

# THE POTENTIAL FOR COLLABORATIVE, PREVENTATIVE APPROACHES TO REDUCE ROAD TRAUMA AMONG YOUTH

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## Abstract

This paper details findings of an exploratory research project that has focused on a complementary avenue of considering road trauma within a broader framework of health determinants and outcomes. To date, road safety and health promotion initiatives both in research, programs, and interventions are largely focused on describing single behaviours and single solutions (eg. drink driving, drug and alcohol use, crime prevention), rather than working on common causes and common synergistic responses. However, there is evidence to show that upstream factors that may influence many individuals are in fact common across a number of health outcomes. Using information obtained from studies and programs that have addressed some of these issues as well as information from workshops with health and road safety professionals, it appears that a co-operative approach to protecting young people from common risk factors could have great benefits across many areas. It also appears that working at an “upstream” level may have the potential to reduce road trauma among young people and warrants further investigation and development.

**Keywords:** Adolescent, behaviour, education, prevention, risk

## 1. Introduction

Road safety programs have traditionally focused on encouraging road users to develop safe attitudes and behaviours with the explicit aim of reducing road trauma. While this approach has been successful to a certain extent, particularly when used in conjunction with other activities like enforcement, engineering and education, one area that has not been fully examined is the potential to consider road trauma within a broader framework of health determinants and outcomes.

Many areas of health promotion, like those targeting substance abuse, criminal behaviour, depression and suicide, adopt a similar approach to those in road safety. That is, the specific behaviour that is being targeted is the sole focus of the treatment and/or intervention program. While some approaches have been “borrowed” or “exchanged” between the health and road safety fields, the predominant practice up until now has been for specific agencies to work independently to develop “single issue” focused programs, policy and research.

While the continuation of programs designed to address specific health behaviours is important, the possibility of focusing programs at a more preventative or “upstream” level may have a range of long-term benefits. Experts working in the health promotion field have for many decades been aware of the advantages of trying to influence behaviour early, before a problem behaviour has developed. This rationale is best summarised by the famous quote from Dr John McKinlay (1),

*“There I am standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling applying, breathing and then another yell. Again and again, without end, goes the sequence. You know, I am so busy jumping in, pulling them to shore...that I have no time to see who the hell is upstream pushing them all in.”*

One question that researchers have tried to address is what “factors” can predict which individuals will develop unsafe or unhealthy behavioural patterns later in life. This gives rise to further questions of whether these predictive factors are common across a range of behavioural outcomes and what types of interventions can influence these factors.

In order to investigate whether working at an “upstream” level on programs, policy and research has potential, and whether there would be some joint benefits if health and road safety agencies work collaboratively, an

investigative research project was commissioned. RACV, TAC and VicHealth jointly funded the “Common Solutions to Common Problems” project. This paper provides a very broad overview of investigative research findings outlines some possibilities for future activities.

The aims of the project were to:

- ?? determine whether the same people are at risk of engaging in problematic behaviours
- ?? draw conclusions about what influencing factors can be addressed to improve health outcomes and what elements of upstream programs are most effective
- ?? examine the effectiveness of approaches that are currently being used to address “upstream” factors in a range of settings
- ?? determine what are likely benefits and/or disbenefits of this type of approach to reducing road trauma.

## **2. Methodology**

In this investigative work, a very broad review of health promotion and road safety literature was undertaken. In addition, a series of workshops with expert researchers, policy makers and practitioners from the fields of road safety, education, drug and alcohol, juvenile justice, depression and suicide and sexuality were held. These workshops were designed to identify any unpublished work that had been conducted that would contribute to the project, as well as gaining the insights, experience and thoughts of experts from a broad cross-section of health areas.

## **3. Research findings**

The review of literature found a range of studies that had identified several predictive indicators that were common across a range of health behaviours, including road trauma.

### **3.1 Predictive indicators of crash involvement**

Longitudinal studies undertaken over the last two decades have found that a range of social determinants are predictors of subsequent high risk driving or crash involvement. These social determinants are defined as the economic, interpersonal and environmental factors that can impact on a person’s health (2).

Karlsson and Romelsjo (3) found that early social and behavioural factors like alcohol and other substance abuse predicted men’s subsequent drink driving behaviour. Begg et al (4) found predictors of young people’s subsequent crash involvement included: alcohol use, substance abuse, depression, conduct disorder, and attention deficit disorder.

Shope et al (5) studied the parental characteristics and substance use of a large cohort of teenagers beginning when they were 15 and continuing until they reached 23. Their driving offences and crash involvement over this period was examined. Results showed that the use of cigarettes, marijuana and alcohol at the age of 15 were important predictors of subsequent risk of serious offences and crashes. Negative parental influences, like lenient attitudes to young people’s drinking, low monitoring, nurturance and family connectedness, were also found to increase the later involvement of young people in serious crashes and traffic offences. In an earlier study, Shope et al (6) also found that substance abuse, friend’s substance involvement, substance availability and school grades were also significant predictors of crash involvement and offences by young drivers.

