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EDITORIAL

Childhood Injury: Call for Action

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We aim to raise awareness of the burden of avoidable death and disability attributable to childhood injury in Europe in general and Croatia in particular. As formerly common causes of childhood death have declined, injuries have become the most important single cause of death in childhood in European countries. Yet, there are large differences between countries, and especially between the eastern and western parts of Europe. The existence of these differences, reflecting rapid declines in some countries, indicate the scope for prevention. But injuries are low on the policy agenda for various reasons, including their lack of visibility. We advocated the development of integrated intersectoral policies underpinned by an effective public health structure.

Key words: *accident prevention; accidents, traffic; child welfare; Croatia; Europe; wounds and injuries*

The dawn of a new century provides an opportunity to reflect on how far humanity has progressed in the last hundred years. In the years since the beginning of the 20th century the world has changed enormously, not least in terms of health.

The scale of this change will be apparent from a walk around an old graveyard. Tombstones from the 19th century are testament to the enormous death rate among infants and children. In all parts of Europe, parents might reasonably expect that one or more of their children would die before reaching adulthood. Now, in industrialized countries, the loss of a child is exceptional. In Croatia, only one out of every five thousand one-year-old children will die before he or she reaches the age of 14 (1). However, each of almost 500 childhood deaths each year is a tragedy for the family concerned.

So what has led to this improvement, and what remains to be done? Society has triumphed over most of the once common causes of death in childhood, especially in the last 50 years. Improved housing and nutrition, effective immunization programs, and access to antibiotics have almost eliminated many infectious diseases (2). Of course, with the notable exception of smallpox, they are still present, emerging when defenses are lowered in conflict or societal breakdown, situations that have, regrettably, afflicted this region of Europe in the past decade. But at least in more normal circumstances they can be kept under control.

More recently, health professionals have begun to tackle successfully another major killer of children, childhood cancers (3). Our rapidly expanding understanding of these diseases, leading to many new chemotherapeutic regimes, means that diseases, such as acute lymphocytic leukemia, are no longer an automatic sentence of death.

The record of society in reducing the toll of childhood deaths from these causes is something to be celebrated. But there are no grounds for complacency. Children still die when they should not. Why, and what can we do about it?

At the beginning of the 21st century, the single most common cause of death among children in Croatia, as in all industrialized countries, is childhood injury. Injuries are responsible for 36% of all deaths in childhood and 52.5% of total mortality in the 5-14 age group (4,5). Although the death rate has declined in the past four decades, there was a large increase in 1992 due to the war in Croatia and again in 1998, for which there is no obvious explanation.

All of the deaths are avoidable. But injury is a cause of death which still receives far too little attention from policy makers.

When we look at the experience of other countries, the scope for prevention is immediately apparent. There is obvious east-west gradient in variation in deaths from childhood injuries in the countries that are members of the World Health Organization's European Region (Fig. 1). The probability of dying from injury in childhood is far more common in the countries of the former Soviet Union than it is in Western Europe. Indeed, deaths from injury account for almost the entire east-west gap in overall child mortality (6).

This gap is perhaps best illustrated by looking at two neighboring countries, ones that share the same climatic and environmental conditions but which have pursued very different social policies in the sec-

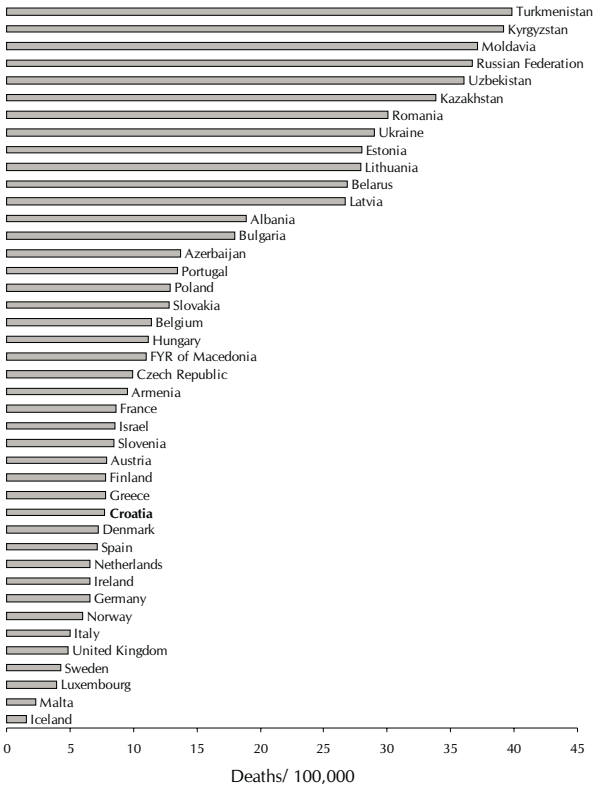

Figure 1. Death rates from injuries among children aged 1-14 (last available year). Source: World Health Organization Health For All.

ond half of the 20th century. Deaths from injury in childhood are almost 10 times more common in Latvia than in Sweden.

But even among countries with very similar political and cultural contexts there are considerable differences (7). Death rates in Denmark, which has long pursued policies of deregulation, are almost twice those in neighboring Sweden.

These comparisons are simply snap shots in time. But to get to their present positions, countries and regions have traveled at different speeds. Some have been far more successful at reducing deaths from injuries than have others. Belgium, which in 1970s already had an overall death rate from injuries that was 50% higher than the rate in the Netherlands, was able to reduce this by only 22%, whereas its northern neighbor succeeded in halving its already lower rate.

Who is dying from injuries? Everyone is not at the same risk, and those who are already the most disadvantaged are most vulnerable. For example, research from the United Kingdom shows that children in the poorest families are about four times more likely to die from injury than those in the wealthiest families (8).

Why so Little Attention from Policy Makers?

Before looking at the reasons why children die from injuries, it is important to reflect on why, so far, this topic has received so little attention from policy makers (9). There are three main reasons. The first is that it is, typically, an invisible condition. In contrast to the intense attention that governments and their advisers pay to measures of economic performance, such as gross national product, interest in measures of population health is often minimal. Even when attention is paid to health statistics, it usually begins and ends at summary measures, such as life expectancy at birth or overall mortality rates by broad cause. As everyone must die sometime, from something, deaths from injuries in childhood are swamped by deaths from heart disease and cancer in the elderly. To overcome this problem, the World Health Organization has developed a measure called Disability Adjusted Life Expectancy (10). This takes account of the age at which people die, and thus the number of years of life that are lost, as well as the disability that results from the condition in question.

Injuries also have a cost, both of treatment and from the disability they cause. In 1998, in Croatia, injuries accounted for 12.6% of hospital admissions in the 5-14 age group. They were the second most common cause of hospital admission. In 1998, 5,152 school children were hospitalized for injuries, the most common diagnoses being lower arm fracture (17.0%), followed by intracranial injuries (13.6%), superficial head injuries (12.7%), shoulder and upper arm fractures (7.0%), and fractures of lower leg, including ankle (5.1%) (5). In a recent study in the USA, unintentional childhood injuries in 1996 were estimated to result in US$14 billion in lifetime medical spending, US$1 billion in other resource costs, and US$66 billion in present and future work losses (11).

When the contribution of different causes to the total burden of disease is examined, injuries become much more important. In the countries of Central and Eastern Europe and the former Soviet Union, injuries are almost as important as heart disease in their contribution to the overall burden of disease. Unfortunately, they are much less visible.

The second problem is that injuries, as a policy issue, have no owner. The policies needed to reduce injuries require concerted action by a wide range of people. These include the obvious ones, such as teachers and health professionals. But there are many others. They include the manufacturers of objects that children come into contact with (e.g., toys or medicine container), the architects and town planners, who may or may not incorporate safety features in their designs, the police, whose stance on road safety is crucial, and builders, who should know why they should not leave electrical wires exposed. Most important of all, they include the politicians who develop the policies on safety and social inclusion that set the context for everyone else. Unfortunately, many of these groups may be completely unaware of the part they have to play.

In some countries, such as the Netherlands, Sweden, and the United Kingdom, public health professionals have taken up the challenge of bringing together these disparate groups by developing guidelines and regulations, developing alliances, and promoting a shared vision. As they have understood

better the health needs of their populations, they have recognized the importance of tackling injuries. They have then developed integrated, multisectoral strategies that have brought about quite spectacular reductions in these entirely preventable deaths. Unfortunately, in most of Europe, and especially in Eastern Europe where the need is greatest, public health services are still weak (12). Skill levels are low. Poor salaries make it difficult to attract or retain the highly qualified staffs that are needed. Governments do not see the development of a modern public health function as a priority.

The third problem, which is related to the second, is that injuries are still seen as something that just happen, and there is nothing that can be done about them. This may be the greatest problem. There is a need to convince political leaders that they can make a difference by the policies they adopt, or fail to adopt. This becomes most apparent when we look at the different amounts of progress in each part of Europe (Fig. 2). Recognizing that each started from a different level, we set the death rate from injuries in childhood in 1981 at 100%. In the subsequent 20 years, deaths have fallen by 25% in the former Soviet Union, by almost 40% in Central and Eastern Europe, and by more than 50% in Western Europe. As a result, the initial gap is widening even further. If the gap is to close, much more action is needed in the eastern part of this continent.

