



# Adaptive nature of coordinated road traffic injury prevention responses in some OECD countries



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## ABSTRACT

This study examines the context of coordinated responses, triggers for coordinated responses, and preference for or choice of coordinating strategies in road traffic injury prevention at a local level in some OECD countries. This aim is achieved through a mixed-methodology. In this respect, 22 semi-structured interviews were conducted with road traffic injury prevention experts from five OECD countries. In addition, 31 professional road traffic injury prevention stakeholders from seven OECD nations completed a self-administered, online survey. It found that there was resource limitation and inter-dependence across actors within the context of road traffic injury prevention at a local level. Furthermore, this study unveiled the realization of resource-dependency as a trigger for coordinated responses at a local level. Moreover, the present examination has revealed two coordinating strategies favored by experts in road traffic injury prevention – i.e. self-organizing community groups, which are deemed to have a platform to deliver programs within communities, and the funding of community groups to forge partnerships. However, the present study did not appear to endorse other strategies such as the formalization of coordinated responses or a legal mandate to coordinate responses.

In essence, this study appears to suggest a need to manage coordinated responses from an adaptive perspective with interactions across road traffic injury prevention programs being forged on a mutual understanding of inter-dependency arising out of resource scarcity. In fact, the role of legislation and top-down national models in local level management of coordinated responses is likely to be one of identifying opportunities to interact with self-organized community groups and fund partnership-based road traffic injury prevention events.

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## 1. Introduction

Daily, over 3000 people die on the roads, mostly in low and middle income countries (WHO, 2014). Yearly, 1.24 million people have died since 2007 on the world's roads (WHO, 2013). Globally, this number has not changed over the three years between 2007 and 2010 (WHO, 2013), despite an enormous amount of effort toward addressing road traffic injury risk factors, which has included targeted solutions (WHO, 2013).

Comparatively, steady declines in road traffic fatalities have been observed in OECD countries (WHO, 2013). Whilst high income countries experience road traffic death rates in the order of 8.7 per 100,000 population, middle income countries (the worst hit) have risk figures in excess of 20 per 100,000 population (WHO,

2013). In fact middle income countries bear the burden of 86% of the road traffic deaths (WHO, 2013). In Africa, the risk of dying from road traffic injuries has been put at 24.1 per 100,000 population, compared to Europe's 10.3 (WHO, 2013).

Progress in addressing road traffic injury risk factors has been attributed to coordinated, multisectoral preventability – raising responses to road traffic injuries (WHO, 2013; p. 1). In fact, countries successfully managing road safety responses are simultaneously mobilizing effort in a wide range of fields, including legislation, road treatment, education and injury surveillance (WHO, 2013). This *package of measures* (Wegman and Oppe, 2012) represents a systematic, multi-sectoral response or a coordinated response. Essentially, this coordinated action is aimed at addressing comprehensively all road traffic injury risk factors such as speed, non-use of seat-belts or helmets, drink and driving and inadequacy of post-crash care (WHO, 2013). Nevertheless, despite repeated calls by the WHO for low and middle income countries to learn from high income countries' adoption of coordinated responses (Peden

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and Sminkey, 2004; WHO, 2009, 2013) and the UN's recognition of a holistic and integrated approach to sustainable transport (UN, 2014), little is known about the context of coordinated responses in road traffic injury prevention at a local level. Essentially, there is no advice on how to achieve (Hull, 2005) coordinated road traffic injury prevention responses at a local/county level. Most importantly, although there is a conceptualization of factors underpinning coordination and integration of policy measures (Hull, 2005), there has been no research into coordinated responses from a practitioners' perspective in road traffic injury prevention.

Moreover, research into coordinated responses (Whetstone, 2001; Bennett et al., 2006; Claiborne, 2006; Slaght and Hamilton, 2005; Dami et al., 2009) has focused on the determinants and models of coordinated response in general. This body of research, although empirical and experimental, has not examined the context and triggers of coordinated responses as well as the preferences of road safety practitioners for coordinated strategies in some high income countries at a local level. Moreover, these studies have been undermined by some limitations. Firstly, this research from related fields has not focused on the nature of the factors which give rise to the need to coordinate. Instead, it has examined the outcomes of coordinated responses. Secondly, part of these studies have accessed secondary datasets, whose primary purpose was not that intended in the studies. Thirdly, some studies employed opportunity sample, which is often viewed as a weak sampling approach (Brady, 2006). Most importantly, the studies have shed little or no light on the underpinning factors which explain how certain societies are able to coordinate responses against risk factors in road traffic injury prevention whereas others fail abysmally at the same task.

