32. Ruta DA, Duffy MC, Farquharson A, Young AM, Gilmour FB, McElduff SP. Determining priorities for change in primary care: the value of practice-based needs assessment. *British Journal of General Practice* 1997:353-7.
33. Saltman RB, Figueras J, Sakellarides C. *Critical Challenges for Health Care Reform in Europe*. Buckingham: Open University Press. 1998.
34. Saltman RB, Figueras J. *European Health Care Reform*. European Series; No.72. Copenhagen: WHO regional publications. 1997.
35. Sheahan MD. Prevention in Poland: Health Care Reform. *Public Health Reports* 1995;3:289-94.
36. Siler-Wells G. An Implementation Model for Health System Reform. *Soc. Sci. Med* 1987;10:821-32.
37. Svab I. Primary Health care Reform in Slovenia: First Results. *Soc.Sci. Med* 1995;1:141-44.
38. Theodore H, Tulchinsky & Elena A. Varavikova. Addressing the Epidemiologic Transition in the Former Soviet Union: Strategies for Health System and Public Health Reform in Russia. *American Journal of Public Health* 1996;3:313-20.
39. Tragakes E, Vienonen MA. Key issues in rationing and priority setting for health care services. Copenhagen: WHO Regional Office for Europe. Unpublished paper. 1998.
40. UNICEF. *Children at risk in Central and Eastern Europe: Perils and Promises*. Economies in Transitions Studies, No. 4. Florence, Italy. 1997
41. United Nations Development Program 1994. *Human development report 1994*. New York: Oxford University Press, 1994.
42. Vienonen. MA. Balancing fairness and financial benefits in health care reform. *World Health* 1997;5:8-9.
43. Vienonen MA, Włodarczyk WC. Health care reforms on the European scene: evolution, revolution or seasaw? *World Health Statistics Quarterly* 1993;46:166-9.
44. Vågero D. Equity and Efficiency in Health Reform. A European View. *Soc. Sci. Med* 1994;9:1203-10.
45. Włodarczyk WC, Mierzewski P. Health Services reform in Poland: issues in recent developments. *Health Policy* 1991;18:11-24.
46. World bank. *Investing in Health*. World Development Report 1993. New York: Oxford University Press. 1993.
47. World Health Organisation. *Health care systems in transition. Czech Republic*. Copenhagen: WHO Regional Office for Europe. 1996.
48. World Health Organisation. *Health care systems in transition. Slovakia*. Copenhagen: WHO Regional Office for Europe. 1996.
49. World Health Organization. *WHO Advisory Support to Health care Reform in the Czech Republic*. Copenhagen: WHO Regional Office for Europe. 1994.
50. Wynand.PMM, Van De Ven. Market – Oriented Health care Reforms: Trends and Future Options. *Soc. Sci. Med* 1996;5:655-66.

Appendices

Table 1. SDR, external cause injury and poison, all ages per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Croatia	86.83	85.14	90.35	149.20	129.94	93.23	76.09	77.84	72.28	67.42	69.94	63.89	65.54	56.18	...
Czech Republic	78.64	79.03	84.82	82.23	80.87	78.43	78.08	76.85	70.08	70.60	62.50	61.45	62.35	60.86	60.48
Hungary	110.63	115.41	121.05	117.15	118.24	110.87	106.31	100.88	94.99	90.19	90.44	89.78	82.22	80.66	81.61
Poland	71.23	77.12	82.47	86.76	82.25	76.40	78.34	76.95	72.40	...	...	70.36	65.71	63.39	...
Romania	74.41	77.33	79.36	75.46	76.74	76.30	78.19	80.78	80.35	78.05	72.64	64.55	64.01	63.04	65.38
Slovakia	69.72	79.16	80.39	80.90	78.73	74.84	71.99	70.73	68.17	70.26	63.01	57.96	57.65	56.17	...
Slovenia	99.11	94.00	87.53	91.95	89.98	92.29	94.95	82.41	86.68	83.22	77.50	77.06	70.26	70.76	...

Table 2. SDR, motor vehicle traffic accidents, all ages per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Croatia	18,85	18,59	20,14	18,19	16,21	11,22	11,45	14,27	12,80	13,50	13,78	14,09	15,21	13,51	...
Czech Republic	9,99	10,61	12,26	12,50	13,95	13,63	7,67	7,55	7,58	7,70	6,96	12,70	12,50	11,72	11,92
Hungary	16,61	21,11	24,37	21,83	21,74	16,78	15,88	16,16	13,55	13,67	13,60	13,03	12,02	12,39	14,36
Poland	14,94	20,40	22,43	23,24	19,69	17,79	18,78	18,51	17,18	...	...	16,59	15,67	13,58	...
Romania	...	9,84	19,53	16,81	15,37	13,94	...	...	12,57	12,56	12,22	11,52	12,81	13,31	12,37
Slovakia	11,74	12,33	16,38	16,83	17,74	14,84	13,73	14,96	13,51	16,50	17,24	13,49	12,96	12,29	...
Slovenia	23,19	23,10	21,71	21,10	21,73	22,50	24,04	18,80	17,38	17,10	14,91	14,99	14,17	13,75	...

Table 3. SDR, other external causes, all ages per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Croatia	42.87	43.03	44.28	105.17	85.55	55.37	39.38	41.75	34.67	31.09	30.54	25.77	26.91	22.95	...
Czech Republic	49.05	49.15	51.62	49.73	46.21	44.55	50.86	51.46	46.53	46.10	39.33	32.86	33.59	33.37	33.59
Hungary	51.37	51.46	55.48	54.64	55.76	56.13	53.84	50.85	47.38	44.52	44.39	44.08	38.54	39.38	39.44
Poland	41.48	42.60	43.19	45.83	43.90	40.50	41.67	40.91	38.12	...	...	36.70	33.15	33.36	...
Romania	...	51.96	44.95	44.19	44.23	45.34	...	...	51.24	48.85	44.50	37.41	35.19	34.39	35.72
Slovakia	39.78	47.49	45.31	45.86	42.78	43.02	42.40	39.31	39.77	39.07	31.16	29.11	29.08	29.23	...
Slovenia	42.02	34.03	35.92	36.24	37.13	38.42	38.58	34.13	38.00	35.71	32.62	32.81	27.89	29.74	...

Table 4 SDR, suicide and selfinflicted injury, all ages per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Croatia	23.08	21, 25	23, 18	22, 13	23, 15	21, 93	21, 97	18, 56	21, 85	20, 09	22, 37	21, 25	20, 81	17, 80	...
Czech Republic	18, 78	18, 27	19, 07	18, 23	18, 79	18, 09	17, 28	16, 06	14, 33	15, 24	14, 63	14, 45	14, 76	14, 52	13, 71
Hungary	39, 91	39, 96	38, 13	36, 73	36, 83	33, 96	33, 19	30, 47	30, 96	28, 81	29, 31	29, 91	29, 17	26, 58	25, 43
Poland	12, 96	11, 97	13, 77	14, 68	15, 61	15, 32	14, 83	14, 64	14, 41	...	...	14, 74	14, 82	14, 74	...
Romania	...	11, 48	9, 37	9, 76	12, 00	12, 62	13, 03	12, 59	12, 70	12, 83	12, 60	12, 04	12, 44	11, 89	13, 65
Slovakia	16, 55	17, 73	16, 56	15, 29	15, 78	14, 59	13, 59	14, 31	12, 84	12, 10	12, 48	12, 94	13, 44	12, 59	...
Slovenia	32, 34	34, 54	27, 87	32, 12	28, 76	30, 06	30, 16	27, 21	29, 15	28, 17	28, 99	27, 84	27, 17	26, 53	...

Table 5 SDR, homicide and intentional injury, all ages per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Croatia	2, 04	2, 27	2, 76	3, 72	5, 04	4, 70	3, 29	3, 25	2, 96	2, 74	3, 26	2, 79	2, 62	1, 91	...
Czech Republic	0, 82	1, 00	1, 87	1, 77	1, 93	2, 15	2, 26	1, 78	1, 63	1, 56	1, 59	1, 44	1, 51	1, 25	1, 26
Hungary	2, 73	2, 88	3, 07	3, 95	3, 91	4, 00	3, 40	3, 39	3, 10	3, 19	3, 15	2, 76	2, 49	2, 31	2, 38
Poland	1, 85	2, 15	3, 07	3, 01	3, 05	2, 80	3, 06	2, 89	2, 68	...	...	2, 32	2, 07	1, 71	...
Romania	...	4, 04	5, 51	4, 71	5, 15	4, 40	4, 54	4, 26	3, 84	3, 82	3, 33	3, 57	3, 58	3, 45	3, 63
Slovakia	1, 65	1, 60	2, 14	2, 92	2, 44	2, 39	2, 26	2, 14	2, 05	2, 59	2, 13	2, 42	2, 17	2, 07	...
Slovenia	1, 56	2, 34	2, 02	2, 49	2, 35	1, 32	2, 16	2, 27	2, 15	2, 24	0, 98	1, 43	1, 03	0, 75	...

