Three basic convictions: a recipe for preventing child injuries

Ivan Barry Pless [a]

Abstract This paper represents a personal reflection on what is needed worldwide to prevent child injuries. It repeats messages that have been frequently delivered in the past. The main points are: first, the need for everyone to accept the view that, ultimately, injuries are a health problem and health departments must view them as such. Second, although increased and improved research is undoubtedly important, it is futile and frustrating if the results of existing research are not acted upon. Third, governments must play a central role by creating a national focus for the coordination and implementation of programmes whose value has been established. These points require widespread support if we hope to make genuine progress towards the goals reflected in this issue of the *Bulletin*.

Une traduction en français de ce résumé figure à la fin de l'article. *Al final del artículo se facilita una traducción al español.* الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

I am sure others have written more profoundly about repetition but I like this quote attributed to Collier: "Constant repetition carries conviction".[1]

It seems especially important to write about these convictions in the context of this theme issue for the *World report on child injury prevention*.[2] The Department of Violence and Injury Prevention and Disability at WHO has, in recent years, played an increasingly important role in injury prevention worldwide by providing the strong leadership that the field requires.

My perspectives on the additional requirements needed on top of WHO's initiatives arise from training as a paediatrician, working as an investigator and editing *Injury Prevention* since its inception. Since the mid-1960s, I have also witnessed the birth and growth – and occasional demise – of many well-intentioned efforts, ranging from organizations like Safe Kids Worldwide to more modest, local initiatives. Since the "discovery" of injuries as a health problem nearly 50 years ago, we still find far too many studies that are entirely descriptive, or simply repeat findings from other parts of the world. More importantly, there are far too few studies that describe proven interventions, and fewer still that show how or whether a proven intervention works in the real world.

So much for my qualifications to pontificate; my three ingredients are simple but critical if we are genuinely committed to making real progress in preventing children's injuries and their sequelae. Undoubtedly, other ingredients could be added to this recipe.

Injuries are a health problem

Although many disciplines and many branches of government have important roles to play in preventing childhood injuries, we must hold on to the view that, in the end, injuries are a health problem. This seems so self-evident that it is embarrassing to give examples to support the argument. But, for some inexplicable reason, in most countries injuries are not viewed in this light. Health departments are often disinterested or only pay lip-service to their prevention. So, the reader (or their medical and public health colleagues) needs to be reminded that injuries produce lacerations, broken bones, burned and scalded flesh, clogged airways, damage to vital organs… the list is long and sad. All of these require medical care. Many require long hospital stays. Some end in life-long disability and some are fatal. Consequently, no reasonable person can deny that injuries are a health problem and that this means that health officials must be involved in their prevention as well as in their treatment.

The only element in this proposition that may be debatable is whether it is medicine or public health that should carry the ball. Many of us are convinced it is primarily a public health issue but I will settle for either. As important as AIDS, malaria, and diarrhoeal disease undoubtedly are, injury clearly belongs on WHO's list of priorities.

Before leaving this point we need to reiterate and acknowledge the contributions made to prevention by housing experts, transport experts, trade and industry, alongside a host of other bodies. Yet it is health that must coordinate these efforts to be certain that none of the injury elements falls between stools and to ensure the high quality of the work of the other contributors. Fire departments do much to prevent home fires and this is at it should be. But if they did not, health departments have the ultimate responsibility for urging them to do so. In fact, "urge" is not a sufficiently strong word. The role that I visualize for health departments is "oversight" – a term that implies that it is with them that "the buck stops" and that they have the moral, and perhaps legislative responsibility, to ensure that all that needs to be done is done. In large part, these ideas echo those in a recent policy forum published in *Injury Prevention*.[3]

First recipe ingredient

If you accept this argument, the first step is to persuade your health department to take these responsibilities seriously. This may mean face-to-face meetings with the most senior governmental minister. This is a tall order but the need is equally towering.

