The authors report results from an investigation of immune status against measles in 639 healthcare workers (HCW) in Catalonia. The serological study conducted between June 2008 and December 2010, had been triggered by a measles outbreak in 2006-07 involving 11 HCW. The study population was identified through convenience sampling. Findings obtained through using a commercially available IgG Elisa for measles, revealed a high level of protection among HCW overall with no differences for sex, type of HCW, and occupation in hospital vs. primary care. HCW born after 1981 showed a significantly lower protection than the older age groups studied and a lower positive predictive value for history of measles or vaccination against measles and presence of measles antibodies. The authors conclude that in Spain, in HCW born after 1980, measles immune status should be documented by serology.

I like to commend the authors for reporting on an important and timely subject and investigating a large sample of HCW.

However, before the manuscript could be considered for publication, it needed substantial revision.

1. Major points
A main concern is that the way in which data are currently presented does not seem to justify the strong conclusions drawn by the authors. Particularly the statement that measles serology should be available for HCW born after 1980 including those who provide a vaccination certificate.

Even though it has been discussed as a limitation and contested as such, it remains unclear how representative the HCW studied are for those working in Catalonia. Is information available about the distribution of age, sex and/or type of healthcare professions in Catalonia for comparison? Moreover, a high number of individuals were included in the study (n=115 nearly 18%) who are not HCW. Who are they? If the conclusions should be valid for HCW the authors may need to exclude them from the analyses or explain who they are, demonstrate that they do not bias the results for one of the subgroups analysed and explain why they were included in the study.

The statistics are unclear and description is missing in the methods i.e. what were criteria for inclusion of variables in the multivariate analysis? If it was significance at a level of 0.05 were there any other variables that authors could
include except for age? Moreover, differences between the age groups analysed (see table 1) are not very marked, even if differences were significant it seems important that the age group born after 1980 had the lowest number of subjects and the widest confidence interval and the 95% CI overlapped that of all the other age groups.

2. Minor points

Introduction
Page 1, lines 3-5: “In inpatient settings, transmission occurs from infected patients to staff and from infected staff to patients, with severe complications … please note that the same applies also to outpatient settings.

Lines 17-18: “During the period 2000-2005, the incidence of measles in Catalonia was very low (51 cases in 6 years), and outbreaks were related to imported cases and affected few people.” Statement should be backed up by reference, if unpublished data this should be stated.

Also given that the study took place between June 2008 and December 2010, the relation to the outbreak starting in November 2010 and described in the introduction is not clear.

Methods
In addition to points already mentioned above:
Page 3 lines 35-37: Six public tertiary hospitals and five primary healthcare centers distributed around the four provinces of Catalonia were included in the study. Given that he findings are generalized for all HCW in Catalonia it should be noted on what grounds these institutions were selected.

Page 4 lines 3-4: Please explain who filled in the questionnaires.
You do not mention the calculation of PPV and NPV (table 2).

Results
I suggest to start with a description of the overall study population in terms of age, sex etc. as this may be helpful of future studies or comparison with similar work elsewhere.

In lines 30-31 authors stated “The objective of this seroprevalence study was to determine the level of protection against measles in HCW in Catalonia..” and the results present 115 non-HCW an explanation is needed for who are “others”. This is important also because this igroup is the reference group for the professional groups analysed in table 1.

The totals for the different age groups in table one (71+292+164+111) add up to 638 not 639. Numbers need to be checked.

Discussion
Page 5 lines 15-18 the statement may be valid but currently there are significant pockets of non-immune individuals in many countries in Europe and not all
countries have achieved the goal of 95% coverage for two doses of a measles containing vaccine, transmission in healthcare settings is just one of the possible sources for measles transmission.

Line 36 here authors refer to high-risk populations. It would help the understanding of the reader if they could mention who they refer to here.

Page 6 line 14 the reference made to “guest workers” is unclear please explain.

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

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests