## Supplementary Table 1: Risk of bias assessment checklist for prevalence studies (adapted from Hoy et al)

| Name of author(s):<br><br>Year of publication:<br><br>Study title: | | |
|---|---|---|
| **Risk of bias items** | **Risk of bias levels** | **Points scored** |
| 1. Was the study's target population a close representation of the national population in relation to relevant variables, e.g. age, sex, occupation? | **Yes** (**LOW RISK**): The study's target population was a close representation of the national population. | 0 |
| | **No** (**HIGH RISK**): The study's target population was clearly NOT representative of the national population. | 1 |
| 2. Was the sampling frame a true or close representation of the target population? | **Yes** (**LOW RISK**): The sampling frame was a true or close representation of the target population. | 0 |
| | **No** (**HIGH RISK**): The sampling frame was NOT a true or close representation of the target population. | 1 |
| 3. Was some form of random selection used to select the sample, OR, was a census undertaken? | **Yes** (**LOW RISK**): A census was undertaken, OR, some form of random selection was used to select the sample (e.g. simple random sampling, stratified random sampling, cluster sampling, systematic sampling). | 0 |
| | **No** (**HIGH RISK**): A census was NOT undertaken, AND some form of random selection was NOT used to select the sample. | 1 |
| 4. Was the likelihood of non-response bias minimal? | **Yes** (**LOW RISK**): The response rate for the study was ≥75%, OR, an analysis was performed that showed no significant difference in relevant demographic characteristics between responders and non- responders | 0 |
| | **No** (**HIGH RISK**): The response rate was <75%, and if any analysis comparing responders and non-responders was done, it showed a significant difference in relevant demographic characteristics between responders and non-responders | 1 |
| 5. Were data collected directly from the subjects (as opposed to a proxy)? | **Yes** (**LOW RISK**): All data were collected directly from the subjects. | 0 |
| | **No** (**HIGH RISK**): In some instances, data were collected from a proxy. | 1 |
| 6. Was an acceptable case definition used in the study? | **Yes** (**LOW RISK**): An acceptable case definition was used. | 0 |
| | **No** (**HIGH RISK**): An acceptable case definition was NOT used | 1 |
| 7. Was the study instrument that measured the parameter of interest (e.g. prevalence of low back pain) shown to have reliability and validity (if necessary)? | **Yes** (**LOW RISK**): The study instrument had been shown to have reliability and validity (if this was necessary), e.g. test-re- test, piloting, validation in a previous study, etc. | 0 |
| | **No** (**HIGH RISK**): The study instrument had NOT been shown to have reliability or validity (if this was necessary). | 1 |
| 8. Was the same mode of data collection used for all subjects? | **Yes** (**LOW RISK**): The same mode of data collection was used for all subjects. | 0 |
| | **No** (**HIGH RISK**): The same mode of data collection was NOT used for all subjects. | 1 |
| 9. Was the length of the shortest prevalence period for the parameter of interest appropriate? | **Yes** (**LOW RISK**): The length of the shortest prevalence period for the parameter of interest was appropriate. | 0 |
| | **No** (**HIGH RISK**): the length of the shortest prevalence period for the parameter of interest was NOT appropriate. | 1 |
| 10. Were the numerator(s) and denominator(s) for the parameter of interest appropriate | **Yes** (**LOW RISK**): The paper presented appropriate numerator(s) AND denominator(s) for the parameter of interest (e.g. the prevalence of low back pain). | 0 |
| | **No** (**HIGH RISK**): The paper did present numerator(s) AND denominator(s) for the parameter of interest but one or more of these were inappropriate. | 1 |
| **Summary on the overall risk of study bias** | **LOW RISK** | 0-4 |
| | **MODERATE RISK** | 5-7 |
| | **HIGH RISK** | 8-10 |

## **Supplementary Table 2.** NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE CASE CONTROL STUDIES

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Exposure categories. A maximum of two stars can be given for Comparability.

| No | Criterion | Decision rule | Score (✸= 1, No✸ = 0) |
|---|---|---|---|
| | **Selection** | | |
| 1. | Is the case definition adequate? | a) yes, with independent validation ✸<br>b) yes, eg record linkage or based on self reports<br>c) no description | |
| 2. | Representativeness of the cases | a) consecutive or obviously representative series of cases ✸<br>b) potential for selection biases or not stated | |
| 3. | Selection of Controls | a) community controls ✸<br>b) hospital controls<br>c) no description | |
| 4. | Definition of Controls | a) no history of disease (endpoint) ✸<br>b) no description of source | |
| | **Comparability** | | |
| 1. | Comparability of cases and controls on the basis of the design or analysis | a) study controls for age✸<br>b) study controls for gender ✸ | |
| | **Exposure** | | |
| 1. | Ascertainment of exposure | a) secure record ✸<br>b) structured interview where blind to case/control status ✸<br>c) interview not blinded to case/control status<br>d) written self report or medical record only<br>e) no description | |
| 2. | Same method of ascertainment for cases and controls | a) Yes ✸<br>b) No | |
| 3. | Non-Response rate | a) same rate for both groups ✸<br>b) non respondents described<br>c) rate different and no designation | |
| | Score | | |

## **Supplementary Table 3. NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE COHORT STUDIES**

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

| No | Criterion | Decision rule | Score (✸= 1, No✸ = 0) |
|---|---|---|---|
| | **Selection** | | |
| 1. | Representativeness of the exposed cohort | a) Consecutive eligible participants were selected, participants were randomly selected, or all participants were invited to participate from the source population✸<br>b) Not satisfying requirements in part (a), or not stated. | |
| 2. | Selection of the non-exposed cohort | a) Selected from the same source population✸<br>b) Selected from a different source population<br>c) No description | |
| 3. | Ascertainment of exposure | a) secure record (eg surgical records) ✸<br>b) structured interview ✸<br>c) written self report<br>d) no description | |
| 4. | Demonstration that outcome of interest was not present at start of study | a) Yes ✸<br>b) No | |
| | **Comparability** | | |
| 1. | Comparability of cohorts on the basis of the design or analysis | a) study controls for age✸<br>b) study controls for gender ✸ | |
| | **Outcome** | | |
| 1. | Assessment of outcome | a) independent blind assessment ✸<br>b) record linkage ✸<br>c) self report<br>d) no description | |
| 2. | Was follow-up long enough for outcomes to occur | a) Yes ✸<br>b) No | |
| 3. | Adequacy of follow up of cohorts | a) complete follow up - all subjects accounted for ✸<br>b) subjects lost to follow up unlikely to introduce bias - small number lost (< 15% follow up, or description provided of those lost) ✸<br>c) follow up rate < 85% and no description of those lost<br>d) no statement | |
| | Score | | |