Research alone is not the answer

This statement is almost identical to the title of a recent commentary that I wrote on surveillance in which I tried to make

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the point that surveillance without action is sterile.[4] The same holds for research. For intervention research to help prevent injuries, the results need to be implemented. To be sure, not all such research offers findings that lend themselves to action or are worth implementing. But many studies provide results that are encouraging and need to take the critical step from showing that they work in the research setting (efficacy) to the real world (effectiveness). And then, after the latter step is successfully taken, the researcher must confront the huge challenge of persuading the "powers-that-be" (which would usually include health officials) that actions are needed to imbed them in policies, legislation and programmes.

Advocacy is a critical step in this process.[5] It is hard to disagree with Gallagher et al. regarding the need to make advocacy a high priority and the ways to do so. Although this is an essential starting point, we must aim higher than just giving injury a "voice". Somehow, nearly 50 years after the science of injury prevention was established,[6,7] the topic still lacks vocal advocates, parent groups and lay organizations, let alone simply a recognizable voice amidst the hubbub of the more noisy diseases.

For the relatively few researchers who are wise enough and fortunate enough to have conducted a solid study and published it in a respected journal, the challenge to which I allude above remains. They must find the time and skill to implement the findings. Too often reluctance to do so (because it is time-consuming and difficult) is rationalized by stating, in effect, "my job is to do the research; it is up to others to act on the findings". Sometimes this argument is bolstered by the strictures that respected epidemiologists have marshalled against attempting to make policy based on research alone.[8] Although some of these points are well-taken, the bottom line remains that far too much of what we know to be effective remains unimplemented.

Some years ago we tried to discover why some public health studies resulted in change and others did not. Through a series of interviews, the notion emerged that, to "cross the bridge from research to action", a go-between may be needed.[9] We called this person a "research broker". This role (also known as "knowledge broker" or "implementation facilitator") is now commonly used by funding agencies as part of the knowledge transfer process. Even so, how well knowledge transfer actually works remains to be determined. Whatever the answer, as research funding is reduced, the need to act on what we know becomes more and more urgent.

It is frustrating to read grant applications where an obligatory section addressing "significance" or "relevance" confuses dissemination (e.g. publication, seminars) with implementation. It is equally disheartening to read research papers that conclude with "more research is needed". More research is always needed, but that is no excuse for paralysis: truly responsible investigators will know when they have a finding that warrants action. The really good ones will invest the time and energy to act. If they do not, the WHO agenda will never move far enough or fast enough.

Second recipe ingredient

Reduce the rhetoric about the need for more research until we have effectively implemented what is known. To do so may require scientists to communicate directly with policy-makers, explaining their findings and what needs to be done.

Governments must respond

Closely related to the preceding items is the need for a structure to facilitate the required activities. I have long argued that all countries require some sort of national centre to achieve this.[10] The closest existing example is the National Centre for Injury Prevention and Control within the Centers for Disease Control in the United States of America. Yet even this admirable creation falls short of the mark and lacks clout, for a variety of reasons that are largely political. In most other countries, there exists a mixture of voluntary, nongovernmental organizations such as the Child Accident Prevention Trust, Safe Kids, or, what are essentially, research units.

One step closer to what is needed is the Child Safety Commissioner in Victoria, Australia. As its website[11] states, the "Office of the Child Safety Commissioner undertakes research, policy development and resource development that is informed by consultation with government and community stakeholders, including children, and reference to contemporary policy frameworks." I have since learned that the term "safety" in this context refers mainly to child protection. Hence, even this promising example disappoints. It is, perhaps, worth noting that its counterpart in the United Kingdom – the Children's Commissioner – has rejected the suggestion that child safety deserves to be high on his agenda and its *Every child matters* website makes no mention of injuries.[12]

Other centralized initiatives that are voluntary or quasi-governmental include the Child Accident Prevention Trust, Eurosafe, the European Child Safety Alliance and the European Center for Injury Prevention. The European Child Safety Alliance has done an efficient job of assembling data for an action plan that has many impressive elements, including a country-by-country report card.[13] However, this plan distinctively lacks a statement regarding whose job it is to take the steps needed to improve matters. In particular, it makes no mention of the role of health departments. As stated earlier, the key is to have one government department take this responsibility. In spite of my arguments, it may not be the health department. In New Zealand, for example, it is the Minister for the Accident Compensation Corporation who has the responsibility to implement the country's injury prevention strategy. To its credit, the implementation plan even has some "legislative teeth".[14] But generally the picture is gloomy everywhere and not surprisingly, for obvious reasons, the situation is much worse in developing countries as Mock et al. state.[15]