Table 6 Hospital discharges, injury and poisoning per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	886, 26	908, 58	887, 67	899, 85	1, 133, 08	963, 90	903, 87	873, 24	997, 58	864, 11	1, 057, 37	1, 046, 98	1, 073, 37	946, 28
Czech Republic	...	...	...	...	1, 411, 40	1, 447, 50	1, 565, 51	1, 712, 19	1, 834, 72	1, 742, 36	1, 801, 35	1, 741, 28	1, 755, 54	1, 707, 75
Hungary	...	...	...	...	1, 468, 76	1, 528, 40	1, 545, 43	1, 475, 87	1, 668, 42	1, 575, 79	1, 477, 08	1, 515, 34	1, 487, 11	...
Poland	1, 043, 97	1, 071, 21	1, 087, 44	1, 097, 60	1, 026, 72	1, 058, 97	1, 062, 31	1, 097, 55	1, 112, 20	...	...	...	...	...
Romania	1, 318, 67	1, 330, 36	1, 262, 57	1, 207, 67	1, 202, 33	1, 239, 27	1, 205, 42	1, 225, 70	1, 246, 92	1, 258, 42	1, 219, 54	1, 189, 39	1, 284, 33	1, 345, 12
Slovakia	...	...	...	1, 225, 50	1, 269, 66	1, 315, 88	1, 253, 84	1, 282, 46	1, 382, 23	1, 449, 89	1, 486, 94	1, 351, 60	1, 315, 28	1, 321, 78
Slovenia	1, 449, 31	1, 489, 78	1, 459, 37	1, 550, 50	1, 516, 62	1, 550, 97	1, 473, 30	1, 483, 55	1, 419, 37	1, 440, 10	1, 437, 79	1, 640, 55	1, 609, 98	1, 591, 94

Table 7 Hospital discharges, injury and poisoning - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	42,158.00	43,313.00	42,413.00	43,068.00	54,186.00	46,061.00	43,178.00	41,706.00	44,827.00	39,511.00	47,594.00	47,677.00	47,028.00	41,991.00
Czech Republic	...	...	...	...	145,625.00	149,537.00	161,814.00	176,883.00	189,259.00	179,526.00	185,449.00	179,052.00	180,338.00	174,604.00
Hungary	...	...	...	...	152,301.00	158,304.00	159,849.00	152,442.00	172,035.00	162,156.00	151,645.00	155,133.00	151,848.00	...
Poland	395,270.00	406,660.00	414,520.00	419,770.00	393,900.00	407,270.00	409,450.00	423,520.00	429,510.00	...	...	...	...	...
Romania	304,000.00	308,000.00	293,000.00	280,000.00	274,000.00	282,000.00	274,000.00	278,000.00	281,898.00	283,723.00	274,430.00	267,114.00	288,143.00	301,420.00
Slovakia	...	...	...	64,748.00	67,375.00	70,066.00	67,048.00	68,787.00	74,278.00	78,051.00	80,159.00	72,923.00	71,034.00	71,098.00
Slovenia	28,934.00	29,742.00	29,186.00	30,993.00	30,243.00	30,855.00	29,311.00	29,419.00	28,262.00	28,514.00	28,384.00	32,422.00	31,833.00	31,712.00

Table 8 Road traffic accidents involving alcohol per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	46.80	45.63	42.74	35.52	36.45	33.98	33.24	38.48	39.63	56.32	59.94	63.31	75.68	72.88
Czech Republic	20.63	20.39	43.77	33.24	41.07	38.82	43.18	42.40	40.75	41.40	37.71	36.12	34.71	34.79
Hungary	28.33	35.21	41.04	38.64	38.04	24.92	25.76	23.60	21.64	31.07	23.17	21.73	20.19	20.99
Poland	20.48	24.55	29.72	30.67	27.65	26.32	28.38	28.66	26.28	32.15	28.33	24.11	24.24	...
Romania	1.71	1.70	1.66	1.83	2.31	3.28	3.61	4.03	3.88	3.52	2.13	2.57	2.42	...
Slovakia	42.85	44.65	58.97	55.36	30.21	27.48	25.58	23.83	23.00	24.24	24.89	21.69	21.31	22.35
Slovenia	36.47	36.06	28.45	34.37	37.96	39.96	66.45	67.12	79.15	89.09	63.77	65.58	77.43	77.26

Table 9 Number of road traffic accidents involving alcohol - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	2,226.00	2,175.00	2,042.00	1,700.00	1,743.00	1,624.00	1,588.00	1,838.00	1,781.00	2,575.00	2,698.00	2,883.00	3,316.00	3,234.00
Czech Republic	2,136.00	2,113.00	4,536.00	3,427.00	4,238.00	4,010.00	4,463.00	4,380.00	4,204.00	4,266.00	3,882.00	3,714.00	3,566.00	3,557.00
Hungary	3,002.00	3,724.00	4,258.00	4,008.00	3,945.00	2,581.00	2,664.00	2,438.00	2,231.00	3,197.00	2,379.00	2,225.00	2,062.00	2,138.00
Poland	7,754.00	9,320.00	11,329.00	11,730.00	10,606.00	10,123.00	10,940.00	11,058.00	10,147.00	12,426.00	10,953.00	9,319.00	9,367.00	...
Romania	394.00	394.00	386.00	424.00	527.00	747.00	821.00	913.00	877.00	794.00	479.00	577.00	542.00	...
Slovakia	2,250.00	2,356.00	3,124.00	2,925.00	1,603.00	1,463.00	1,368.00	1,278.00	1,236.00	1,305.00	1,342.00	1,170.00	1,151.00	1,202.00
Slovenia	728.00	720.00	569.00	687.00	757.00	795.00	1,322.00	1,331.00	1,576.00	1,764.00	1,259.00	1,296.00	1,531.00	1,539.00

Table 10 Road traffic accidents with injury per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	295.32	291.33	302.87	241.51	266.78	241.26	268.91	265.24	261.26	254.83	285.39	284.56	329.35	352.81
Czech Republic	181.20	188.04	211.43	208.17	241.68	243.42	266.93	278.26	284.43	275.40	264.27	261.78	247.70	254.56
Hungary	201.15	230.36	267.99	237.04	237.46	188.53	200.34	191.86	178.38	185.58	196.24	184.84	171.32	181.64
Poland	99.14	122.06	132.56	141.30	132.91	127.15	139.19	147.47	149.96	172.28	159.97	142.56	148.35	139.23
Romania	22.79	...	41.83	38.59	35.90	39.43	41.27	40.21	39.50	39.04	37.58	34.94	33.67	...
Slovakia	123.57	131.04	155.46	142.54	165.89	159.49	158.23	162.44	164.20	176.27	180.01	158.99	145.98	152.09
Slovenia	304.85	291.78	258.86	274.10	294.97	316.18	331.04	329.85	318.81	352.17	297.65	350.61	428.33	461.79

Table 11 Number of road traffic accidents with injury - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	14,048.00	13,888.00	14,471.00	11,559.00	12,758.00	11,529.00	12,846.00	12,668.00	11,740.00	11,652.00	12,846.00	12,958.00	14,430.00	15,656.00
Czech Republic	18,766.00	19,485.00	21,910.00	21,460.00	24,936.00	25,147.00	27,590.00	28,746.00	29,340.00	28,376.00	27,207.00	26,918.00	25,445.00	26,027.00
Hungary	21,315.00	24,367.00	27,801.00	24,589.00	24,623.00	19,527.00	20,722.00	19,817.00	18,393.00	19,097.00	20,147.00	18,923.00	17,493.00	18,505.00
Poland	37,538.00	46,338.00	50,532.00	54,038.00	50,989.00	48,901.00	53,647.00	56,904.00	57,911.00	66,586.00	61,855.00	55,106.00	57,331.00	53,799.00
Romania	5,254.00	...	9,708.00	8,948.00	8,181.00	8,972.00	9,381.00	9,119.00	8,931.00	8,801.00	8,457.00	7,846.00	7,555.00	...
Slovakia	6,489.00	6,914.00	8,236.00	7,531.00	8,803.00	8,492.00	8,461.00	8,713.00	8,824.00	9,489.00	9,704.00	8,578.00	7,884.00	8,181.00
Slovenia	6,086.00	5,825.00	5,177.00	5,479.00	5,882.00	6,290.00	6,586.00	6,541.00	6,348.00	6,973.00	5,876.00	6,929.00	8,469.00	9,199.00

