

Supplemental material

Supplementary Table 1: Search terms used in Medline (run on October 23rd, 2020)

	Searches
1	exp Noncommunicable Diseases/ or ((Non-communicable or Noncommunicable or Non-infectious) adj (disease* or condition* or illness*)).mp.
2	exp Chronic Disease/ or ((chronic or long-term) adj (disease* or condition* or illness*)).mp.
3	exp Heart Diseases/ or (heart adj (disease* or disorder* or failure)).mp. or (cardiac adj (disease* or disorder* or failure)).mp.
4	exp Cardiovascular Diseases/ or (cardiovascular adj (disease* or disorder* or failure)).mp.
5	exp Coronary Disease/ or (coronary adj (disease* or disorder* or failure)).mp.
6	exp Cerebrovascular Disorders/ or (cerebrovascular adj (disease* or disorder* or insufficienc* or occlusion*)).mp. or (vascular adj (disease* or disorder*)).mp. or (carotid* adj (disease* or disorder*)).mp.
7	exp Peripheral Arterial Disease/ or (arter* adj (disease* or disorder*)).mp.
8	exp Rheumatic Heart Disease/ or exp Heart Defects, Congenital/ or (heart adj3 (malform* or defect* or congeni*)).mp.
9	exp Venous Thrombosis/ or ((deep vein or deep venous) adj thrombos*).mp. or phlebothrombos*.mp.
10	exp Pulmonary Embolism/ or (pulmonar* adj (thromboembolism* or embolism* or disease* or disorder*)).mp.
11	exp Stroke/ or stroke.mp.
12	exp Neoplasms/ or Cancer*.mp. or neoplas*.mp. or tumor*.mp.
13	exp Lung Diseases/ or exp Respiratory Tract Diseases/ or exp Lung Diseases, Obstructive/ or ((lung* or respiratory or pulmonar* or airflow or airway) adj2 (disease* or obstruct* or hypersensitiv*)).mp. or exp Asthma/ or asthma*.mp. or exp Pulmonary Disease, Chronic Obstructive/ or exp Respiratory Hypersensitivity/
14	exp Diabetes Mellitus/ or diabet*.mp.
15	exp Autoimmune Diseases/ or ((autoimmun* or auto immun* or autoaggress* or auto aggress*) adj (disorder* or disease*)).mp.
16	exp Metabolic Syndrome/ or exp Metabolic Diseases/ or ((metabolic or insulin resistance) adj (disorder* or disease* or syndrome*)).mp.
17	exp Obesity/ or obes*.mp.
18	exp Osteoporosis/ or osteoporo*.mp. or bone loss.mp. or exp osteolysis/ or osteolysis.mp. or bone resorption.mp.
19	exp Parkinson disease/ or parkinson*.mp. or paralysis agitans.mp.
20	exp Arthritis/ or arthriti*.mp. or polyarthriti*.mp. or rheumarthriti*.mp.
21	exp Kidney Diseases/ or (kidney adj (disease* or disorder*)).mp.
22	exp Liver Diseases/ or (liver adj (disease* or disorder* or dysfunction*)).mp.
23	exp Hypertension/ or high blood pressure*.mp. or hypertens*.mp.
24	exp Hyperlipidemias/ or hyperlipem*.mp. or hyperlipidem*.mp. or lipem*.mp. or lipidem*.mp.
25	exp Hypercholesterolemia/ or ((high* or elevat*) adj cholesterol*).mp. or hypercholesterem*.mp. or hypercholesterolem*.mp.
26	exp Hypertriglyceridemia/ or hypertriglyceridem*.mp.
27	exp Thyroid Diseases/ or (thyroid adj (disease* or disorder*)).mp. or exp Hyperthyroidism/ or hyperthyroid*.mp. or exp Hypothyroidism/ or hypothyroid*.mp. or ((thyroid-stimulating hormone* or tsh) adj deficien*).mp.
28	exp Motor Neuron Disease/ or motor neuron* disease*.mp. or lateral scleros*.mp. or motor system disease*.mp.
29	exp Multiple Sclerosis/ or multiple sclerosis.mp. or disseminated sclerosis.mp.
30	exp Emphysema/ or emphysema*.mp.
31	exp Bronchitis/ or bronchit*.mp.
32	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31
33	exp Mental Disorders/ or exp Psychotic Disorders/ or ((mental* or psychiat* or psycho*) adj (disorder* or disease* or illness*)).mp.
34	exp Depressive Disorder, Major/ or exp Depression/ or Depress*.mp. or MDD.mp.
35	exp Anxiety Disorders/ or exp Anxiety/ or anxi*.mp.

36	exp Phobic Disorders/ or phobi*.mp.
37	exp Schizophrenia/ or schizophreni*.mp. or hebephreni*.mp.
38	exp Somatoform Disorders/ or ((somatoform* or somati* or medically unexplained or briquet or pain) adj (disorder* or syndrome* or symptom*)).mp. or exp Medically Unexplained Symptoms/
39	exp Dissociative Disorders/ or (dissociative adj (disorder* or hysteri* or reaction*)).mp. or dissociation*.mp.
40	exp Hysteria/ or hysteri*.mp.
41	exp Mood Disorders/ or ((affective* or mood*) adj (disorder* or disease* or illness* or symptom*)).mp.
42	exp Stress Disorders, Post-Traumatic/ or PTSD.mp. or ((post trauma* or posttrauma*) adj (stress* or neurose*)).mp. or combat disorder*.mp. or war disorder*.mp.
43	exp Cognition Disorders/ or ((cognitive or cognition or mental or neurocognitive) adj (dysfunction* or decline* or impairment* or deterioration* or disorder* or illness* or disease*)).mp.
44	exp Personality Disorders/ or personality disorder*.mp.
45	exp "Disruptive, Impulse Control, and Conduct Disorders"/ or impulse control disorder*.mp. or intermittent explosive disorder*.mp.
46	exp "Feeding and Eating Disorders"/ or ((eating or appetite or feeding) adj disorder*).mp.
47	exp Bipolar Disorder/ or ((bipolar or mani*) adj (disorder* or illness* or disease*)).mp.
48	exp Obsessive-Compulsive Disorder/ or OCD*.mp. or ((obsess*-compulsi* or obsess* or compulsi*) adj (disorder* or illness* or disease* or neuros*)).mp.
49	exp Panic Disorder/ or (panic adj (attack* or disorder*)).mp.
50	exp Agoraphobia/ or agoraphobi*.mp.
51	exp Neurotic Disorders/ or neuros*.mp. or neurotic disorder*.mp. or psychoneuros*.mp.
52	33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51
53	exp Communicable Diseases/ or ((communic* or contag* or transmi* or infect*) adj (disease* or infection* or illness*)).mp.
54	exp Bacterial Infections/ or bacteri* infection*.mp.
55	exp Conjunctivitis/ or conjunctivitis.mp.
56	exp HIV/ or hiv.mp. or Human immuno deficiency virus.mp.
57	exp Acquired Immunodeficiency Syndrome/ or AIDS.mp. or immunodeficiency associated virus.mp. or immun* deficiency associated virus.mp. or acquired immunodeficiency syndrome*.mp. or acquired immun* deficiency syndrome*.mp.
58	exp Buruli Ulcer/ or Bairnsdale.mp. or Buruli.mp.
59	exp Onchocerciasis/ or onchocer*.mp.
60	hepatitis.mp. or exp Hepatitis B/ or exp Hepatitis C/
61	exp Leishmaniasis/ or leishmania*.mp.
62	exp Leprosy/ or lepros*.mp. or hansen*.mp.
63	exp Elephantiasis, Filarial/ or elephantias*.mp. or filaria*.mp.
64	exp Trachoma/ or egyptian ophthalmia*.mp. or trachoma*.mp.
65	exp Chikungunya Fever/ or chickungunya.mp. or chikungunya.mp.
66	exp Taeniasis/ or taenia*.mp.
67	exp Cysticercosis/ or cysticercos*.mp.
68	exp Echinococcosis/ or hydatid*.mp. or echinococc*.mp.
69	exp Chagas Disease/ or trypanosom*.mp. or chagas.mp.
70	exp Trypanosomiasis/ or sleeping sickness.mp.
71	exp Encephalitis, Japanese/ or (japanese adj3 encephalitis).mp.
72	exp Syphilis/ or syphilis.mp.
73	53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72
74	exp Tuberculosis/
75	Tuberculos*.mp.
76	TB.mp.

