

Appendix 1. Search terms

Medline

1. exp Tuberculosis/
2. Mycobacterium tuberculosis/
3. tuberculosis.ab,ti.
4. TB.ab,ti.
5. 1 or 2 or 3 or 4
6. (health personnel or health care personnel or healthcare personnel or health care worker or health care workers or healthcare worker or healthcare workers or health worker or health workers or health professional or health professionals or health care professional or health care professionals or healthcare professional or healthcare professionals or medical care personnel or nurse or nurses or nursing or physician or physicians or HCW).ab,ti.
7. health personnel/ or allied health personnel/ or caregivers/ or medical staff/ or nurses/ or nursing staff/ or personnel, hospital/ or physicians/
8. 6 or 7
9. Infection Control/
10. Cross Infection/
11. Occupational Diseases/
12. prevalence/
13. incidence/
14. (incidence or prevalence).ab,ti.
15. 9 or 10 or 11 or 12 or 13 or 14
16. 5 and 8 and 15
17. limit 16 to yr="2006 - 2016"

Embase

1. tuberculosis/
2. Mycobacterium tuberculosis/
3. (tuberculosis or TB).ti,ab.
4. 1 or 2 or 3
5. health care personnel/
6. medical staff/
7. nurse/
8. physician/
9. (health personnel or health care personnel or healthcare personnel or health care worker or health care workers or healthcare worker or healthcare workers or health worker or health workers or health professional or health professionals or health care professional or health care professionals or healthcare professional or healthcare professionals or medical care personnel or nurse or nurses or nursing or physician or physicians or HCW).ti,ab.
10. 5 or 6 or 7 or 8 or 9
11. cross infection/
12. occupational disease/
13. prevalence/
14. incidence/
15. (prevalence or incidence).ti,ab.
16. 11 or 12 or 13 or 14 or 15
17. 4 and 10 and 16
18. limit 17 to yr="2006 - 2016"

Global Health

1. tuberculosis/
2. Mycobacterium tuberculosis/
3. tuberculosis.ab,ti.
4. TB.ab,ti.
5. 1 or 2 or 3 or 4
6. health care workers/
7. hospital personnel/
8. (health personnel or health care personnel or healthcare personnel or health care worker or health care workers or healthcare worker or healthcare workers or health worker or health workers or health professional or health professionals or health care professional or health care professionals or healthcare professional or healthcare professionals or medical care personnel or nurse or nurses or nursing or physician or physicians or HCW).ab,ti.
9. 6 or 7 or 8
10. occupational transmission/
11. infection control/
12. cross infection/
13. incidence/
14. (incidence or prevalence).ab,ti.
15. 10 or 11 or 12 or 13 or 14
16. 5 and 9 and 15
17. limit 16 to yr="2006 - 2016"

Appendix 2. List of included papers

1. Agaya J, Nnadi CD, Odhiambo J, Obonyo C, Obiero V, Lipke V, et al. Tuberculosis and latent tuberculosis infection among healthcare workers in Kisumu, Kenya. *Trop Med Int Heal*. 2015;20(12):1797–804.
2. Corbett EL, Muzangwa J, Chaka K, Dauya E, Cheung YB, Munyati SS, et al. Nursing and community rates of *Mycobacterium tuberculosis* infection among students in Harare, Zimbabwe. *Clin Infect Dis*. 2007;44(3):317–23.
3. Drobniewski F, Balabanova Y, Zakamova E, Nikolayevskyy V, Fedorin I. Rates of latent tuberculosis in health care staff in Russia. *PLoS Med*. 2007;4(2):e55.
4. Durando P, Sotgiu G, Spigno F, Piccinini M, Mazzarello G, Viscoli C, et al. Latent tuberculosis infection and associated risk factors among undergraduate healthcare students in Italy: a cross-sectional study. *BMC Infect Dis*. 2013;13(1):443.
5. Franco C, Zanetta DMT. Assessing occupational exposure as risk for tuberculous infection at a teaching hospital in São Paulo, Brazil. *Int J Tuberc Lung Dis*. 2006;10(4):384–9.
6. Maciel ELN, Meireles W, Silva AP, Fiorotti K, Dietze R. Nosocomial *Mycobacterium tuberculosis* transmission among healthcare students in a high incidence region, in Vitória, State of Espírito Santo. *Rev Soc Bras Med Trop*. 2007;40(4):397–9.
7. Natasha, S. et al. Application of Tuberculin Skin Test in Diagnosis of Latent Tuberculosis; A Two Year Experience In a Tertiary Care Hospital. *Pharm J Ournal O F Sci Biomed*. 2015;5(8):643–9.
8. Nikokar I, Dadgran A, Mafozei L. A Comparison of Two-Step Tuberculin Skin