Table 12 Persons injured in road traffic accidents per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	426.06	425.52	442.67	352.37	386.68	344.26	386.91	386.62	376.16	370.65	416.87	412.08	482.86	512.46
Czech Republic	226.96	235.81	280.46	279.70	324.99	327.19	360.91	373.20	381.09	370.79	355.39	351.70	330.25	342.42
Hungary	278.22	323.45	380.07	335.43	334.43	261.72	275.76	266.00	245.45	254.10	270.42	253.73	234.04	249.21
Poland	128.04	159.01	175.62	191.25	177.23	169.41	185.03	199.87	201.40	234.10	218.90	194.49	201.66	190.80
Romania	27.61	...	88.79	46.87	42.90	48.90	48.72	46.56	45.78	45.75	44.43	40.55	39.29	...
Slovakia	168.50	181.30	207.56	...	229.47	225.41	217.43	228.07	228.22	248.20	254.52	224.51	198.53	212.92
Slovenia	421.16	399.52	352.62	370.25	396.37	414.95	423.53	423.19	411.22	456.16	389.18	471.29	601.19	650.14

Table 13 Number of persons injured in road traffic accidents - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	20,267.00	20,285.00	21,151.00	16,865.00	18,492.00	16,451.00	18,483.00	18,465.00	16,903.00	16,948.00	18,764.00	18,765.00	21,156.00	22,740.00
Czech Republic	23,505.00	24,435.00	29,063.00	28,833.00	33,532.00	33,801.00	37,304.00	38,555.00	39,311.00	38,205.00	36,587.00	36,165.00	33,925.00	35,010.00
Hungary	29,482.00	34,214.00	39,428.00	34,796.00	34,678.00	27,108.00	28,523.00	27,475.00	25,309.00	26,148.00	27,763.00	25,976.00	23,898.00	25,388.00
Poland	48,477.00	60,363.00	66,944.00	73,143.00	67,993.00	65,153.00	71,317.00	77,126.00	77,778.00	90,479.00	84,640.00	75,179.00	77,932.00	73,728.00
Romania	6,364.00	...	20,605.00	10,867.00	9,776.00	11,128.00	11,075.00	10,561.00	10,349.00	10,314.00	9,999.00	9,106.00	8,814.00	...
Slovakia	8,848.00	9,566.00	10,996.00	...	12,177.00	12,002.00	11,627.00	12,233.00	12,264.00	13,361.00	13,721.00	12,113.00	10,722.00	11,453.00
Slovenia	8,408.00	7,976.00	7,052.00	7,401.00	7,904.00	8,255.00	8,426.00	8,392.00	8,188.00	9,032.00	7,683.00	9,314.00	11,887.00	12,951.00

Table 14 Persons injured due to work-related accidents per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	1,147.40	890.48	939.72	649.17	461.50	453.27	501.25	427.39	402.91	345.20	449.33	498.03	452.42	416.21
Czech Republic	1,415.78	1,374.47	1,478.36	1,308.92	1,208.15	1,063.90	1,005.68	1,028.72	1,010.96	1,055.03	1,041.04	933.32	904.41	912.35
Hungary	976.96	921.78	854.87	735.78	532.60	488.09	297.46	295.78	273.92	260.68	262.43	260.78	266.52	258.83
Poland	440.28	378.00	282.89	301.37	265.91	265.18	262.22	286.42	297.88	305.43	296.12	255.54	245.58	209.57
Romania	59.43	56.15	55.20	48.03	43.04	41.53	37.16	34.47	37.52	36.71	31.30	29.34	29.51	30.10
Slovakia	1,051.20	1,027.25	1,054.54	900.95	766.47	654.97	530.84	546.02	595.37	537.41	521.34	445.26	409.50	388.35
Slovenia	2,052.19	2,042.28	1,921.55	1,724.90	1,764.90	1,736.25	1,815.80	1,852.99	1,947.70	1,808.79	1,955.49	2,077.78	...	2,023.26

