Author's response to reviews

Title: A successful model of Road traffic injury surveillance in a developing country: Process and Lessons Learnt

Authors:

Junaid A Razzak (junaid.razzak@aku.edu)
Muhammad S Shamim (shahzad.shamim@aku.edu)
Amber Mehmood (amber.mehmood@aku.edu)
Syed A Hussain (rtiresearchcenter@gmail.com)
Mir S Ali (mshabbar@neduet.edu.pk)
Rashid Jooma (rashidjooma@gmail.com)

Version: 4 Date: 22 April 2011

Author's response to reviews: see over
April 21st, 2011

Editor,
BMC Public Health

Re:  Resubmission of our manuscript entitled as “A successful model of Road traffic injury surveillance in a developing country: Process and Lessons Learnt”

We would like to thank you and the referees for their valuable input into our manuscript. We have incorporated almost all changes suggested by the reviewers. In the following paragraphs we give a point-by-point response to the concerns raised:

Reviewer 1

Minor essential revision

1. Page 5, paragraph 3

a. Please define medico-legal certificate as all readers may not be familiar with this term/process.

We agree. We have clarified it by adding the following: “Prior to 2004, all trauma victims in the city required a visit to a government designated trauma hospital to obtain a document certifying patients’ evaluation by the medico-legal officer/police surgeon before care can be initiated.”

b. The terms “hospital” and “trauma centre” are used interchangeably here (unless there are government run trauma centres). Please recheck.

We have rechecked. Yes, there are government run trauma centers.

Major compulsory revision

2. Introduction

a. Previous work done by this group provides insight into the underreporting of injuries in the police system in Pakistan (Int J Epidemiol 1998;27:86-870). This has neither been cited nor used as a context.
We agree. We have added this reference as reference number 8.

b. Please state in the manuscript that no formal needs assessment was carried out as the previous work provided sufficient base to proceed with establishing this surveillance.

We agree. We have added “No formal need assessment was carried out as part of setting up of surveillance system” in para 2, page 6.

c. A clear statement on the objectives of the surveillance system should be provided.

We agree. We have added the following sentences in para 2, page 6 to clarify the objectives: “There were three main objectives of the surveillance system: a to ascertain the burden of road traffic injuries presenting to major hospitals of the city, b- to define groups, areas and other epidemiological factors associated with road traffic injuries and c- to identify possible solutions for reducing the burden of RTIs in Karachi, Pakistan.”

3. Page 5, paragraph 3 - Please explain what is meant by “no records are kept” for visits to the emergency department.

We agree. We have clarified this further by changing the sentence to “In the absence of outpatient health information management system, no medical records are kept for visits to the emergency departments at two of the three government hospitals.”

4. Figure 1

a. Please provide legends.

Done

b. Please provide the number of staff in the boxes where relevant for the readers to get a more complete idea about how large this undertaking was.

Done

5. Data collection – This section could benefit with more description as highlighted below:

a. How the patients were identified who needed to be documented in this surveillance system?
Following lines were added in para 2, page 7: “Trauma patients presenting to the emergency department were screened for road traffic crash as the cause of the injury by the data collectors.”

b. Were all road traffic injury patients irrespective of severity of injury covered in this surveillance?

Yes. Following lines were added to para 2, page 7: “All patients, irrespective of the severity of injury, were included in the surveillance.”

c. The sequence of steps for data collection is not clear. Was the patient first point of contact for data? Where data collected from medical records and supplemented by patient for missing information? When were police records used? Who completed the medical information in the data collection form?

We have modified para 2, page 7 to: “Data was collected from the victims themselves whenever feasible. In other cases, any eye witnesses, ambulance drivers, or relatives were interviewed. In cases where information is not available during patients’ treatment in the emergency department, data collectors visited patients in the hospital to interview patients or their family members.”

d. Since the staff for data collection was available round-the-clock, in which situations was data sought from hospital or police records?

We have clarified this in para 2 page 7 by adding “Occasionally hospital’s inpatient record or police records were used when no other source of information is available.”

e. Page 7, paragraph 2 – Please specify that surveillance was carried out round-the-clock with data collectors working in shifts.

We have added this information to the sentence: “The surveillance system was simultaneously launched in all five hospitals in September 2006 with data collectors working 24 hours a day in three 8 hour shifts.”
6. Table 1

a. Surveillance is likely to capture more non-fatal injuries as expected. Please provide this information for moderate to severe injuries because surveillance for “all injuries” is neither necessary nor good use of limited resources.