In my own country, Canada, in spite of repeated requests and years of lobbying, we are a long way short of the target. On the bright side, what we do have appears to be located in the right place, the Public Health Agency. But, what we find there is but a tiny aspect of injury prevention. The injury part of its website consists of little more than a series of reports and, tellingly, it has not been updated since 2002! Equally astonishing is the virtual absence of any reference to injuries in the Chief Public Health Officer's most recent annual report.[16]

What the few governmental bodies involved actually do is certainly encouraging but too often they place most of

the burden on other "stakeholders". In most countries, the situation is far more fragmented and relies almost entirely on voluntary organizations. Most of these groups do admirable work; indeed, many are doing the work that governments should be doing. At the very least, governments should make the work of nongovernmental organizations easier by providing them with more generous funding and by creating a focus for child safety in a national centre. Then, instead of having to battle with 10 government departments and many nongovernmental bodies to act on a particular safety issue, there would be the efficiency and greater effectiveness of "one-stop shopping".

If you are convinced of the importance of a national focus, located preferably somewhere within the health domain, how can this be achieved? The decision is a political one and politicians respond, in part at least, to what they believe their constituents want, especially when those constituents are noisy and capture the interest of the media. In most countries, families of victims of AIDS, cancer, diabetes and other diseases have succeeded in getting some sort of response from policy-makers and from other members of the public. There is no reason why families of injured children cannot do the same. In fact, they must mobilize in this manner if governments are to take injury prevention seriously.

The task will not be easy for several reasons. First is the lack of industry support that lies behind the poor funding for injury prevention. Pharmaceutical companies have no reason to be concerned about injuries (with the exception of Johnson & Johnson) but it is puzzling that most insurance companies also appear disinterested. Second, we must acknowledge that, as many studies show, families of injured children are disproportionately poor. The heavy burden of organizing to lobby and advocate must compete with other demands. Finally, we need to overcome the barrier that arises from the unintended consequence of injury prevention literature aimed at parents that places most responsibility for prevention on their shoulders. Thus, when a child is injured, parents blame themselves, feel guilty and are unlikely to publicly join advocacy groups. Apart from persuading the sponsors of such unfair, misleading and inaccurate literature to change their message, parents must be convinced that the job of protecting children is not theirs alone. They are entitled to the same help as families who depend on clean water to prevent typhus or on publicly supported immunization programmes to prevent a host of diseases. The reason injury prevention is viewed differently continues to escape me. But this is likely to continue until each of the main points made in this paper are widely accepted, not only by policy-makers but also by the injury prevention community itself.

Third recipe ingredient

Work to create a national centre. Consider doing so by mobilizing or consolidating parent groups. Be prepared to operate at the political level. ■

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Résumé

Trois principes fondamentaux pour prévenir les traumatismes chez l'enfant

Le présent article est une réflexion personnelle sur ce qu'il est nécessaire de faire dans le monde pour prévenir les traumatismes chez l'enfant. Il réitère des messages déjà fréquemment émis dans le passé et énonce trois points importants. Premièrement, chacun doit reconnaître qu'en fin de compte, les traumatismes sont un problème sanitaire et les services de santé doivent les considérer en tant que tel. Deuxièmement, bien qu'il soit indubitablement important de multiplier et d'améliorer les recherches à ce sujet, ces travaux paraîtront inutiles et frustrants si les résultats de la recherche existante ne sont pas suivis d'action. Troisièmement, les Etats doivent jouer un rôle central en créant un point focal national pour la coordination et la mise en œuvre des programmes dont la valeur est établie. L'application de ces points doit bénéficier d'un large soutien si l'on veut que des progrès véritables s'effectuent en direction des objectifs formulés dans ce numéro du *Bulletin*.