This study examines the context of coordinated responses, triggers for coordinated responses, and road safety practitioners' preferences for or choice of coordinating strategies. In this vein, the key research questions in this paper are: what characterizes the context in which coordinated responses occur in road traffic injury prevention; what are the triggers for these coordinated responses; and what are the practitioners' preferences for or choice of coordinating strategies?

These questions hold considerable significance in the transfer of knowledge from highly successful road traffic injury prevention managing nations to others. Firstly, practitioners' descriptions of coordinated responses do not appear to have been unearthed in road traffic injury prevention at a county/municipal level. The significance of the focus on county/municipal level is justified on the fact that although countries enact laws and develop national level road safety strategies, their implementation and enforcement rests with county/municipal level health, enforcement and road safety agencies. There is, in this sense, no scientific understanding of how the practitioners in these agencies view coordinated responses in road traffic injury prevention. Without this appreciation, the transfer of critical knowledge may not be based on actionable details at the implementation or implementation phase. Secondly, knowledge of the features and underpinning factors of coordinated responses allows adoptees to make an informed decision as to the suitability of the strategies to their own contexts. Moreover, this investigation is highly likely to provide sufficient know-how for countries to adopt a recommendation consistently made by the WHO since 2004. Since the release of the World Report on the status of road traffic injury prevention globally in 2004, the WHO has maintained a consistent recommendation – i.e. that countries coordinate countermeasures to comprehensively address scientifically identified risk factors (Peden and Sminkey, 2004; WHO, 2009, 2013).

In the sections ahead, a brief overview of the relevant literature is provided. This is followed by a description of the mixed-methods employed in the current study. The results are concisely presented

before a discussion section, which is followed by concluding remarks.

## 2. Literature review

Despite extensive search of the various databases and online journals over a year, no study was identified which specifically examined coordination or a coordinated response in road traffic injury prevention. Therefore, peer-reviewed research into institutional coordinated responses in other related fields was examined for inclusion in this literature review. To this end, the chief inclusion criterion was as follows: the studies needed to investigate coordinated responses in contexts where a social-outcome (as opposed to equity-driven setting such as a private corporation) was pursued such as crime reduction, health promotion or any coordinated responses directed toward social risk factors. Nonetheless, the findings in these studies will not be explored in this discussion due to the fact that the implication of such findings is of insubstantial consequence to the current research. Instead, focus in the review of the literature in this paper is placed upon the manner in which coordinated responses have been investigated in related social-outcome fields or inter-government agency domain. As a result, only five studies were deemed to meet the inclusion criterion (Table 1).

Whilst the studies (Table 1) selected for inclusion in this literature review differ slightly in objectives or foci, these scientific investigations appear to pertain mostly to the medical field, investigating coordination in General Care (Claiborne, 2006), Drug Rehabilitation (Bennett et al., 2006), and Medical Emergency (Dami et al., 2009). The second predominant field seems to be the Criminal Justice System, focusing mostly on domestic violence (Whetstone, 2001; Slaght and Hamilton, 2005). Nonetheless, the findings in these studies will not be explored in this paper due to the fact that the implications of such findings are of insubstantial consequence to the current research questions. Instead, the focus in the review of the literature in this paper is placed upon the manner in which coordinated responses have been investigated in related social-outcome fields or inter-government agency domain.

As illustrated in Table 1, the studies into institutional coordinated responses to social risk factors have focused primarily upon both determinants of coordination (Bennett et al., 2006; Slaght and Hamilton, 2005) and models of coordinated responses (Whetstone, 2001; Claiborne, 2006; Dami et al., 2009). These determinants were thought to be a joint philosophy (Slaght and Hamilton, 2005), information flow frequency (Dami et al., 2009), subsidiary communication modes (Dami et al., 2009), adequate work design (Dami et al., 2009), community empowerment (Whetstone, 2001), informal information sharing (Whetstone, 2001) and inter-personal communication (Whetstone, 2001).

Despite the empirical and experimental nature of the aforementioned studies, these were not without limitations. In the case of the experimental studies (Whetstone, 2001; Claiborne, 2006) the focus on the effects of coordinated responses did not allow much of the processes involved in generating coordinated responses to be examined. Additionally, the factors determining the need to coordinate do not appear to have received much attention. On the other hand, in the case (Dami et al., 2009) where a dataset examination was undertaken, the limitations referred to the fact that the data had been initially collected for a different purpose. In other words, the dataset primary purpose was other than to serve the aims of the study. Furthermore, the absence of triangulation in this study weakened the validity of the findings (Middlewood and Abbott, 2012).

The adoption of opportunity sampling in Slaght and Hamilton (2005) can be said to have limited the study ability to generalize

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