Table 15 Number of persons injured due to work-related accidents - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	54,580.00	42,450.00	44,900.00	31,070.00	22,070.00	21,660.00	23,945.00	20,412.00	18,105.00	15,784.00	20,225.00	22,679.00	19,822.00	18,469.00
Czech Republic	146,623.00	142,426.00	153,199.00	134,932.00	124,655.00	109,908.00	103,949.00	106,275.00	104,285.00	108,706.00	107,175.00	95,971.00	92,906.00	93,280.00
Hungary	103,524.00	97,505.00	88,684.00	76,325.00	55,227.00	50,554.00	30,767.00	30,551.00	28,245.00	26,825.00	26,943.00	26,697.00	27,214.00	26,369.00
Poland	166,700.00	143,500.00	107,836.00	115,259.00	102,014.00	101,987.00	101,070.00	110,522.00	115,037.00	118,049.00	114,500.00	98,774.00	94,909.00	80,979.00
Romania	13,700.00	13,000.00	12,811.00	11,136.00	9,808.00	9,450.00	8,447.00	7,819.00	8,483.00	8,277.00	7,043.00	6,590.00	6,621.00	6,746.00
Slovakia	55,200.00	54,200.00	55,868.00	47,601.00	40,673.00	34,875.00	28,386.00	29,287.00	31,994.00	28,930.00	28,105.00	24,023.00	22,116.00	20,889.00
Slovenia	40,970.00	40,772.00	38,429.00	34,479.00	35,177.00	34,541.00	36,125.00	36,745.00	38,782.00	35,814.00	38,604.00	41,063.00	...	40,304.00

Table 16 Deaths due to work-related accidents per 100000 - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	2.21	1.80	1.40	5.91	4.16	1.53	1.15	1.26	1.11	1.29	1.09	0.46	0.64	0.56
Czech Republic	3.18	3.19	3.65	2.87	2.62	2.34	2.40	2.49	2.43	2.61	2.02	1.86	2.17	2.00
Hungary	4.43	4.16	4.13	3.49	2.82	2.35	1.31	1.64	1.43	1.38	1.54	1.50	1.48	1.26
Poland	2.57	2.40	2.23	2.06	1.69	1.71	1.67	1.62	1.68	1.82	1.68	1.35	1.54	1.42
Romania	3.47	3.46	3.35	2.88	2.19	2.29	2.13	2.26	2.44	2.79	2.36	2.02	2.18	1.88
Slovakia	3.81	3.79	4.32	3.24	2.66	2.20	2.26	2.37	2.81	1.86	2.56	2.13	1.63	1.86
Slovenia	3.21	3.61	2.85	2.30	2.11	2.16	1.41	1.87	1.81	2.12	1.57	1.37	1.31	1.71

Table 17 Number of deaths due to work-related accidents - Both Sexes

Countries	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Croatia	105.00	86.00	67.00	283.00	199.00	73.00	55.00	60.00	50.00	59.00	49.00	21.00	28.00	25.00
Czech Republic	329.00	331.00	378.00	296.00	270.00	242.00	248.00	257.00	251.00	269.00	208.00	191.00	223.00	204.00
Hungary	469.00	440.00	428.00	362.00	292.00	243.00	135.00	169.00	147.00	142.00	158.00	154.00	151.00	128.00
Poland	972.00	913.00	850.00	786.00	647.00	659.00	645.00	624.00	647.00	702.00	651.00	523.00	594.00	548.00
Romania	800.00	800.00	778.00	668.00	499.00	522.00	485.00	513.00	552.00	628.00	531.00	454.00	488.00	422.00
Slovakia	200.00	200.00	229.00	171.00	141.00	117.00	121.00	127.00	151.00	100.00	138.00	115.00	88.00	100.00
Slovenia	64.00	72.00	57.00	46.00	42.00	43.00	28.00	37.00	36.00	42.00	31.00	27.00	26.00	34.00