Reviewer's report

Title: A review of injury epidemiology in the UK and Europe. Some methodological considerations in constructing rates

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Reviewer: emmanuelle amoros

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General

The paper seems to have two objectives, as mentioned in the title: firstly, to provide incidences and characteristics of injuries in UK and Europe, and secondly, to discuss methodology for constructing incidence rates.

Maybe there should be two papers: one on methodology (about constructing incidence rates) and one on injury epidemiology results; within UK only ? or within Europe ? and each one should be more thorough.

You should clarify whether you deal only with studies dealing with injuries covering all types of causes, or studies dealing with injuries from any type of cause (road, home and leisure, occupational….)

Major compulsory revisions

About methodology:

It lacks of presentation of different measures of injury severity: at least those based on AIS: ISS indeed, but also NISS, and MAIS, and please provide at least some references about the pros and cons of each.

The issue of matching numerator with denominator needs more development. For instance, do the registries have an inclusion criteria based on the place of residence or the place of occurrence of the injury?

And what about numerator estimation and denominator estimation? including the issue of registry completeness? And record-linkage with other sources? And methods such as capture-recapture to overcome incomplete registration?

In addition, what about some references of papers dealing with denominator estimation? (for instance Schlaud, Brenner et al, 1998, approaches to the denominator in practice-based epidemiology: a critical overview)

About estimated incidences and characteristics of injury epidemiology:

There should be more comparison and interpretation.

I am afraid the literature review is not exhaustive for Europe. Only a few European countries are covered; is that really so? If you choose to keep a review
of European studies, you should enlarge your bibliography: please mention/present at least IDB (Injury Database) that has been set up within European projects, as an enlargement to EHLASS programs (which you do mention). If you cover studies of any type of cause of injuries, then you should add a number (?) of European studies (for instance for road traffic injuries: Harris S, 1990, the real number of road traffic accident casualties in the Netherlands, a year-long survey, Accident Analysis and Prevention, …)

Similarly, not all trauma registries across Europe are alike those you mention. When you discuss their limitations on page 8, this may only apply to UK registries (For instance, the French Rhone road trauma registry does include immediate (on-the-scene) deaths (ref= Laumon et al, a French road accident trauma registry: first results, 41St annual conference of AAAM, 1997)).

As mentioned above, you should clarify whether you include only with studies dealing with injuries covering all types of causes, or all studies dealing with injuries from any type of cause.

Minor essential revisions

You should clarify the end point of your literature search: 2008? (since one referenced study has been published in 2008)

Page 8 “decline in walking and cycling activities”: this should be documented; at least give the corresponding time frame, since very recently, in some European cities, cycling has developed again, in conjunction with large implementation of self-help bike rental

Page 9: last paragraph: English mistakes.
Please explicit RTC the 1st time you mention it.

Tables:
If there is a restriction on the cause of injuries, it would better be mentioned before the last column. Maybe in the type of study or in the “epidemiological observation” (for instance: school injuries, traffic injuries, assault injuries)

Please add the type of data source, in the type of study or in additional column? (sometimes you do somewhat: for instance “TARN”)

Please add the population size in the column “population”; it will tell us the size of the sample.

Please be homogenous in the rate unit (per 100000; the population size will tell us on how many subjects the estimation is actually based)

Discretionary revisions
the alphabetical order may not be the most relevant: by region first? By Country within Europe
Please provide age range of children or adolescents for each study rather than in
the title and for some studies when different

Page 8: please explain “secondary data”
Page 3: Please explain “finished consultant period”
Page 5 explicit Uk social class V and I
Page 6, 1st paragraph: incidence instead of occurrence?

Tables: please be homogeneous in the words use.
For instance page 26 “body parts” whereas “body region” elsewhere
“proportion by demographics” I assume it means gender and age? (which you have used previously)

Conditions of injury? Do you mean circumstances?
“event timing”=
“Ws”=
MTOS=?
“regression” is too vague; please specify what is the event of interest that is being modeled

Process of care=? outcome?, origin=? Is it “Cause type” that you have used elsewhere?

Table 2:
What do you mean by “article comments” in epidemiological shortcomings column?
What does NSSEC class mean? 8 and 1? (for non–UK readers)
What do you mean by “53% pick-up rate”?

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests