



Reporting on road traffic injury: content analysis of injuries and prevention opportunities in Ghanaian newspapers

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ABSTRACT

In order to analyse traffic injury reporting in Ghanaian newspapers and identify opportunities for improving road safety, the content of 240 articles on road traffic injury was reviewed from 2005 to 2006 editions of two state-owned and two privately owned newspapers. The articles comprised reports on vehicle crashes (37%), commentaries (33%), informational pieces (12%), reports on pedestrian injury (10%), and editorials (8%). There was little coverage of pedestrian injuries, which account for half of the traffic fatalities in Ghana, but only 22% of newspaper reports. Only two articles reported on seatbelt use. Reporting patterns were similar between public and private papers, but private papers more commonly recommended government action (50%) than did public papers (32%, $p=0.006$). It is concluded that Ghanaian papers provide detailed coverage of traffic injury. Areas for improvement include pedestrian injury and attention to preventable risk factors such as road risk factors, seatbelt use, speed control, and alcohol use.

INTRODUCTION

In developing countries, motorisation has been accompanied by rapid growth in road traffic injuries, which have become a leading cause of death and disability. According to the World Health Organization, in 2002 an estimated 1.2 million people died and 50 million were injured or disabled in traffic crashes worldwide, costing the global community US\$518 billion. The majority of these deaths (90%) occur in developing countries, where road safety measures have not been adequately implemented.¹

Public perceptions about road safety are influenced by the amount and type of coverage they receive in the popular press. Press coverage of crashes has the potential to shape readers' perceptions of personal risk and their beliefs about the nature and preventability of crashes through the frames they employ, including the choice of which stories to cover, choice of detail, and the context in which information is conveyed.⁴

We conducted the current study to analyse the content of road traffic injury reporting in the Ghanaian papers and identify opportunities to effectively promote injury prevention. We also wished to explore the relationship between newspaper ownership models and reporting content, given the prominence of state-owned newspapers in many developing countries.

METHODS

Setting

This study was conducted in Ghana, a West African country of 22 million people with GNP of US\$590 per capita in 2007.⁵ Vehicle use has grown steadily during the past 15 years, accompanied by higher rates of road traffic crashes, injuries, and deaths.

Study design

Content analysis of Ghanaian newspaper articles.

Article inclusion

The study included newspaper articles on road traffic injury published in the *Graphic* and *Times* (publicly owned) and the *Guide* and *Chronicle* (privately owned) from 1 January 2005 to 31 December 2006. The only two government-owned daily newspapers were chosen. Of over 35 private newspapers, two daily papers were randomly selected. All four selected are daily newspapers with national distribution. According to marketing offices, the *Graphic* circulates 100 000; *Times*, 35 000; *Guide*, 45 000; and *Chronicle*, 30 000 newspapers daily. We selected a minimum of 50 articles from each paper. For the *Graphic*, we reviewed all 68 articles on road traffic crashes identified in 2005. For the other three papers, we reviewed every article on road traffic crashes identified in 2005–06. Key variables were abstracted and classified for each article (table 1).

Data analysis

Data were entered and analysed using EpiInfo 3.2 (CDC, 2004). Comparisons in reporting patterns were evaluated using χ^2 and Fisher's exact test as appropriate.

Reliability

Article content was evaluated by one author (IKY) and 10% of the articles were re-evaluated by a second observer (GEA) who was unaware of the first observer's ratings. Inter-rater reliability for main study variables was high: cause of injury (agreement 88%, κ 0.75, $p=0.001$); government specific actions (agreement 96%, κ 0.88, $p<0.001$); public specific actions (agreement 88%, κ 0.75, $p=0.001$).

Human subjects approval

The study used publicly available information and was considered exempt from review by the University of Washington Human Subjects Division.

Table 1 Descriptive data for newspaper articles on road traffic crashes

Variable	Categories or description of variable
Date of article	
Type of article	<i>Commentary</i> : General article on road traffic crashes, often written by the general public <i>Editorial</i> : Piece by editor, often expressing a viewpoint <i>Informational piece</i> : Report on data released by police, National Road Safety Commission, or other source <i>Report on crash</i> : Article reporting on a specific motor vehicle crash event <i>Report on pedestrian injury</i> : Article reporting on specific incidents in which a pedestrian was killed, injured, or hit by a vehicle
Type of crash	Head-on, rear-on, side swipe, right angled, overturn, hit object, hit parked/broken down vehicle, or hit pedestrian
Number of vehicles involved	
Number of on-the-spot or prehospital deaths	
Number of people injured	
How the victims were transported to a health facility	Ambulance, private vehicle
Potential causes of the crash or the resultant injury	Examples: use of alcohol, speeding, vehicle maintenance, non-use of seatbelts and crash helmets
Public specific action	Actions that individuals and/or civil society groups could/should take to prevent crashes or related injuries in the future
Government specific action	Actions the central government or agencies could/should take to prevent future crashes or related injuries
Follow-up publication	Article written in reference to a prior article on a crash, typically following up on the fate of those involved

RESULTS

Types of articles

We reviewed 240 articles on road traffic injury. These articles were categorised in mutually exclusive groups as follows (table 2): crash report (38%), commentary (33%), editorial (7.5%), informational piece (12%), and pedestrian injury report (10%).

