Reviewer’s report

Title: Trends and inequalities in short-term acute myocardial infarction case fatality in Scotland, 1988-2004

Version: 1 Date: 20 September 2010

Reviewer: Simon Capewell

Reviewer’s report:

A very interesting paper describing an excellent analysis of a large and solid data-set.

MAJOR ISSUES
None

MINOR ISSUES
The paper could be even better if the authors perhaps considered a few constructive suggestions.

ABSTRACT, Conclusions.
This currently says:

"Conclusions: A high proportion of AMI incidents in Scotland result in death on day of event but treatment advances and reductions in first AMI severity have led to improvements in short-term CF. However, persisting gender, geographic and socioeconomic inequalities suggest these improvements are not uniform across all population groups."

This may be challenged by some readers, because 1. there is no mention of sudden cardiac deaths [numerically the klargest fatal group in other population-based surveys] and 2. there was no analysis of treatment data, or estimation of treatment effect. Association is thus preferable to an assumption of causation.

A safer but more punchy conclusion might therefore run something along the lines of:

"Conclusions: A high proportion of AMI incidents in Scotland result in death on day of event; many of these will be sudden cardiac deaths. Short-term CF has improved, perhaps reflecting treatment advances and reductions in first AMI severity. However, persisting gender, geographic and socioeconomic inequalities suggest these improvements are not uniform across all population groups, emphasising the need for population-wide primary prevention."
INTRODUCTION

METHODS

RESULTS

are all basically fine.

DISCUSSION.

Again, it might be useful to mention sudden cardiac deaths in para 2. for instance:

" There has been a steep downward trend in short-term case fatality rates after a first AMI over recent years in Scotland. However, close to a half of AMI incident events still result in death on the day of the event implying that a high proportion of these first AMIs are SUDDEN CARDIAC DEATHS."

and again:

"The opposite appeared to happen in women, for whom inequalities were emerging. It is logical to think that Day0 case fatalities are MAINLY SUDDEN CARDIAC DEATHS, with limited potential for treatment to have ANY effect."

DISCUSSION, CONCLUSIONS

This might benefit from a bit of polishing along the lines of:

"There have been progressive improvements in short-term case fatality from AMI in Scotland. THIS MAY REFLECT improved treatments and a reduction in the INCIDENCE OF SUDDEN DEATHS. A high proportion of AMI incident events result in death on the day of the event, MAINLY SUDDEN CARDIAC DEATHS. This highlights the need for primary prevention strategies to reduce risk factor exposure.

Socio-economic inequalities in “immediate” case fatality were diminishing in men but emerging in women suggesting socio-economic gradients in risk factor exposure. THese issues need to be addressed.

Of those who survive the day of their first AMI, we showed that 28-day case fatality is higher among women than men. This gender difference is persisting over time and is more pronounced in younger, more affluent groups. Gender differences in diagnostic and therapeutic procedures MAY explain much of this gap. HOWEVER, such inequalities in AMI case fatality suggest that this type of AMI mortality in Scotland MAY BE highly preventable. "]

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.