- Test between Health-Care Workers and Nonhospital Employees. Vol. 35, Iranian Journal of Medical Sciences. 2015. p. 201–4.
9. Powell K, Han D, Hung N V, Vu T, Sy DN, Trinh TT, et al. Prevalence and risk factors for tuberculosis infection among personnel in two hospitals in Viet Nam. *Int J Tuberc Lung Dis.* 2011;15(12):1643–9.
 10. Rutanga C, Lowrance DW, Oeltmann JE, Mutembayire G, Willis M, Uwizeye CB, et al. Latent Tuberculosis Infection and Associated Factors among Health Care Workers in Kigali, Rwanda. *PLoS One.* 2015;10(4):e0124485.
 11. Storla DG, Kristiansen I, Oftung F, Korsvold GE, Gaupset M, Gran G, et al. Use of interferon gamma-based assay to diagnose tuberculosis infection in health care workers after short term exposure. *BMC Infect Dis.* 2009;9:60.
 12. Zhu C, Liu Z, Li Z, Mei S, Hu Z. The performance and limitation of T-SPOT.TB for the diagnosis of TB in a high prevalence setting. *J Thorac Dis.* 2014;6(6):713–9.
 13. van Rie A, McCarthy K, Scott L, Dow A, Venter WDF, Stevens WS. Prevalence, risk factors and risk perception of tuberculosis infection among medical students and healthcare workers in Johannesburg, South Africa. *S Afr Med J.* 2013;103(11):853–7.
 14. Chen B, Wang X, Zhong J, Chen S, Wu B, Yeh H-C, et al. Tuberculosis among healthcare workers in southeastern China: A retrospective study of 7-year surveillance data. *Int J Env Res Public Heal.* 2014;11(11):12042–52.
 15. Chu H, Shih C-J, Lee Y-J, Kuo S-C, Hsu Y-T, Ou S-M, et al. Risk of tuberculosis among healthcare workers in an intermediate-burden country: a nationwide population study. *J Infect.* 2014;69(6):525–32.
 16. Claassens MM, Sismanidis C, Lawrence K-A, Godfrey-Faussett P, Ayles H,

- Enarson DA, et al. Tuberculosis among community-based health care researchers. *Int J Tuberc Lung Dis.* 2010;14(12):1576–81.
17. Klimuk D, Hurevich H, Harries AD, Babrukevich A, Kremer K, Van den Bergh R, et al. Tuberculosis in health care workers in Belarus. *Public Heal Action.* 2014;4(Suppl 2):S29-33.
18. Pan S-C, Chen Y-C, Wang J-Y, Sheng W-H, Lin H-H, Fang C-T, et al. Tuberculosis in Healthcare Workers: A Matched Cohort Study in Taiwan. *PLoS One.* 2015;10(12):e0145047.
19. Pazin-Filho A, Soares CS, Ferrais A da SN, Oliveira e Castro P de T, Bellissimo-Rodrigues F, Nogueira J de A, et al. Tuberculosis among health care workers in a Brazilian tertiary hospital emergency unit. *Am J Emerg Med.* 2008;26(7):796–8.
20. Skodric-Trifunovic V, Markovic-Denic L, Nagorni-Obradovic L, Vlajinac H, Woeltje KF. The risk of occupational tuberculosis in Serbian health care workers. *Int J Tuberc Lung Dis.* 2009;13(5):640–4.
21. Sotgiu G, Arbore AS, Cojocariu V, Piana A, Ferrara G, Cirillo DM, et al. High risk of tuberculosis in health care workers in Romania. *Int J Tuberc Lung Dis.* 2008;12(6):606–11.

Appendix 3. PRISMA Checklist	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	p.1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	p.2 no registration number
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	p.3,4,5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	p.5
METHODS			

Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	N/A
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	p.6,7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	p.6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix 1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	p.6, Figure 1
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	p.7,8
Data items	11	List and define all variables for which data were sought (e.g., PICOS,	p.6,7,8

		funding sources) and any assumptions and simplifications made.	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	p.8,9
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	p.8,9
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	p.8,9

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	p.8,9
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	p.9
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Figure 1, p.9,10
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Tables 2 and 3
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	p.9

Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	Figures 3 and 5
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Figures 3 and 5
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Figure 2
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Figures 4, 6 and 7
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	p.13,14
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	p.15,16
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	p.16,17,18

FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	N/A; no funding

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.