

Online Supplementary Document

Zhang et al. Cost of management of severe pneumonia in young children: systematic analysis

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Appendix 1 Search Strategy

1) MEDLINE (via Ovid®): 1948 to October 2013

No.	Searches
1	exp Pneumonia/
2	lrti.tw.
3	alri.tw.
4	ari.tw.
5	pneumonia\$.tw.
6	1 or 2 or 3 or 4 or 5
7	exp Therapeutics/
8	treat\$.tw.
9	(care adj3 in-patient\$.tw.
10	(care adj3 out-patient\$.tw.
11	(care adj3 hospital\$.tw.
12	(care adj3 communit\$.tw.
13	7 or 8 or 9 or 10 or 11 or 12
14	exp Economics/
15	cost\$.tw.
16	econom\$.tw.
17	expend\$.tw.
18	14 or 15 or 16 or 17
19	6 and 13 and 18
20	limit 19 to ("all infant (birth to 23 months)" or "preschool child (2 to 5

2) EMBASE (via Ovid®): 1980 to October 2013

No.	Searches
1	exp pneumonia/
2	lrti.tw.
3	alri.tw.
4	ari.tw.
5	pneumonia\$.tw.
6	1 or 2 or 3 or 4 or 5
7	exp therapy/
8	(care adj3 in-patient\$.tw.
9	(care adj3 out-patient\$.tw.
10	(care adj3 hospital\$.tw.
11	(care adj3 communit\$.tw.
12	treat\$.tw.
13	7 or 8 or 9 or 10 or 11 or 12
14	exp economic aspect/
15	cost\$.tw.
16	econom\$.tw.
17	expend\$.tw.
18	14 or 15 or 16 or 17
19	6 and 13 and 18
20	limit 19 to (infant <to one year> or preschool child <1 to 6 years>)

3) DARE, NHS EED & NHS HTA (via CRD – www.crd.york.ac.uk): All records to October 2013

No.	Searches
1	MeSH Pneumonia EXPLODE 1 2
2	pneumonia*
3	lrti
4	alri
5	ari
6	#1 OR #2 OR #3 OR #4 OR #5
7	MeSH Therapeutics EXPLODE 1
8	treat*
9	therap*
10	#7 OR #8 OR #9
11	MeSH Economics EXPLODE 1 2
12	cost*
13	econom*
14	expend*
15	#11 OR #12 OR #13 OR #14
16	MeSH Child, Preschool EXPLODE 1
17	MeSH Infant EXPLODE 1
18	#16 OR #17
19	#6 AND #10 AND #15 AND #18

4) The Cochrane Library (via Wiley Online Library – onlinelibrary.wiley.com). All records to October 2013

No.	Searches
1	MeSH descriptor Pneumonia explode all trees
2	pneumonia*
3	lrti
4	alri
5	(#1 OR #2 OR #3 OR #4)
6	MeSH descriptor Therapeutics explode all trees
7	treat*
8	therap*
9	(#6 OR #7 OR #8)
10	MeSH descriptor Economics explode all trees
11	cost*
12	econom*
13	expend*
14	(#10 OR #11 OR #12 OR #13)
15	MeSH descriptor Child, Preschool explode all trees
16	MeSH descriptor Infant explode all trees
17	(#15 OR #16)
18	(#5 AND #9 AND #14 AND #17)

Appendix 2. Inclusion and exclusion criteria for published studies.

Inclusion required ALL of the following:	Exclusion if ONE of the following was true:
<ul style="list-style-type: none"> • English language • Empirical cost data presented • All-cause pneumonia • Treatment of pneumonia using antibiotics • Reporting specifically for children aged 0–59 months • Unbiased population sample 	<ul style="list-style-type: none"> • “Vaccine–” or “Palivizumab” trials • Specially selected cohorts • “Non–standard” interventions • Review articles and conference abstracts

Appendix 3 Modified Drummond checklist for quality assessment for published studies

1	The question and perspective are clearly stated
2	It is a cost–study
3	Quantity of resources used and unit costs are reported separately
4	Data sources are clearly reported
5	Currency & Price (including price year) are documented
6	Time horizon of costs is stated
7	Consideration of discounting is documented and justified
8	Details of statistical tests and result errors are clearly described
9	Sensitivity analysis is carried out (and adjustments stated)
10	A comparison is made between two alternatives
11	A standardised definition of pneumonia is used (ICD/IMCI/WHO etc)
12	The answer to the study question is clearly stated (and valid)
13	Conclusions are drawn, and relevant limitations are raised.

Appendix 4 Costing spreadsheet and practical guide (see separate file attached)

Appendix 5 Results of quality assessment score

Authors	Year	Quality Score	Unaddressed checklist items
Al-Eidan,et al (22)	1999	8	2,3,7,9,11
Alamgir, et al (18)	2010	7	3,5,7,9,10,11
Anh,D et al (31)	2010	12	10
Ashraf,et al (24)	2010	8	2,3,4,7,9,
Aurangzeb & Hameed (27)	2003	9	7,8,9
Ayieko et al (19)	2009	11	7,11
Chola et al (35)	2009	8	7,8,9,11,12
Constenla,D. (14)	2007	10	7,8,9
Ehlken et al (12)	2005	9	5,7,9,11
Hussain,et al (29)	2008	8	1,3,7,8,9
Hussain,et al (28)	2006	7	3,6,7,8,9,11
Jha et al (33)	1998	8	2,3,6,9,11
Khuri-Bulos,et al (38)	2010	3	1,2,3,4,5,7,8,9,11,12
Lambert et al (13)	2008	6	1,2,3,7,9,11,12
Madsen,et al (25)	2009	11	7,9
Newall & Scuffham (23)	2008	9	3,7,8,10
Sahu,et al (26)	2002	3	2,3,4,5,7,8,9,10,11,13
Toan,et al (32)	2001	6	3,5,7,8,9,11,13
Temple et al (37)	2012	11	7,9
Sadruddin et al (30)	2012	8	3,5,7,8,9
Alvis-Guzman et al (36)	2013	8	3,6,7,9,10
Brotans et al (15)	2013	8	3,6,7,9,11
Kichin et al (34)	2011	8	3,5,6,7,9
Sinha et al (16)	2012	11	9,11
	Mean	8.21	