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 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 a growing body of evidence that indicates common antecedents underlie multiple, negative health outcomes (Catalano et al, 1998; Homel et al, 2001, Jessor et al, 1991) 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 these common antecedents could have great benefits across many sectors. Collaborative partnerships between different sectors, who all share the goal of preventing the antecedents which lead to multiple and negative health outcomes, 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 causal level, rather than treating the symptoms. may have a range of long-term benefits. Studies on the role of risk and protective
factors note that efforts to reduce risk should be supplemented by intervention efforts to enhance protection (Costa et al, 1999). Indeed prevention is a central theme within the field of health promotion, with intervention being a supportive, rather than sole means of addressing health issues.

One question that researchers from many sectors 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 health and social outcomes;
- how can these factors be prevented from causing negative outcomes; and
- what value is there in working collectively, rather than singularly, to prevent factors from causing multiple, negative outcomes for a range of sectors?

In order to investigate these questions, an explorative research project was commissioned. RACV, TAC and VicHealth jointly funded the “Common Solutions” project, which commenced in January 2001. Crime Prevention Victoria, a new agency established by the Victorian State Government, joined the partnership in April 2002.

The Common Solutions Project is an innovative response to addressing the antecedents that underlie a range of health and social problems. Our thinking is akin to that of Schorr (1997) who notes that there is a growing consensus in the USA that “…multiple and interrelated problems…require multiple and interrelated solutions”, and that it is insufficient to address issues such as road safety, poverty, education, housing, crime, health and employment one at a time.

This paper provides a broad overview of investigative research findings, explores the dynamics of the unusual but successful cross-sectoral Common Solutions partnership, and outlines some possibilities for future activities.

The aims of the Common Solutions project are to:

- determine whether certain groups of people are more at risk of experiencing a multitude of risky behaviours such as drink driving, early school leaving, substance misuse, and criminal behaviour rather than just one or two of these 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 disadvantages of this type of approach to reducing road trauma.

2. Methodology
In this investigative work, a very broad review of health promotion, education, and road safety literature was conducted. International searches were undertaken through libraries, the internet and electronic databases. Key points to emerge from the literature were:
- A significant amount of time (at least five years) needs to be allocated to the development and implementation of larger projects.

- Intersectoral collaboration is a key ingredient in every successful project.

- Although the issues can vary, from motor vehicle crashes to unintended teenage pregnancy for example, the factors that protect against these are the same. These can include a caring relationship with at least one adult, connectedness to school, and effective problem solving skills.

- For protective factors to be in place across different transitional life stages, such as moving from primary to secondary school, 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, there is a need to simultaneously target various settings to intervene or prevent any one of these factors being the catalyst to risky outcomes.

There were two workshops held, the first with the transport, health and juvenile justice sectors. The second workshop had representatives from the drug and alcohol, sexual health, education and transport sectors. 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.

Participants were asked to describe issues that they faced when working with young people. Common issues amongst these sectors are:

- There is an understanding that all sectors are trying to work with the same population group – young people – and although the issues are different, the underlying antecedents are similar.
- Societal pressure on young people is widespread. Young people face the win/lose, success/failure dichotomies that are so prevalent in society today, and this has a significant impact on behaviour.
- There is a need to have common messages about working collectively occurring within and between sectors to assist in overcoming difficulties posed by terminology and language issues.

3. **Research findings**

There appears to be a significant amount of data that places road trauma within a broader context of communities, schools, and families. Alongside road trauma appear issues like substance use, violence, and sexual behaviour, which with road trauma, appear to share similar population groups, and occur in similar contexts. The following section will explore the meanings of some of these findings, and how they relate to understanding the potential for collaborative, preventive approaches to reducing road trauma among youth.
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 (Witgert et al, 2000).

Looking broadly, it appears that experiences in the childhood years can have a profound impact
upon subsequent adolescent and adult behaviour. Researchers in the area of substance and
conduct behaviour have found that adult risk for such behaviours have roots starting from
childhood (Gottfredson and Hirschi, 1990; Sampson and Laub, 1993). Further, other risky
behaviours such as alcohol and other substance misuse, and the identification of depression and
attention deficit disorder were predictors of further risky behaviour, and subsequent crash
involvement (Karlsson and Romelsjo, 1997; Begg et al, 1999)

Shope et al (2001) 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 (1997) 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.

Studies regarding risky behaviour and their problematic outcomes continue to demonstrate over
time that behaviour patterns remain the same (Donovan et al, 1999). This indicates that whilst
changes in the broader social, political and economic environment have occurred, risking taking
behaviour remains a constant. This has implications for how we continue to address the
intervention and prevention of risk taking behaviour. With the concern regarding risky
behaviours, their common antecedents, and their subsequent outcomes, including that of crash
involvement, being important across sectors, it is an opportunistic time to determine the
problems common to each sector, and look to working preventively in order to solve these.