Details of crashes reported

There were four times as many motor vehicle crashes reported as pedestrian injuries. Most press articles (70%) reported on number of persons injured, and nearly every article indicated whether fatal injuries occurred (92%). Articles rarely stated how victims were transported to a health facility (9.6%). Few articles (11%) provided follow-up information on crash victims.

Contributing factors

Potential contributing factors were generally reported, especially in commentaries and editorials (table 3). Contributing factors were less frequently reported for pedestrian injuries (56%) than for all other types of articles (78%, $p=0.02$) and for motor vehicle crashes specifically (76%, $p=0.06$). Papers reported

contributing factors including excessive speeding (34%), alcohol-impaired driving (13%), wrongful overtaking (12%), overloaded vehicle (6.6%), and driver fatigue (1.7%). None mentioned posted speed limits or poor road design. Protective factors were rarely mentioned. Only two articles (0.8%) reported seatbelt use and only one article (0.4%) offered a commentary on the protective role of seatbelts. There was little mention of other protective factors: divided roads, sidewalks, or securing vehicle loads.

Recommendations for road safety action

We evaluated articles for two types of recommended actions: public specific actions (PSAs) and government specific actions (GSAs) (table 1). PSAs were frequently recommended in commentaries, editorials, and informational pieces (table 4). Reports on crashes and pedestrian injuries were far less likely to contain PSAs. Commentaries in public papers were more likely (85%) than those in private papers (63%) to recommend PSAs ($p=0.03$).

The most frequently cited PSAs were: (i) advocating a stronger role for civil society, for example inspecting drivers' licences (mentioned in 17% of articles that recommended a PSA); (ii) drivers' unions taking actions directed at poor drivers (10%); (iii) reduction in risky driving practices (drunk driving, fatigue driving, excessive speeding, and wrongful overtaking) (8.8%); (iv) driver self-restraint (7.8%); (v) pedestrian caution (7.8%); (vi) vehicle maintenance (6.7%); (vii) driver education (5.9%); and (viii) safe road use practices (seatbelt use, defensive driving) (4.9%). Few articles mentioned PSAs to limit speed (5.9%) or use of alcohol (2.9%).

GSAs were more frequently described in commentaries, editorials, and informational pieces (table 4). Private papers were more likely to recommend a GSA (50%) than were public papers (32%, $p=0.006$). Frequently cited GSAs were: (i) traffic law enforcement (speeding, vehicle overloading, or prosecution of offending drivers, 32%); (ii) education of drivers, pedestrians, or riders by the police (15%); (iii) policy formulation and enactment of laws (11%); (iv) use of radar guns, breathalysers, security cameras at traffic lights, or establishment of call centres on highways (9%); (v) road improvements such as road marking, lighting, signage, or maintenance (7%); and (vi) pre-hospital emergency services or first aid training (6%). Only 9.3% of articles mentioned speed and 7.5% mentioned alcohol.

DISCUSSION

This study sought to identify patterns of reporting on road traffic injuries in Ghana. Injury was widely reported, often with recommendations for private sector and public sector actions. There were several areas in which reporting could be strengthened. In Ghana, as in many other developing countries, pedestrian injuries are the most common road traffic death, accounting for 43% of deaths in 2007.^{6,7} Yet articles on vehicle

Table 2 Frequency of injury article types

Source	Crash report	Pedestrian report	Commentary	Editorial	Informational piece	Total
<i>Public newspapers</i>						
<i>Graphic</i>	35 (51%)	7 (10%)	15 (22%)	2 (3%)	9 (13%)	68 (100%)
<i>Times</i>	16 (27%)	9 (15%)	24 (41%)	4 (7%)	6 (10%)	59 (100%)
<i>Private newspapers</i>						
<i>Guide</i>	33 (54%)	5 (8%)	13 (21%)	4 (7%)	6 (10%)	61 (100%)
<i>Chronicle</i>	6 (12%)	4 (8%)	27 (52%)	8 (15%)	7 (13%)	52 (100%)
Total	90 (38%)	25 (10%)	79 (33%)	18 (8%)	28 (12%)	240 (100%)

Table 3 Percentage of articles mentioning contributing factors for road traffic injury*

Source	Commentary	Editorial†	Informational piece	Crash report	Pedestrian report	Total
Public	80% (31/39)	50% (3/6)	73% (11/15)	77% (39/51)	44% (7/16)	72% (91/127)
Private	83% (33/40)	100% (12/12)	69% (9/13)	74% (29/39)	78% (7/9)	80% (90/113)
Total	81% (64/79)	83% (15/18)	71% (20/28)	76% (68/90)	56% (14/25)	75% (181/240)

*Percentages given in table, with numerator and denominator in parentheses.

†p=0.025 for differences between public and private.

Table 4 Percentage of article types recommending a public specific action and government specific action†

Source	Commentary	Editorial	Informational piece	Crash report	Pedestrian report	Total
<i>Public specific action</i>						
Public	85% (33/39)	33% (2/6)	87% (13/15)	10% (5/51)	13% (2/16)	43% (55/127)
Private	63% (25/40)	75% (9/12)	54% (7/13)	10% (4/39)	22% (2/9)	42% (47/113)
Total	73% (58/79)*	61% (11/18)‡	71% (20/28)‡	10% (9/90)	16% (4/25)	43% (102/240)
<i>Government specific action</i>						
Public	69% (27/39)	67% (4/6)	53% (8/15)	2.0% (1/51)	6.3% (1/16)	32% (41/127)
Private	88% (35/40)	67% (8/12)	77% (10/13)	2.6% (1/39)	22% (2/9)	50% (56/113)
Total	78% (62/79)*	67% (12/18)	64% (18/28)	2.2% (2/90)	12% (3/25)	40% (97/240)*

*p<0.05.

†Percentages given in table, with numerator and denominator in parentheses.

‡p<0.10 for differences between public and private.

crashes outnumbered reports on pedestrian injuries by 3 to 1, with few suggestions for preventive actions.

Preventive steps were discussed in commentaries and editorials, but low coverage in crash reports represents a missed opportunity to link crash consequences with injury prevention. Commentaries were often written by the general public, some of whom are proficient in road safety. Editorials and informational pieces were usually written by editorial staff or national experts, often with experience covering public policy. Reports on crashes and pedestrian injuries were more commonly written by on-the-ground reporters, with little formal background in injury prevention.

Finally, greater emphasis should be placed on known, effective prevention strategies. Less than 1% of articles mentioned restraint use and only one article offered a commentary on the role of seatbelts in protecting occupants. Approximately 90% of pedestrians survive impacts with cars at speeds up to 30 km/h, but more than 50% will die at speeds of 45 km/h or more.¹ Speed was often indicated as a contributing factor, but few articles discussed strategies to control speeding, such as enforcement and traffic calming. Similar considerations pertain to other major risk factors, including drunk driving and driver fatigue.

Previous work has considered the potential use of newspaper reports for injury surveillance in developed and developing countries.² To our knowledge, this is the first article to examine the press's role in injury prevention in a developing country. This study showed similarities to previous literature from high-income countries. Rosales and Stallone found that the newspaper crash reports described crashes better than individual or vehicle behaviour.⁸ According to Voight *et al*, important safety messages were rarely reported; only 9% of crash reports mentioned seatbelts.⁹ Connor and Wesolowski commented that papers often presented crashes as dramas with a 'victim/villain' storyline, assigning blame in 90% and underreporting restraint use.³ Similar findings were noted for reporting on farm injuries and residential fires.^{9–11} All of these studies identified the press as an important source of injury information, but with deficiencies. There was consensus on the need for better dialogue between public health advocates and the press, which our study

has also shown. Our study also suggests that road safety advocacy will be more effective if advocates and public health spokespersons explicitly cultivate relationships with media professionals, and seek opportunities to proactively influence media reporting.

There are a number of limitations to this study. We analysed articles from four newspapers which have large national daily circulation, including both state-owned public newspapers, but did not include 33 additional privately owned newspapers in Ghana. We were not able to examine trends in reporting over time. Finally, we are not able to measure the impact of injury journalism on public and private behaviours.

Box 1 Recommendations on strengthening injury prevention in the press

- ▶ National media commissions can partner with public health and transportation safety organisations to provide short courses on evidence-based injury prevention strategies for journalists
- ▶ Schools of journalism can incorporate a course on road safety reporting in their curriculum, not only to review injury prevention but also to address one of the leading causes of fatal injury for journalists
- ▶ Editors can set standards for injury reporting, including regular identification of seatbelt use, alcohol involvement by drivers as well as pedestrians, and consideration of environmental risks
- ▶ Law enforcement officers can strengthen public education on traffic regulations and foster closer relationship with the media by regularly briefing them on crashes, arrests, and judicial judgements
- ▶ Transportation safety organisations could provide regular data to journalists, identifying high-risk pedestrian zones, and identifying preventable risk factors

What is already known on the subject

- ▶ The press can play an important role in promoting injury prevention and road safety.
- ▶ Opportunities to strengthen the role of the media in injury prevention have not been well addressed in low- and middle-income countries.

What this study adds

- ▶ This is the first study to address the role of the media in injury prevention in a low- or middle-income country.
- ▶ The press is already playing an important role in promoting road safety in Ghana, with detailed reporting of crashes and with appropriate recommendations for private sector and governmental actions in editorials, informational pieces, and commentaries.
- ▶ Editors may wish to consider how to improve coverage of pedestrian injuries, which constitute a significant proportion of road traffic injuries in Ghana, but a smaller proportion of existing reporting.
- ▶ Likewise, more coverage of recommended actions could be built into reports of crashes and pedestrian injuries, with greater focus on specific, effective safety measures such as seatbelt use and speed control measures.

In conclusion, this study highlighted that the Ghanaian press can play an important role in promoting safety and injury control. Increasing the media's role in injury prevention could be accomplished by improving dialogue between public health and

media practitioners, as well as by considering specific measures (see box 1).

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