Supplementary file 2. Critical appraisal of included studies

Study	Quality assessment tool	Critical appraisal
Jefferson 2014	AMSTAR 2	High quality review
Lau 2012	AMSTAR 2	Critically low quality review
Upjohn 2012	Joanna Briggs Institute checklist	5/9
Carrat 2008	AMSTAR 2	Critically low quality review
Lenzi 2009	Newcastle-Ottawa scale	8/10
Calmona 2013	Joanna Briggs Institute checklist	8/9
Duarte 2009	Newcastle-Ottawa scale	8/9
Hollmann 2013	Newcastle-Ottawa scale	7/10
Zimmermann 2016	Joanna Briggs Institute checklist	8/9
Silva 2017	Joanna Briggs Institute checklist	8/9

We used AMSTAR 2 for systematic reviews, Newcastle-Ottawa scale for cohort and casecontrol studies and the Joanna Briggs Institute checklist for prevalence studies.

The individual assessment of each study is bellow.



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#### **AMSTAR 2 Results**

		<b>Printer Friendly Version</b>
Article Name:	Jefferson 2014	

## Jefferson 2014 is a High quality review

1. Did the research questions and inclusion criteria for the review include the	Yes
components of PICO?	Yes
	Yes
	Yes
	Yes

2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes Yes

4.	Did the review authors use a comprehensive literature search strategy?	Yes
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	Yes Yes Yes Yes
5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	Yes Yes
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Yes
8. Did the review authors describe the included studies in adequate detail?	Yes

	Yes
	Yes
	Yes
	Yes
	Yes
9. Did the review authors use a satisfactory technique for assessing the risk of	

bias (RoB) in individual studies that were included in the review? RCT	Yes	
NRSI	0	
	Yes Yes	

Yes Yes
Yes
Yes Yes Yes

**12.** If meta-analysis was performed, did the review authors assess the potential Yes impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?

13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?	Yes
	Yes
14. Did the review authors provide a satisfactory explanation for, and	Yes
discussion of, any heterogeneity observed in the results of the review?	Yes
15. If they performed quantitative synthesis did the review authors carry out a adequate investigation of publication bias (small study bias) and discuss its	anYes
likely impact on the results of the review?	Yes
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes
	Yes

To cite this tool: Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, Moher D, Tugwell P, Welch V, Kristjansson E, Henry DA. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. BMJ. 2017 Sep 21;358:j4008.



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### **AMSTAR 2 Results**

		<b>Printer Friendly Version</b>
Article Name:	Lau 2012	

## Lau 2012 is a Critially Low quality review

<b>1.</b> Did the research questions and inclusion criteria for the review include the components of PICO?	
	Yes
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYes

3. Did the review authors explain their selection of the study designs for	No
inclusion in the review?	

4. Did the review authors use a comprehensive literature search strategy?	Partial Yes Yes Yes Yes

5. Did the review authors perform study selection in duplicate?	Yes Yes
6. Did the review authors perform data extraction in duplicate?	No
7. Did the review authors provide a list of excluded studies and justify the exclusions?	Yes
8. Did the review authors describe the included studies in adequate detail?	Yes

NRSI	No
RCT	0
9. Did the review authors use a satisfactory technique for assessing the bias (RoB) in individual studies that were included in the review?	he risk of
	Yes Yes
	Yes

<b>10.</b> Did the review authors report on the sources of funding for the studies included in the review?	No
11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? RCT	
NRSI	Yes
	Yes
	Yes
13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?	No
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	Yes
15. If they performed quantitative synthesis did the review authors carry out a adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?	InNo
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes Yes

To cite this tool: Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, Moher D, Tugwell P, Welch V, Kristjansson E, Henry DA. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. BMJ. 2017 Sep 21;358:j4008.



Rev	viewer	<u>Luísa</u>	Date	10/12/2	<u>2018</u>				
Aut	hor	<u>Upjohn</u>		_Year	2012	_Record	Number_		
					Yes	No	Unclear	Not applicable	
1.	Was the sa populatior	ample frame appropria ז?	ite to address the t	target			Х		
2.	Were stud	y participants sampled	l in an appropriate	way?	Х				
3.	Was the sa	ample size adequate?					Х		
4.	Were the s detail?	study subjects and the	setting described	in	Х				
5.	Was the d of the ider	ata analysis conductec ntified sample?	l with sufficient co	verage	Х				
6.	Were valion?	d methods used for the	e identification of t	he	Х				
7.	Was the co for all part	ondition measured in a cicipants?	a standard, reliable	e way		Х			
8.	Was there	appropriate statistica	l analysis?					Х	
9.	Was the re response ra	sponse rate adequate, ate managed appropria	and if not, was the ately?	e low	Х				
<u>5/9</u>									



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### **AMSTAR 2 Results**

		<b>Printer Friendly Version</b>
Article Name:	Carrat 2008	

### Carrat 2008 is a Critially Low quality review

1. Did the research questions and inclusion criteria for the review include the	Yes
components of PICO?	Yes
	Yes
	Yes
	Yes

2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	YesYes
3. Did the review authors explain their selection of the study designs for inclusion in the review?	Yes

4. Did the review authors use a comprehensive literature search strategy?	Yes

Yes

5. Did the review authors perform study selection in duplicate?	Yes Yes	
6. Did the review authors perform data extraction in duplicate?	Yes Yes	
7. Did the review authors provide a list of excluded studies and justify the exclusions?	No	

8. Did the review authors describe the included studies in adequate detail?

9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?	
RCI	NO
NRSI	No
10. Did the review authors report on the sources of funding for the studies included in the review?	No
11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?	
RCT	Yes
NRSI	Yes
	Yes
	Yes
12. If meta-analysis was performed, did the review authors assess the potentia impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?	alNo
13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?	No
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	No
15. If they performed quantitative synthesis did the review authors carry out a adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?	nNo
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes Yes

To cite this tool: Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, Moher D, Tugwell P, Welch V, Kristjansson E, Henry DA. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. BMJ. 2017 Sep 21;358:j4008.

#### Lenzi 2012 – 8/10 🟶

### NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE COHORT STUDIES

<u>Note</u>: 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

### Selection

- 1) Representativeness of the exposed cohort
  - X a) truly representative of the average inpatients influenza (describe) in the community \*
  - b) somewhat representative of the average \_\_\_\_\_\_ in the community **\***
  - c) selected group of users eg nurses, volunteers
  - d) no description of the derivation of the cohort
- 2) Selection of the non exposed cohort
  - X a) drawn from the same community as the exposed cohort \*
  - b) drawn from a different source
  - c) no description of the derivation of the non exposed cohort
- 3) Ascertainment of exposure
  - X a) secure record (eg surgical records) \* SINAN, confirmed with PCR
  - b) structured interview \*
  - c) written self report
  - d) no description

4) Demonstration that outcome of interest was not present at start of study

- X a) yes 🟶
- b) no

### Comparability

- 1) Comparability of cohorts on the basis of the design or analysis
  - a) study controls for \_\_\_\_\_ (select the most important factor) \*
  - X b) study controls for any additional factor **\*** (This criteria could be modified to indicate specific control for a second important factor.) *The study investigates the risk and protective factors for*
- hospitalization and controls social, treatment, etc.

### Outcome

- 1) Assessment of outcome
  - a) independent blind assessment \*
  - X b) record linkage \* SINAN, interview
  - c) self report
  - d) no description
- 2) Was follow-up long enough for outcomes to occur

X a) yes (select an adequate follow up period for outcome of interest) **\*** b) no

- 3) Adequacy of follow up of cohorts
  - X a) complete follow up all subjects accounted for \*
  - b) subjects lost to follow up unlikely to introduce bias small number lost > \_\_\_\_\_ % (select an adequate %) follow up, or description provided of those lost) **★**
  - c) follow up rate < \_\_\_\_% (select an adequate %) and no description of those lost
  - d) no statement



Reviewer		_Luisa		Date					· <b>-</b>
Author		<u>Calmona</u>		Year	2013	Record Number			
					Yes	No	Unclear	Not applicable	
1.	Was the s populatio	ample frame approp n?	riate to address th	ne target	Х				
2.	Were stud	ly participants samp	led in an appropria	ate way?	Х				
3.	Was the s	ample size adequate	?				Х		
4.	Were the detail?	study subjects and t	he setting describ	ed in	Х				
5.	Was the d of the ide	ata analysis conduct ntified sample?	ed with sufficient	coverage	Х				
6.	Were valion	d methods used for t ?	he identification o	of the	Х				
7.	Was the c for all par	ondition measured in ticipants?	n a standard, relia	ble way	Х				
8.	Was there	e appropriate statisti	cal analysis?		Х				
9.	Was the re response r	sponse rate adequat ate managed approp	te, and if not, was priately?	the low	Х				
<u>8/9</u>	<u> </u>								