77	koch*.mp.
78	exp Tuberculosis/ or Tuberculos*.mp. or TB.mp. or koch*.mp.
79	(multiple adj (ill* or disease* or condition* or syndrom* or disorder*)).mp.
80	((Cooccur* or co-occur* or coexist* or co-exist* or multipl* or concord* or discord* or long-term or physical*) adj3 (disease* or ill* or care or condition* or disorder* or health* or medication* or symptom* or syndrom*)).mp.
81	(comorbid* or multimorbid* or co-occurren* or co-morbid* or Multidisease* or multi-disease*).mp.
82	(comorbid* or multimorbid* or co-occurren* or co-morbid* or multi-morbid* or Multidisease* or multi-disease*).mp.
83	exp Comorbidity/ or exp Multimorbidity/ or exp Multiple Chronic Conditions/
84	79 or 80 or 81 or 82 or 83
85	exp "Systematic Review"/
86	"systematic review*".m_titl.
87	exp Meta-Analysis/
88	"meta-analys*".m_titl.
89	exp "Systematic Review"/ or "systematic review*".m_titl. or exp Meta-Analysis/ or "meta-analys*".m_titl.
90	32 or 52 or 73
91	(32 or 52 or 73) and 78
92	(32 or 52 or 73) and 78 and 84
93	(32 or 52 or 73) and 78 and 84 and 89
94	exp Animals/ not exp Humans/
95	((32 or 52 or 73) and 78 and 84) not 94
96	((32 or 52 or 73) and 78 and 84 and 89) not 94
97	((32 or 52 or 73) and 78 and 89) not 94

Supplementary Table 2. Reasons for exclusion of references assessed in full text.

Wrong population	
1.	Shivakoti, Rupak and Sharma, Davina and Mamoon, Gabeena and Pham, Kiemanh. Association of HIV infection with extrapulmonary tuberculosis: a systematic review. <i>Infection</i> , 2017; 45(1):44501.
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13.	Diana Ramos, Ana Carolina Fragoso Motta, Alan Grupioni Lourenço, Lara Maria Alencar Ramos Innocentini, Maria Conceição Pereira Saraiva. Influence of HIV and tuberculosis co-infection on the occurrence of oral candidiasis: a systematic review and meta analysis.
Does not report data on people with TB+1 chronic condition	
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30.	Victor Vega, Sharon Rodriguez, Larissa Otero, Carlos Seas. Systematic review and meta-analysis on recurrent tuberculosis and associated risk factors.
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36.	Petrus Kosmas, Elize Pietersen, Jabulani Ncayiyana, Mark Engel. Extensively drug resistant tuberculosis in Africa: prevalence and factors associated; a systematic review and meta-analysis.
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66. Habteyes Tola, Kouros Holakouie-Naieni, Ephrem Tesfaye, Mohammad Mansournia, Mehdi Yaseri. Tuberculosis treatment interruption and its associated factors in Ethiopia: a systematic review and meta-analysis.
67. Ahmed Hossain, Zeeba Sultana, Farhana Hoque. Association between HIV infection and multidrug-resistant tuberculosis in Africa and Asia: a systematic review and meta-analysis.
68. Ayinalem Alemu Shitie, Zebenay Workneh Bitew, Teshager Worku. Intestinal parasites co-infection among tuberculosis patients in Ethiopia: a systematic review and meta-analysis.
69. Birhan Alemnew, Setegn Eshetie, Asmamaw Demis. The prevalence and its associated risk factors of extra pulmonary tuberculosis in Ethiopia: systematic review and meta-analysis.
70. Getu Diriba, Habteyes Tola, Ayinalem Alemu, Abebaw Kebede. Prevalence of drug resistance and its risk factors among extra pulmonary tuberculosis patients in Ethiopia: a systematic review and meta-analysis.
71. Balew Arega. Prevalence rate of undiagnosed tuberculosis in the community in Ethiopia from 2001 to 2014: systematic review and meta-analysis.
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Does not report data on any of our outcomes of interest
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Supplementary Table 3: Study characteristics of systematic reviews reporting pooled outcomes of studies from LMICs