The purpose of this manuscript was to describe the process of surveillance and introduce the readers to the discrepancy in the numbers between police and the hospital based surveillance. We would prefer not to make this the focus of the manuscript. Degree of under-reporting by police and the impact of the severity of injury on the under-reporting is part of another manuscript focused on that very important issue.

b. The >2 times difference in fatal injuries between surveillance and police records merits some discussion. Where are these extra deaths coming from which have been missed by police? Are there data points that researchers in developing countries should be aware of in order to capture all deaths?

We agree. We have added the following sentences to para 2, page 9: “The main finding of the surveillance was the high number of deaths and injuries compared to the numbers reported by police, the official source of road traffic injuries and deaths. Our study found that between only half of all road traffic injury deaths and just 2-3% of non-fatal injuries are reported in the police records. This major difference assured that the surveillance received attention. (Table 1) There are two possible reasons for this difference: a- many patients were brought to the hospital from the site of crash before the arrival of police and b- deaths in police record captures death either at the scene or soon after arrival to the emergency department and does not include following patients during their hospital stay.”

7. Cost of surveillance: This still needs to more specific for each component in order to have more utility for readers intending to plan such a system or improve the current system. Also, cost of on-site data collection should be presented separately as it is not necessary to have this component in routine surveillance.

Unfortunately, we will not able to give exact division for each specific component as some of the functions were being performed by same individual and not record of exact time spent on activities were kept. We have however added an estimate in the para 3, page 10: “About two third of the cost is for salaries of the data collectors.”
8. The revised manuscript is now focused on process rather than data, which is fine, as long as enough information is provided on the process. What is missing is what happens once data are collected by the data collectors at the data management level, and how routinely these data are analyzed to assess the quality and current situation of RTI.

We have described the analysis and report writing in para 3, page 8

9. Some limitations of the approach taken by the authors should also be discussed.

We have described the limitation in our approach under the sustainability and the lack of road safety audits on page 11 and 12 as the limitation of our current approach. We would be happy to add any other limitation that the review may want us to discuss.

10. Sustainability of this system, in particular ownership or buy-in from the government, needs more discussion than what has been done in this manuscript

We agree. We have added the following to last para on page 11: Eventually, Government’s ownership and direct financial support of the surveillance system will be needed. In low income countries such as Pakistan, often the competing priorities, limited health and health research budgets and poor understanding of the role of injury surveillance are some of the reasons for lack of support.

Reviewer 2

1. This concern is largely met by the responses to both reviewers, however I would carefully review the paragraph in the section Impact of Surveillance System on page 8 for both clarity of language and some specifics about how many more deaths and injuries found through surveillance in comparison to police reporting.

We agree. We have added the following to para 1, page 9: The main finding of the surveillance was the high number of deaths and injuries compared to the numbers reported by police, the official source of road traffic injuries and deaths. Our study found that between only half of all road traffic injury deaths and just 2-3% of non-fatal injuries are reported in the police records. This major difference assured that the surveillance received attention. (Table 1) There are two possible reasons for this difference: a- many patients were brought to the hospital from the site of crash before the arrival of police and b- deaths
in police record captures death either at the scene or soon after arrival to the emergency
department and does not include following patients during their hospital stay.

2. The authors response is adequate

3. The authors response is adequate

4. These issues were clear in the revised manuscript

5. I agree with the reviewers concerns that risk factor analysis is not available through the
surveillance system. A risk factor is a factor which is proven to increase the risk of an event, for
example through case-control analysis. What you can detect here is the frequency of associated
factors but not their capacity to increase risk. It may seem pedantic, but I think it is worth
getting this correct and recommend a few edits: page 7 Frequency analysis was performed
describing high-risk victims, vehicles and places. (delete high-risk). Similarly on page 9 On the
engineering side, the project identified 50 spots with highest risk of road crashes recommend
replacing highest risk with a high frequency.

We agree. We have made all the changes suggested

6. I think the validation section could have some more information eg. Comparison of
completeness of 2 sources. For example were there cases which were police reported but not
picked up in Surveillance. There is substantial literature on the use of multiple sources to
increase case capture.

We did not do formal assessment of the completeness using two or more sources and
therefore cannot comment on it.

7. This section read well.

8. The authors response is adequate

9. The authors response is adequate

I hope these responses are acceptable to you and the referees. Please do not hesitate to
contact me if you need further information.
Best wishes,

Junaid A. Razzak MD PhD FACEP
Senior Lecturer and Director WHO Collaborating Center on Emergency Medicine and Trauma
Department of Emergency Medicine
Aga Khan University
Stadium Road
Karchi