Duarte 2009 – 8/9 \*

### 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

### Selection

- 1) <u>Representativeness of the exposed cohort</u>
  - a) truly representative of the average \_\_\_\_\_ (describe) in the community \*
  - X b) somewhat representative of the average H1N1 hospital admission in the community \*
  - c) selected group of users eg nurses, volunteers
  - d) no description of the derivation of the cohort
- 2) Selection of the non exposed cohort
  - X a) drawn from the same community as the exposed cohort \*
  - b) drawn from a different source
  - c) no description of the derivation of the non exposed cohort

### 3) Ascertainment of exposure

- X a) secure record (eg surgical records) \*
- b) structured interview \*
- c) written self report
- d) no description
- 4) Demonstration that outcome of interest was not present at start of study
  - X a) yes 🟶
  - b) no

### Comparability

- 1) Comparability of cohorts on the basis of the design or analysis
  - X a) study controls for **PCR diagnose** (select the most important factor) **\***
  - b) study controls for any additional factor \* (This criteria could be modified to indicate specific control for a second important factor.)

### **Outcome**

- 1) Assessment of outcome
  - a) independent blind assessment \*
  - X b) record linkage \*
  - c) self report
  - d) no description
- 2) Was follow-up long enough for outcomes to occur
  - X a) yes (select an adequate follow up period for outcome of interest) \* b) no
- 3) Adequacy of follow up of cohorts
  - X a) complete follow up all subjects accounted for \*
  - b) subjects lost to follow up unlikely to introduce bias small number lost > \_\_\_\_\_ % (select an adequate %) follow up, or description provided of those lost) \*
  - c) follow up rate < \_\_\_\_% (select an adequate %) and no description of those lost
  - d) no statement

### Hollmann 2013

7/10 🗮

### NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE CASE CONTROL STUDIES

<u>Note</u>: 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.

### Selection

1) Is the case definition adequate?

- X a) yes, with independent validation \* H1N1 confirmed by PCR, inpatient
- b) yes, eg record linkage or based on self reports
- c) no description
- 2) <u>Representativeness of the cases</u>
  a) consecutive or obviously representative series of cases **\***X b) potential for selection biases or not stated

### 3) Selection of Controls

- X a) community controls ★ *H1N1 confirmed by PCR, outpatient*b) hospital controls
  c) no description
- 4) Definition of Controls
  - X a) no history of disease (endpoint) \* *absence of disease (after the end of infection)* b) no description of source

### Comparability

1) Comparability of cases and controls on the basis of the design or analysis

X a) study controls for <u>hospitalization</u> (Select the most important factor.) \*

b) study controls for any additional factor ★ (This criteria could be modified to indicate specific control for a second important factor.)

### Exposure

1) Ascertainment of exposure

X a) secure record (eg surgical records) \* *PCR* 

b) structured interview where blind to case/control status \*

X c) interview not blinded to case/control status patients aware of the situation, impossible to blind

d) written self report or medical record only

e) no description

2) Same method of ascertainment for cases and controls

X a) yes \* EQ-5D b) no

3) Non-Response rate

X a) same rate for both groups \*

- b) non respondents described
- c) rate different and no designation



Author Zimmermann		_Year	2016	-	
		Yes	No	Unclear	Not applicable
1.	Was the sample frame appropriate to address the target population?	Х			
2.	Were study participants sampled in an appropriate way?	Х			
3.	Was the sample size adequate?	Х			
4.	Were the study subjects and the setting described in detail?	Х			
5.	Was the data analysis conducted with sufficient coverage of the identified sample?			Х	
6.	Were valid methods used for the identification of the condition?	Х			
7.	Was the condition measured in a standard, reliable way for all participants?	Х			
8.	Was there appropriate statistical analysis?	Х			
9.	Was the response rate adequate, and if not, was the low response rate managed appropriately?	Х			



Author SilvaYear		ar 2017			
		Yes	No	Unclear	Not applicable
10.	Was the sample frame appropriate to address the target population?	get X			
11.	Were study participants sampled in an appropriate wa	ay? X			
12.	Was the sample size adequate?	Х			
13.	Were the study subjects and the setting described in detail?	Х			
14.	Was the data analysis conducted with sufficient cover of the identified sample?	age		Х	
15.	Were valid methods used for the identification of the condition?	Х			
16.	Was the condition measured in a standard, reliable w for all participants?	ay X			
17.	Was there appropriate statistical analysis?	Х			
18.	Was the response rate adequate, and if not, was the lo response rate managed appropriately?	w X			
8/9					