### **3.2 Common problems**

Health researchers have also investigated the factors that are predictive of many other social and health problems like substance abuse, depression, suicide, and criminal behaviour, and many are similar to those that were found among people who engage in unsafe driving behaviour.

The indicators that are predictive of later problematic behaviours are broadly categorised as being either a risk factor or a predictive factor.

#### ***Common risk factors***

A risk factor is defined as a factor in a young person’s environment, which *increases* susceptibility to social, behavioural and health problems (7). Recent reports have concluded that risk factors can include genetic and

biological characteristics of the child, family characteristics, stressful life events and community or cultural factors which can contribute to a person's risk of developing problems that affects their life in a long-term, negative way (8-9).

In reviewing a wide range of literature, it is evident that a range of risk factors is common across many different areas and can be categorised as relating to the individual, their family, community or school. A summary of the key risk factors identified in the literature is outlined below.

**Table 1: Summary of Risk Factors**

Community factors	Family factors	Educational factors	Individual factors	Life events
Poverty	History of problematic alcohol and drug use	Poor school attachment	Alienation and rebelliousness	Divorce or family break-up
Low neighbourhood attachment	Family conflict	Academic failure, especially in the middle years	Beliefs about aggression	Death of a family member
Population and housing density	Harsh or inconsistent parenting	Low parental interest in school	Hyperactivity, impulsivity and novelty seeking	War or natural disaster
Neighbourhood violence and crime	Marital instability or conflict	Bullying	Low intelligence and poor problem solving	
Availability of drugs and alcohol	Poor parental attitude to risk taking	Peer rejection	Low self esteem	
		Deviant peer group	Lack of empathy and poor social skills	

**Common protective factors**

A protective factor is defined as a factor in a young person's environment, which promotes positive social development and *decreases* susceptibility to social, behavioural and health problems (7). These factors are conditions that buffer people from the negative consequences of exposure to risks by either reducing the impact of the risk or changing the way a person responds to the risk. Protective factors appear to provide some armour against the development of later problems (9). The literature indicates that the following list of factors have a protective effect.

**Table 2: Summary of Protective Factors**

Community factors	Family factors	Educational factors	Individual factors	Life events
Access to support services	Good quality communication	Sense of belonging	Good resistance and refusal skills	Meeting a significant person
Community networking and attachment	Supportive, caring parents	Positive achievements and evaluations	Social competence and social skills	Moving to a new area
Participation in community groups	Family harmony and maintenance of family rituals	Positive school climate	High empathy and optimism	Opportunities at critical turning points or major life transitions
Strong cultural identity and ethnic pride	Supportive relationship with an adult	Pro-social peer group	Good problem solving skills	
Community norms that discourage violence, drug taking and underage drinking	Strong family norms and sense of connectedness to family	Having someone outside family who believes in you	Moral beliefs and values and self-related cognitions	
	Proactive problem solving	Recognition of achievement	Good coping skills	

### **3.3 Working towards prevention**

While studies have been able to identify the predictive factors that either make a person more “at risk” or more “protected” than others, the challenge for health and safety practitioners is to be able to use this information and create programs or interventions that reduce the risk factors and enhance the protective factors.

Clearly, the evidence suggests many upstream factors that may influence many individuals are in fact common across a number of health outcomes. This indicates that programs focused “upstream” and designed to create or enhance protective factors may have multiple benefits across a range of health behaviours (10).

#### ***Prevention Models***

Knowing how and when to intervene is another important issue in undertaking preventative, upstream work. Recent work summarised in the “Pathways to Prevention” report for the National Anti-Crime Strategy (8) concluded that an area that warrants greater attention is a developmental approach and which allows interventions to be directed both at the problems of the individual and to the features of that person’s social circumstances.

Developmental prevention aims to reduce risk factors and increase protective factors that have a significant effect on an individual’s adjustment at later points of development (14). Developmental approaches regard an individual as passing through several phases, points of change, and a series of transitions as they go through life. The individual takes a series of pathways, as they progress from birth to death. At each of the transition points there is a possibility for more than one outcome. For instance, an individual may follow an easy path through adolescence to adulthood, and a respectable middle and old age, or a painful path through teenage substance abuse, homelessness and an early death. Logically then, those individual’s who follow negative pathways are more likely to be at risk of engaging in a range of problematic behaviours, that may include criminal behaviour, substance abuse or high-risk road user behaviours.

Practitioners that utilise a developmental approach have identified several crucial transition points where interventions can be effective in moving an individual onto a safer pathway, or ensuring they do not choose the less safe path. This is often called “early intervention”, which means intervening early in the pathway, which does not necessarily mean intervening early in a person’s life. Interventions should not only focus directly on the individual, but must also consider the individual’s social context, like their family situation, school environment and the community or neighbourhood they live in (8).

#### ***Research findings***

As part of the “Common Solutions to Common Problems” project, all available information about prevention programs that have been implemented was reviewed, as were any available outcome evaluations of these programs. While some examples of well developed programs were found, mainly in the US, very few evaluations of these programs have been undertaken, making meaningful conclusions about the potential of such programs difficult. Nevertheless, several key findings emerged. These included:

- ?? A significant amount of time (at least five years) needs to be allocated to the development, implementation and evaluation of larger projects.
- ?? Inter-sectoral collaboration is a key ingredient in every successful project.
- ?? For protective factors to be in place across different transitional life stages, various settings need to be targeted simultaneously for different risk factors.
- ?? The combination of factors, rather than any one alone, is often the stronger predictor of later outcomes. However it may be the one risk factor that is the straw which ‘breaks the camel’s back’, hence the need for various settings to be simultaneously targeted.
- ?? “Single issue” focused projects can still make a strong and meaningful contribution to protective factors, which span a range of issues.

#### ***An example***

One example of a holistic, preventative program is the Chatham-Savannah Youth Futures Authority Program (11). This program commenced in 1988 with the aim of changing the way public and private agencies work with families and children in poverty in the Chatham region of Savannah, USA. The program was undertaken over an 8- year period and was a collaborative of 23 public and private agency representatives.

The program involved a combination of approaches ranging from educational programs to provision of space for youth and families to use, to providing health services such as immunisation. Different agencies committed to working on the common issues. Families were central in the project. All efforts that dealt with children were undertaken in the context of their families, and families in the context of communities.

Eight years after the program was implemented, evidence of the effectiveness of the program became evident as seen through a drop in rate of black infant mortality and a decrease in babies born to teenage mothers. Focusing on the early school years also appeared to pay off as suspensions for elementary school youth declined steadily.

Ingredients of success in this project were attributed to three assets – high-level support from business and government, skilled agency leadership and innovative use of data from police, schools, health and other agencies in framing community problems and zeroing in on solutions.

#### **4. Discussion and Conclusions**

The overall outcomes of the investigative “Common Solutions to Common Problems” project indicate that:

- ?? a range of predictive indicators has been identified in the field of road safety, and these are very similar if not the same as the indicators that are prevalent among people who develop other problematic behaviours
- ?? the research supports the premise of developing programs that facilitate prevention at early stages of life pathways can help to reduce risk factors and enhance protective factors
- ?? programs that are inter-sectoral are the most beneficial, although the time commitment required is long.

The imperative for working collectively at a preventative level has been discussed by health professionals for more than a decade. While the premise is promoted by policy makers in the various health fields and is supported by research, the issue of how to turn the “Common Solutions to Common Problems” philosophy into more practical policy, programs and research represents the next challenge.

One possible approach would be to concentrate future initiatives at a setting level rather than at a behavioural outcome level. That is, improving protective factors in family, school and community settings, may be more beneficial than targeting various behaviours individually and in isolation.

In order to progress the “Common Solutions to Common Problems” approach, the implementation of changes to health and road safety policy, programs and research is needed. Improvements are required at each of these levels.

##### ***Policy***

- ?? National, State and local governments need to adopt policy to work at a collaborative level and focus on prevention as well as treatment
- ?? As initiatives need to be long-term, bi-partisan political support is needed so that any programs or research that is collaborative and prevention focused is not vulnerable when Governments change
- ?? Needs to ensure that specialist or single-issue programs continue, as these will still be required.

##### ***Programs***

- ?? Preventative programs are needed to focus on issues at a family, school and community level and should aim to improve protective factors and reduce risk factors in these settings
- ?? Funding and resources for programs need to be provided on a long-term basis (minimum 5-8 years)
- ?? Program evaluations are needed to more accurately determine the most effective program components
- ?? Existing programs that are specialised, single-issue, and work at a treatment level need to continue
- ?? Funding for collaborative, holistic preventative programs need initially to be funded independently of existing programs.

## Research

- ?? Further research is required to provide information about the benefits of working at a collaborative level, as well as to evaluate programs
- ?? Research to determine the likely road safety benefits of these types of programs is needed
- ?? The level of resources directed to collective, preventative approaches needs to be determined in light of the potential benefits
- ?? Existing cohort studies examining risk or protective factors among young people should be extended to include their later road user behaviour and road crash involvement.

The aim of this paper has been to generate thoughts and discussion about the potential for working outside the scope of traditional road safety to achieve a long-term reduction in road trauma, as well as other broader health benefits. The fundamental question is whether we will ever get to the heart of the road safety problem if we don't begin to address some of the underlying causes. Working collectively on common causes has the potential to not only alleviate the present issues but also prevent some of the cyclic patterns of risk behaviours in the future.

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