Resumen

Tres convicciones básicas: una receta para prevenir las lesiones infantiles

Este artículo es una reflexión personal sobre lo que hace falta para prevenir las lesiones infantiles en todo el mundo, y repite mensajes que se han difundido con frecuencia en el pasado. Los puntos principales son: primero, la necesidad de que todos aceptemos que las lesiones son, en última instancia, un problema de salud, y que los departamentos de salud las consideren como tal. Segundo, que a pesar de la indudable importancia de aumentar y mejorar la investigación, esta será inútil y frustrante si no se actúa teniendo en cuenta los resultados de las investigaciones existentes. Tercero, que los gobiernos deben tener un papel central, creando un foco de coordinación y aplicación de programas cuyo valor esté demostrado. Estos puntos necesitan un amplio apoyo si queremos hacer verdaderos progresos hacia la consecución de los objetivos expuestos en el presente número del *Boletín*.

ملخص

ثلاثة مبادئ أساسية: وصفة لتفادي الإصابات بين الأطفال

تستعرض هذه الورقة انطباعاً شخصياً حول ما يحتاجه العالم في جميع إرجائه للوقاية من إصابات الأطفال؛ وهي تكرر عرض الرسائل التي طالما تلقاها الناس في الماضي، وأهم ما فيها من نقاط: أولاً: ينبغي على كل شخص أن يقبل وجهة النظر القائلة بأن الإصابات هي في النهاية مشكلة صحية، وينبغي على الأقسام والإدارات الصحية أن تنظر لها على هذا الأساس. ثانياً: رغم أن البحوث المتزايدة والمحسّنة في غاية الأهمية، وبدون شك، فإنها تغدو مخيبة للآمال وباعثة على الإحباط إذا لم توضع نتائج البحوث المتوافرة حالياً موضع التنفيذ. وثالثاً: ينبغي على الحكومات أن تؤدي دوراً محورياً بإنشاء نقطة بؤرية وطنية لتنسيق وتنفيذ البرامج التي توطّدت قيمتها. وتتطلّب هذه النقاط تلقي الدعم الواسع المجال إذا كنا نأمل أن نحقق تقدُّماً ملموساً نحو المرمى الذي نصبو إليه والمعروض في هذا العدد من نشرة منظمة الصحة العالمية.

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Round table discussion

Which pill should we take?

Shanthi Ameratunga[a]

When Dr Pless presents his qualifications "to pontificate" on preventing child injuries, he forgets to mention that he has nurtured, cajoled, nagged and inspired a generation of researchers and practitioners in the field to strive for a better deal for children. I am among those so privileged. Perhaps for this reason more than any other, I find myself contemplating his convictions along with the likelihood that these might result in the goals to which we aspire.

Drawing on her study of Lewis Carroll's book *Alice in wonderland*, Alison Gopnik notes, "our unique ability to understand our world by creating theories is the same ability that lets us imagine possible worlds: science and fiction have a shared foundation".[1] But do we have the courage to effect the changes required?

Injuries are a health problem but, even in settings where health departments are aware of their responsibilities, injuries could be viewed in an unhelpful light. For example, an algorithm designed to identify populations at increased risk of hospital admissions in England excluded injury admissions from the analysis.[2] The reason provided was that "most major trauma is generally not preventable or avoidable". It could be argued that relative to chronic conditions (e.g. diabetes, coronary heart disease), more effort is required to evaluate injury prevention strategies in community settings. However, this disadvantage is magnified when injuries are considered discrete episodes that the health sector can do little to prevent. Perhaps we could gain some ground by reclassifying injuries as "long-term conditions". Thus the true potential for preventing many injuries may be recognized and acted upon. As noted by Pless, effective responses benefit from the engagement of many sectors outside health. We could invest considerably more effort influencing and working directly with these sectors, including transport, housing and urban planning.

I wholeheartedly agree with the second conviction noted: research alone is futile. Similarly, action without sound evidence is at best wasteful and potentially harmful. Respondents to a survey of trauma centres in the United States of America noted that most injury prevention activities undertaken were not evaluated.[3] Distressingly, an issue that receives scant attention is the likelihood that some strategies may increase socioeconomic and ethnic disparities in injury outcomes, as suggested by a study from New Zealand.[4] It is clear that the "inverse care law" is pertinent both in and outside the health sector.[5]

Finally, getting the attention of governments distracted by the "credit crunch" will require more than ordinary zeal. Impoverished communities are disproportionately affected by the adverse impact of the recession. The children in communities caught up in this financial vortex are inevitably at greater risk of injury. Blaming the victims may never be easier. It requires the courage of our convictions and much more to address the unjust inequalities in child injuries at global and local levels. Our capacity to act collaboratively, in and outside the health sector, has never been more important. ■

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Stirring the pot

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The recently launched WHO/UNICEF *World report on child injury prevention*, reported reductions in the rate of child injury mortality by more than 50% in 30 years in high-income countries in the late 20th century.[1] The global challenge is to reduce injuries in all countries to similar levels, using existing and new knowledge over a similar or shorter timeframe. Sustaining effort in high-income countries, where injury remains the leading cause of death post-infancy, is equally challenging.[1]

These goals should be feasible and a priority, since many known solutions are cost effective and have short lead times to measurable injury reductions. Yet, as Dr Barry Pless indicates, the necessary widespread support from ministries of health is lacking and there are challenges in the translation of research to implementation.

Injury is a health problem

While I agree with Dr Pless that injury is a health problem, I would add to his arguments and note some cautions. A coordination role by health is necessary since other ministries lack the overview capacity of the health ministry, and hence the capacity to coordinate action. Injury prevention requires health data to inform and drive prevention and to monitor trends. While the health sector is responsible for the treatment of injuries, it must also take direct responsibility for solutions where these fall within its jurisdiction (e.g. poisoning).

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Although injury is a health problem, it is clear that the budget allocations of WHO itself were heavily skewed towards infectious diseases in 2006–2007, with less than 1% of the WHO budget allocated to injuries and violence.[2,3] Vested interests in certain diseases by ministries of health reflect similar patterns, ensuring that injury prevention resources are not commensurate with the size and preventability of the problem.

Despite commitment to injury prevention through World Health Assembly and United Nations resolutions,[4] ministries of health can and do fail their constituencies with regard to injury prevention, exemplified by the Australian Department of Health and Ageing axing its Injury Prevention unit in 2009,[5] despite injury remaining the leading cause of death for Australians aged 1–44 years. Injury is also absent from major Australian prevention initiatives.[6]

But injury is not only a health problem. Other sectors must also take greater responsibility. Indeed, safety is written into the responsibilities of many jurisdictions though the scientific and systematic approach, demonstrated to good effect by road safety authorities in many countries, is not necessarily broadly understood and embraced. Nevertheless, examples exist of sector-led progress including product safety, sport and recreation, planning and building sectors.

Despite alternative leadership examples, health must fulfil the fundamental role of providing detailed quality data and coordinating action and must not abdicate these responsibilities.

Translation of research to implementation

While Pless notes that injury research is not enough, an even more fundamental problem is the lack of adequate child injury data from many countries. Even within high-income countries, statistical blind spots mask product, work-related and sports and recreational injury. Importantly, the standard practice of grouping mortality and morbidity into 0–4 years of age masks high rates of injury in the 1–4 years age group. Problem definition is lacking because of poor data: how big are specific injury problems and where are they located in countries or regions?

As noted by Pless, many countermeasures to child injury problems are known and their efficacy proven. Confusion exists, however, with regard to translating research to implementation both within and between countries. Countermeasure efficacy is surely transferable, so long as the problems are similar, as it is based on physical and biological principles.