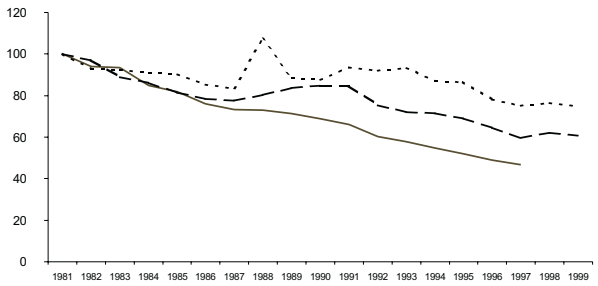

Figure 2. Trend in deaths from injuries in children between 1 and 14 years of age (1981 = 100%). Full line – Western Europe; broken line – Central and Eastern Europe; dotted line – Former USSR. Source: World Health Organization Health For All.

Most Important Causes: Traffic Accidents, Drowning, and Fire

To do anything about injuries, it is necessary to know what is causing them. The most important, and obvious, factor is the spread of the automobile. Transport-related injuries, which overwhelmingly involve motor vehicles, whether they are crashing into each other or into pedestrians, account for over 40% of deaths in children between 1 and 14 years of age. These are now beginning to fall after a steep increase in all transition countries in the early 1990s, when there was a popular rejection of state control, whether by traffic police or the general public (13). Interestingly, this also happened in Spain in the late 1970s, when the death of Franco and subsequent transition to democracy led to a doubling in deaths among young men, primarily because of a rapid rise in road traffic injuries (14).

The second specific cause of death from injury among children is less expected. It is drowning, accounting for 15% of deaths. In Eastern Europe its contribution is even greater and the east-west gradient for drowning is steeper than for any other cause of death.

The remaining leading causes include fires, falls, and poisoning, but there is also a broad category of other causes, such as choking, injuries due to machinery, and deaths where violence is suspected but unproven. Deaths from firearms are rare outside the United States, where they are sadly all too common (15). However the ready access to firearms is also a growing concern in Southeastern Europe, as the wars in the early 1990s have left thousands of guns in private hands (16). As with landmines, this is a legacy that will continue to cause deaths of children for many years in the future (17).

What Can Be Done?

The policies that are needed are often obvious, and not all involve spending large sums of money. Large reductions in deaths on the roads can be achieved by enforcing speed limits and by ensuring that children traveling in cars are adequately restrained in child seats. Effective child restraints can reduce serious injuries by up to two-thirds. In the longer run, slowing traffic flow in residential areas and, ideally, keeping cars and children apart from each other is important. Some countries, such as the Netherlands and Germany, have had enormous success by designing safety into their new housing developments, with traffic calming measures and safe play areas (18).

The remedy for deaths from drowning is also obvious (19). Far too many children, especially in Central and Eastern Europe, have never been taught to swim. In contrast, many western European countries have made swimming part of the core school curriculum. But it is also necessary to look at where people swim. In many cases, the only places available are extremely hazardous.

Deaths from house fires may seem a particular challenge but even here there is good evidence that they can be reduced by supplying smoke alarms.

So the high rates of death and injury in this region are not inevitable. There are many policy interventions that can be adopted nationally or locally that will reduce the risk of death substantially. Unlike many areas of health policy, these interventions lead to very rapid results. Unusually, a politician can even expect to see an improvement within one electoral term. A possible example is the Croatian Interior Ministry's campaign "Be aware of our signs", aiming to increase public awareness about the burden of traffic accidents among school children and so change behavior of the drivers related to speed control in the school areas. The nationwide program started in 1995 and lasted until 1999. In 2000 the campaign was cancelled because of a lack of budgetary but the success of the first campaign has stimulated a new campaign entitled "Kids – friends in traffic" in 2001.

Conclusion

In conclusion, there are three key issues. The first is that, with success in reducing or even eliminating many of the once common causes of childhood death, injuries have become the most frequent reason for a child to die. They are also the main reason for the gap in childhood death rates between the eastern and western part of Europe. The second is that many injuries can be prevented, and are being so in some countries. But the third is that change does not happen on its own. It requires concerted action by many different people, who often have no idea of the part they can play. This requires a strong public health function, with people who have the analytic skills to assess the scale and nature of the problem and make it visible to politicians, the media, and the general public. It also requires professionals with the negotiating and organizational skills to bring everyone together to support what should be a common endeavor.

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