Reviewer's report

Title: Cost per case or total cost? The potential of prevention of hand injuries in young children - retrospective and prospective studies

Version: 1 Date: 25 September 2007

Reviewer: Ted Miller

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Reviewer's report: General
The manuscript is largely descriptive. Although it breaks down hand injuries by aetiology, that breakdown yields minimal insight into prevention approaches, the sole exception being door hinge crush prevention.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The mixing of disparate data from the primary catchment area and from referral areas makes it very hard to interpret the study' findings or to use them for anything without serious qualms. The paper acknowledges that mixed data are a problem but never really adjusts for that problem. A reasonable, albeit imperfect, solution would be to add a secondary catchment area variable to all the regressions. Alternatively, and perhaps preferably, the whole paper could be restricted to data from the primary catchment area.

2. pp. 15-16. The cost savings analysis has serious problems. First, widespread adoption of no-pinch hinges almost surely would drop their price. Second, this analysis should be restricted to the city of Malmo, as you need to know total costs for an area to do a valid comparison. Third, cost savings estimates that ignore the consequences in terms of quality-adjusted life year loss and long-term work-related disability are inappropriate to use in cost savings analysis. One approach here would be to use the ratio of these costs to medical from your reference 3 or the 2005 update to get a rough feel for the economics. (The Cost of Child and Adolescent Injuries and The Savings from Prevention, T Miller, E Finkelstein, E Zaloshnja, D Hendrie. In K Liller (ed.), Injury Prevention for Children and Adolescents: Research, Practice, and Advocacy, Washington DC: American Public Health Association, 15-64, 2005.) Fourth, are you sure car doors are excluded from these data? Fifth, if the information is available, you should report the number of day care centres so the reader can make sense out of the number of injuries at those centres. Despite all these concerns, the results of this portion of the analysis are perhaps the most valuable contribution of this paper. Sixth, I assume this analysis included estimated parental productivity loss (and if it did not, it should). But the text incorrectly refers to the losses as “health care cost”.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

3. It is unclear if hand injury is a large childhood injury problem. Using national hospital discharge data (or failing that, Malmo primary catchment area data), what %age of childhood injury discharges from hospital ages 0-6 include a hand injury? What %age of all childhood discharges ages 0-6 excluding live birth are hand injury?

4. The cost savings analysis methods should be described in the methods section and the remainder of the analysis should be reported in the results section rather than in the discussion.

5. Table 1. I am almost sure that the Ward day cost line is wrong. It is too much of a coincidence that the Malmo IQR cost of 1736 in 1996-2000 exactly matches not only the IQR in 2002-2003 but the median costs for Skane for both time periods.

6. Table 1 needs better titling. It is unclear which number is the median and which is the IQR. What does IQR stand for (I honestly haven’t a clue.)? Are the production costs included in the costs given here? If so, why do the title and the descriptions of findings from the table in the text say these are health care costs? If not, the findings on productivity losses should be presented in the text rather than in the heading for this table. I am assuming the productivity costs are excluded from the regressions. If that is wrong, those tables need retitling and the wording in the text needs revision. Also please indicate how many people had ward days, surgeries, and outpatient visits.

7. p. 4, top. Write out International Classification of Diseases (ICD) the first time it is use, 9 and 10 should read 9th edition and 10th edition. Cite the ICD coding systems used. For burns, ICD-9 does not break out body part unless you use a modified version (eg, Clinical Modification or Australian Modification). What version is used in Sweden? Please verify & affirmatively state that the version used allows you to differentiate burns of interest (e.g., from burns of the upper arm)

8. The productivity loss estimation excludes loss from long-term disability. That limitation is not stated but should be. The Databook on Nonfatal Injury (Miller et al., University Press, 1995) estimates disability probabilities for hand injury that might give a fix on the importance of this limitation. (If that book is not accessible to you, ask the editor to have me look up this information. I’d do it now but I’m on an airplane.)


10. p. 11, last para. The first sentence is unclear. I suspect some words were omitted. 102% and 56% of what?

11. Throughout, the manuscript’s language confuses correlation with causation. Check the verb choices around the regression findings. Here is a rewrite oof a
particularly troubling spot that used “influenced.”

12. p. 11, line 5. Rewrite the sentence as “A greater number of surgical sessions was associated with a substantial increase in the number of ward days.”

13. P. 14, para 2, sentence 3. What happened in the area where Malmo is the primary provider rather than a secondary referral centre?

14. EDITORIAL

Abstract, results.

Line 3, delete “sum of” (Also a problem elsewhere in the paper, flagged below)

Line 5. end the sentence “despite a low number of cases, total cost was high."

Conclusion, line 1. :costs” not “cost”

p. 6, line 4. “needed” not “have been in need”

line 5. “were” not “could be”

p. 8, para 1, line 8. “were” not “where”

para 2, line 1. Change “source of the” to “contributor to”

line 1, last word “operations” not “operation” – but “surgery” (or surgical sessions rather than operation sessions) would be better English throughout the paper

line 4. Change “reflected by the fact that it was” to “because”

line 5, delete “that”

p. 10, para 1, line 3. “total” not “sum of”

line 5. “rifles” not “rifle”

line 9, “because” not “due to that”

para 3, line 1. “entailed” not “entail”

lines 2-3 “total” not “sum of”

p. 11, last para, line 4. “patient” not “patients”

p. 12, last para, line 2. “their” not “the”

p. 13, para 2, line 6. “dipped” not “did also dip”

line 7. “Notably,” not “It should be noted that”

para 3, line 2. “were” not “was”

lines 8-9 “formerly responsible for providing” not “former responsible for the provision of”

p. 14, para 2, line 7. “by 1.0” not “with 1.0”

p. 15, para 1, line 8. “diagnosis” not “diagnose”

p. 16, para 1, line 15. “temporary” not “temporarily”
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.