A successful model for translation of research to policy and practice has been used by the Monash University Accident Research Centre (MUARC) in Australia for more than 20 years. MUARC has worked with government and industry to identify major unresolved injury problems and undertaken applied research to solve them. A limited term project advisory committee is appointed comprised of key stakeholders and funders with the capacity to advise on the research and to implement its findings. This process garners engagement with the project and a level of ownership by the committee. Many MUARC research results, while also disseminated through the scientific and stakeholder literature, have been taken forward into state and national regulations, Australian and international standards, the Australian Building Code and a wide range of government policies and strategies. The media also engages closely with MUARC research findings, stimulating public debate and reinforcing translation to prevention.

In my view, "knowledge brokers" are not a likely solution, as the strongest and most credible advocates remain the researchers themselves so long as they commit to the extension of the research process through policy reviews, standards committees, media and other implementation strategies. Of course, research funders must also adapt their funding model to include these functions.

The other outstanding question highlighted by Pless is whether or not similar implementation methods, as opposed to countermeasures, work in different countries, climates, social circumstances and cultures? This question remains to be answered by intervention trials and other effectiveness studies. ■

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It's all about money

Ian Roberts [a]

Child injury is a broad category and so I will limit my response to the problem of traffic injury, the problem with which I am most familiar. I became obsessed with this issue while working as a paediatrician on an intensive care unit. I once anaesthetized a ten-year-old girl, the victim of a high-speed road crash, so that she could be taken for urgent surgery to stop her internal bleeding. When she arrived at the hospital she was awake but deathly pale. I reassured her that she would be fine. She never woke up. I worked nights on the unit where the mother of a brain-dead two-year-old wailed desperately all night long. Her daughter's head had been squashed under the wheels of a car. Her child had the same name and was

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the same age as my own daughter. These experiences scratched grooves in my memory, which later became conduits, directing strong emotion to an issue that many people treat with indifference.

I had several questions that demanded answers. Why do some health problems become public issues demanding societal solutions, whereas road trauma, a leading cause of child death worldwide is trivialized, remaining a matter for personal responsibility? Why is the death of a child following child abuse taken as clear evidence of the failure of our collective efforts to protect children, whereas a child pedestrian death represents only the failure of an individual child to take care while crossing the road? Why did President Nixon "declare war" on cancer and not road trauma, when more children died on the roads that year than died from cancer? Why did an insidious proliferation of cells take on the violent metaphor of war, instead of road trauma with its twisted limbs and torn flesh? It seems to me now that some deaths are more acceptable than others and that the distinction is an ideological one. In other words, I agree with Dr Pless: injury is a political issue. Governments blame the victims in road traffic injury and take no real preventive action because it serves the economic interests of the world's most powerful companies to have it that way. It is better for profits to blame victims than to take real action to make the world a safer place.

The global economy revolves around resources, factories and markets. Raw materials are transported to factories where workers produce manufactured goods. These goods are then transported to markets where consumers can buy them. If consumers are willing to pay more for the goods than it cost to produce them, the company will make a profit. And making a profit is what business is about. Cheap transport is good for profits because it reduces the costs of production and enables companies to take advantage of the lower wages of workers in poor countries. It is more profitable to set up factories in low-income countries where wages are low than in wealthier countries where workers enjoy decent wages and standards of living. But poor people cannot afford to buy expensive manufactured goods and so the goods have to be transported back to markets in high-income countries. Road deaths and injuries, physical inactivity and climate change are part of the real social and environmental costs of road transport, but these costs are borne by other people and not by those who profit from the use of motor vehicles.[1,2] If a truck kills a child, the family suffers the loss, not the truck owners. The greenhouse gases produced by vehicles in rich countries, contributes to the global warming that is causing malnutrition and disease in poor countries. Economists call these spill-over costs "externalities" but, having treated children seriously injured in road traffic crashes, their suffering seems to me an ethical human justice issue, rather than an accounting problem. Keeping transport costs low for business means that the suffering and environmental destruction that road transport causes is kept out of the limelight.[3] However, we are coming to the end of the road. Climate change now threatens our survival as a species. Unless we radically restructure how our economy works, it will be the end of us all.[4] We must value things differently and re-orientate the economy towards increasing human development rather than increasing gross national product. And a world that valued human development would not tolerate the fact that every year some 300 000 children are killed on the roads. ■

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