Reviewer's report

Title: Population based prostate cancer screening in north Mexico reveals a high prevalence of aggressive tumors in detected cases

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Reviewer: Stacy Loeb

Reviewer's report:

1. Is the question posed by the authors well defined? Yes-- they ask what is the prevalence of prostate cancer in men from Nuevo Leon Mexico in 2004-2006.

2. Are the methods appropriate and well described? Methods are appropriate, but further description would be helpful for several issues.

- Table 2 mentions that PSA couldn't be measured in 25 men-- why? Might discuss why not in the Limitations (Minor)

-What were the exclusion criteria, if any? For example, did they exclude men with symptoms suggestive of active urinary tract infection or men taking finasteride (which lowers PSA)? If these are not known or were not excluded, this should be mentioned in the limitations. (Major)

- More description of the study population-- was this the 1st PSA test all of these men ever had, or had some been serially screened on the outside? Had any of these men undergone a prior prostate biopsy? These will affect the interpretation of the high proportion of aggressive tumors. If prior screening/biopsy status is unknown, would mention this in the Limitations. (Major)

- It is noteworthy that the population included men up to 98 years old! Many groups suggest discontinuing prostate cancer screening after age 75 or in men with less than 10 years life-expectancy. How many men in their 80's and 90's were included here? Do the authors have any thoughts about the appropriate age to discontinue screening for Mexican men based upon their experience? (Minor)

3. Are the data sound? The data are sound but have significant limitations, as follows:

- Biopsy was only performed for a PSA >4 ng/ml or abnormal DRE. Unlike the PCPT, empiric biopsies were not performed in men without a clinical indication-- as such, we do not know the "true prevalence" of PCa in Mexican men, in particular those with PSA levels <4 ng/ml and normal DRE. This should be discussed in the limitations section (Major)

- We also do not really know the "true prevalence" of PCa in Mexican men who do have PSA levels >4 ng/ml and/or abnormal DRE since only 55 of 125 men with an indication for biopsy actually complied with the biopsy recommendation. The 44% compliance rate is low and should be given greater emphasis in the Limitations section. It would also improve the quality of the manuscript if the
authors performed a statistical analysis showing whether demographics were similar between men who did and didn't comply with the biopsy recommendation (I suspect there are systematic differences between these 2 groups, some of which may not be possible to capture in this type of study). The potential biases due to the fact that the majority of men did NOT proceed for biopsy should be mentioned. (Major)

-What were the prostate sizes of these men on transrectal ultrasound? This might be interesting to report given the relatively high prevalence of lower urinary tract obstructive symptoms (Discretionary)

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data? Although I generally agree with their conclusions (that a high proportion of the cancers diagnosed in this population were high-grade), these should be carefully tempered by the fact that this is based upon only 15 detected prostate cancers. (Major)

- Do the authors have any statistics comparing socioeconomic factors between Nuevo Leon and other areas in Mexico/Latin America? Would be interesting to help the reader assess the generalizability of their findings to other Latin American men. (Discretionary)

6. Are limitations of the work clearly stated? No-- The limitations warrant further discussion, as described above (low compliance, no empiric biopsies, etc.). (Major)

- Would also mention that this study used a higher PSA threshold than is used in many US/European centers, and some men had only 6 biopsy cores (10-12 cores are typically performed currently), so the study design/biopsy protocol can also affect the "prevalence" and aggressiveness of PCa detected. (Major)

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes.

8. Do the title and abstract accurately convey what has been found? Yes.

- The abstract might clarify that 125 men had a PSA/DRE indication for biopsy but that of those men, only 55 received a biopsy-- otherwise, the denominator from which PCa detection rates are calculated is not entirely clear (Minor)

9. Is the writing acceptable? Yes, the article is very well-written. 1 place in the manuscript which might be slightly reworded for clarity: Page 5, sentence 1 of results says that 709 patients were "admitted"-- the authors probably mean "entered the study," but it might be confused with hospital admission (Discretionary)

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

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