3.2 Common problems
It has been identified that exposure to common antecedents that lead to risk taking behaviour,
such as family disconnection, low parental interest in children’s schooling and poor social skills,
occur within inter-linked social contexts that involve family, peers, school, and other community
institutions (Conger, 1997). Within these social contexts exists the potential for a range of factors
to be present that can assist in protection against common antecedents. These vary from one’s
valuing of health, and parents who model positive health behaviour to positive connections with
school, and involvement in prosocial activities (Jessor et al, 1998). 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 (Bond et al, 2000). 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 (Homel et al, 1999; Victoria Drug Policy Expert Committee, 2000).

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 some key risk factors identified in the literature is outlined below.

**Table 1: Summary of Risk Factors**

<table>
<thead>
<tr>
<th>Community factors</th>
<th>Family factors</th>
<th>Ducational factors</th>
<th>Individual factors</th>
<th>Life events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>History of problematic alcohol and drug use</td>
<td>Poor school attachment</td>
<td>Alienation and rebelliousness</td>
<td>Divorce or family break-up</td>
</tr>
<tr>
<td>Low neighbourhood attachment</td>
<td>Family conflict</td>
<td>Academic failure, especially in the middle years</td>
<td>Beliefs about aggression</td>
<td>Death of a family member</td>
</tr>
<tr>
<td>Population and housing density</td>
<td>Harsh or inconsistent parenting</td>
<td>Low parental interest in school</td>
<td>Hyperactivity, impulsivity and novelty seeking</td>
<td>War or natural disaster</td>
</tr>
</tbody>
</table>

**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 (Bond et al, 2000). 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 (Victoria Drug Policy Expert Committee, 2000). The literature indicates that the following list of factors have a protective effect.
Table 2: Summary of Protective Factors

<table>
<thead>
<tr>
<th>Community factors</th>
<th>Family factors</th>
<th>Educational factors</th>
<th>Individual factors</th>
<th>Life events</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access to support services</td>
<td>• Good quality communication</td>
<td>• Sense of belonging</td>
<td>• Good resistance and refusal skills</td>
<td>• Meeting a significant person</td>
</tr>
<tr>
<td>• Community networking and attachment</td>
<td>• Supportive, caring parents</td>
<td>• Positive achievements and evaluations</td>
<td>• Social competence and social skills</td>
<td>• Moving to a new area</td>
</tr>
<tr>
<td>• Participation in community groups</td>
<td>• Family harmony and maintenance of family rituals</td>
<td>• Positive school climate</td>
<td>• High empathy and optimism</td>
<td>• Opportunities at critical turning points or major life transitions</td>
</tr>
<tr>
<td>• Strong cultural identity and ethnic pride</td>
<td>• Supportive relationship with an adult</td>
<td>• Pro-social peer group</td>
<td>• Good problem solving skills</td>
<td></td>
</tr>
</tbody>
</table>

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 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 preventing the antecedents and designed to create or enhance protective factors may have multiple benefits across a range of health behaviours (Tremblay, 1995).

Prevention Models

Knowing how and when to intervene is another important issue in undertaking a preventative approach. Recent work summarised in the “Pathways to Prevention” report for the National Anti-Crime Strategy (Homel et al, 1999) 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 (Homel et al, 1999). 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 individuals 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 chose 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 (Homel et al, 1999).

Collaboration with unlikely partners
One of the most exciting outcomes to date from the Common Solutions Project has been the partnership formed between the road safety, public health and justice sectors. “One of the most important, cross-cutting social policy perspectives to emerge in recent years is an awareness that no single institution can create all the conditions that young people need to flourish” (Melaville and Blank, 1998). With this in mind the Common Solutions partnership is committed to cross-sectoral partnerships that benefit young people, their families, schools and communities.

In the early stages of the project, the literature findings described above were to ensure that our instinct that common antecedents did underlie multiple risk outcomes was evidence based. This continually growing evidence base is now being used to demonstrate to other sectors, such as Crime Prevention Victoria, the value of working cross-sectorally and collaboratively upon antecedents. It has been recognised that dynamic knowledge and contextual change, which is what sectors work within nowadays, requires dynamic responses from all stakeholder sectors. In order for this to occur there needs to be cross-sectoral collaboration that is open, responsive and focused on working collectively toward a common goal. The Common Solutions Project has a vested interest in ensuring that a cross-sectoral partnership will deliver research and results to provide strong evidence for practice regarding the addressing of antecedents to be based upon.

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 prevent common antecedents, reduce risk factors, and enhance protective factors;
- programs that are inter-sectoral are the most beneficial, although the time commitment required is long.

With the inter-sectoral collaboration continuing to develop between Common Solutions partners, the next stage in the process will include concentration on 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 risky behaviours individually and in isolation.

In order to progress the “Common Solutions” 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.

5. References


