Reviewer's report

Title: Health care consumption and costs due to foot and ankle injuries in the Netherlands, 1986-2010

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Reviewer: Martin Thomas

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This retrospective observational study examines the long-term population-based trends in emergency attendance and associated hospitalisation and healthcare costs of foot and ankle injuries in the Netherlands from 1986 to 2010.

From a public health perspective understanding the long-term patterns in healthcare use for musculoskeletal disorders can provide valuable information on which to base healthcare provision. Whilst there are numerous epidemiological studies on foot and ankle injuries in the literature, the population data source used for this analysis make it a useful contribution.

The methods appear detailed enough for reproduction and the results and conclusions presented address the research question. The datasets used have good coverage and the authors acknowledge and report the breadth of this coverage, also making clear how other healthcare sources such as GP consultation, not included in the analysis, may explain some of their observations. Some limitations are clearly stated in the discussion and the title accurately reflects the study.

Major compulsory revisions

None

Minor essential revisions

Abstract:

1. HLOS abbreviation in the results should be written in full.

2. The observed decrease in overall emergency attendance rate stated in the conclusion should be reported more cautiously. As mentioned in the discussion section, this could in part be explained by the reconfiguration of minor injury services and increase in GP consultation during this period.

Methods:
3. In the ‘Calculation of costs’ subsection the period of coverage for this analysis should be stated.

4. The software package and version used for the statistical analyses should be reported.

Results:

5. In Figure 4 the key for in-hospital care has been inconsistently applied across all 8 panels and should be standardised.

Discussion:

6. Paragraph 3: A shift towards more complex injuries over time is noted as a potential explanation for increased osseous injury. Although this is referenced, examples of types of complex injury could be included in the text to support this point.

I appreciate that the limits of the dataset and the changes in minor injury services have been highlighted, but the discussion could be improved by including reference to some other studies that may be able to provide some further explanation for the observed increase in osseous injury. For example, due to increased sports participation or secondary to falls.

7. Paragraph 8: Could the sentence ‘Although LIS-data covers 12% of the Dutch population, international validation studies have shown that the mathematical model underlying the extrapolation has a high level of completeness and validity’ be referenced.

General:

8. Is the phrase ‘clinical incidence rate’ used for admitted patients too vague? Would phrases such as, ‘the incidence of osseous foot and ankle injuries’ or ‘the proportion of foot and ankle injuries’ be more explicit?

Discretionary revisions

Methods:

9. The study was exempted by the local Medical Research Ethics Committee. Does this mean approval was not necessary? If so was the ethical conduct of data access, management and storage evaluated?

10. A number of analyses are run across different time periods; 1986-2010,
1991-2010, 2006-2010, 2010. Was this based on data availability? This could be mentioned in the discussion.

Minor issues not for publication

11. The first sentence of the conclusion would read better as ‘..ankle injuries in the Netherlands decreased by 25%’ instead of with 25%. This is repeated throughout the manuscript.

12. Is ‘ligamentary’ the best word for this group? Alternatives could be ligament or ligamentous.

**Level of interest:** An article of importance in its field

**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