Lead author and year	Search dates and limits	Number of studies in LMIC/Total number of studies (countries covered)	Clusters covered	Outcomes	Quality rating
TB + HIV					
Alemu 2020[S54]	2009 to Jan 2020; English language, in Ethiopia	17/17 (Ethiopia)	TB +HIV	Prevalence*	Low
Arega 2020 [S24]	200 to 2019; English language, in Ethiopia	47 / 47 (Ethiopia)	TB +HIV	Prevalence*	Critically low
Bastos 2019 [S25]	period between 2008 and 2017; Brazil only	15 /15 (Brazil)	TB +HIV	Mortality*, Treatment outcomes*	Critically low
Bisson 2020 [S48]	2009 to Sep 2015	52 (South Africa, Philippines, Georgia, Russia, Latvia, Peru, India, Haiti, Pakistan, Belarus, Brazil, Thailand, Mexico, Bulgaria, Argentina, Ecuador)	MDR-TB +HIV	Prevalence (pooled individuals - no meta-analysis)	Low
Chem 2019 [S5]	2004 to May 2018; English language, in SSA countries	9 / 9 (South Africa, Lesotho, Botswana, Ethiopia)	MDR-TB +HIV	OR of treatment success and prevalence of death and cured. Prevalence*	Critically low
Edessa 2020 [S6]	up to Feb 2020; English language, in SSA countries	19/19 (South Africa, Lesotho, Ethiopia, Kenya, Tanzania, Niger, Botswana)	DR-TB +HIV	RR of unfavourable outcome (Failed treatment/Lost from treatment/died), death, treatment failure and loss to follow-up	High
Endalamaw 2019 [S7]	2003-2018; English language, in Ethiopia	13/13 (Ethiopia)	TB +HIV ; PTB +HIV	Prevalence	Moderate
Eshetie 2018 [S2]	up to 2017; English language, in Ethiopia	34 /34 (Ethiopia)	TB +HIV	Prevalence of successful and unsuccessful treatment	Critically low
Gao 2010 [S8]	up to Apr 2010; English or Chinese language, in mainland China	29/29 (China)	TB +HIV	Prevalence (also by sex)	Critically low
Gao 2013 [S9]	up to Dec 2011; English language, any country except China	31/47 (Brazil, Nigeria, Ethiopia, India, Iran, South Africa, Zambia, Zimbabwe, Cambodia, Tanzania, Thailand, Togo, Ukraine, Vietnam)	TB +HIV	Prevalence	Critically low
Gelaw 2019 [S10]	up to Sep 2017; English language in SSA countries	68/68 (Ethiopia, Tanzania, Kenya, Eritrea, Uganda, South Africa, Zambia, Zimbabwe, Angola, Malawi, Nigeria, Cote d'Ivoire, Ghana, Burkina Faso, Togo, Cameroon, Republic of Congo)	TB +HIV	Prevalence (in SSA and in the central, southern, western and eastern regions of SSA)	High
Huddart 2020 [S1]	2006 to Jan 2019; in India	212 / 212 (India)	TB +HIV	Case-fatality rate (during treatment and after treatment)	Critically low
Lukoye 2015 [S26]	2003 to 2013; SSA countries only	27/27 (SSA)	TB +HIV	Prevalence*	Critically low
McMurry 2019 [S27]	1990 to 2016.; English language, LMIC only	84/84 (India, China, Mexico, Tanzania, Ethiopia, Malaysia, Pakistan, Brazil, Nigeria, South Africa, Bangladesh, Indonesia, Marshall Islands, Turkey, Benin, Fiji, Georgia, Guinea, Guinea-Bissau, Guyana, Iran, Kazakhstan, Kiribati, Kyrgystan, Micronesia, Peru, Philippines, Sri Lanka, Thailand, Zambia)	TB +HIV ; TB +DM	Prevalence*	Low
Mekonnen 2019 [S11]	up to Mar 2018; English language, in African countries	28 / 28 (Ethiopia, Zambia, South Africa, Nigeria, Burkina Faso, Uganda, Djibouti, Mozambique, Sudan, Tunisia, Tanzania, Malawi)	TB lymphadenitis +HIV	Prevalence	High
Mesfin 2014 [S49]	up to April 2012.; English language	4/24 (Ukraine, Haiti, Georgia, South Africa)	MDR-TB +HIV	Prevalence*, OR*	Critically low
Pormohammad 2018 [S52]	1985 to Mar 2018	16 / 20 (Dominican Republic, South Africa, Indonesia, China, Vietnam, Turkey, India, Brazil, Peru, Zambia)	TB Meningitis +HIV	Prevalence*	Critically low

Pourakbari 2019 [S28]	up to Apr 2017; Persian and English languages, Iran only	48/48 (Iran)	TB +HIV	Prevalence*	Critically low
Purmohamad 2020 [S53]	2000 to Jan 2017; English language	22/26 (South Africa, Turkey, China, India, Egypt, Brazil, Peru, Vietnam, Indonesia)	TB Meningitis +HIV	Prevalence*	Critically low
Rajendran 2020 [S29]	2009 to Dec 2018; English language, Malaysia only	23/23 (Malaysia)	TB +HIV; TB +DM	Prevalence*	Critically low
Reddy 2010 [S30]	up to Jun 2009; African countries only	22 / 22 but only 5 provided data on TB (Tanzania, Malawi, Uganda, and Cote d'Ivoire)	TB +HIV	Prevalence (pooled individuals - no meta-analysis)	Critically low
Samuels 2018 [S12]	1980 to Jun 2016; English, French and Spanish language	39 / 48 (Ethiopia, Georgia, Russia, Latvia, South Africa, India, Cameroon, Nigeria, Pakistan, Vietnam, Uzbekistan, Moldova, Belarus, Peru, China, Turkey, Haiti, Philippines,)	MDR/XDR-TB +HIV; MDR/XDR-TB +DM	RR of unsuccessful treatment (composite of failure, death, and default) and treatment failure. Prevalence*	Low
Seid 2018 [S31]	up to Mar 2017; English language, Ethiopia only	34 / 34 (Ethiopia)	TB +HIV	Prevalence*	Critically low
Sotgiu 2009 [S47]	2006 to Dec 2008.; English language	5 / 13 (South Africa, Russia, Peru)	MDR-TB +HIV; XDR-TB +HIV	Mortality*, Treatment outcomes*	Critically low
Straetemans 2011 [S32]	up to Mar 2011; English language	50 / 70 (studies with TB + HIV: 14 / 22) (South Africa, Ivory Coast, Uganda, Somalia, Iran, Malawi, Thailand, Zambia, Mexico, Russia, Sudan, Cambodia, Central African Republic, Guinea-Bissau, Nepal, Ivory Coast, India, Burkina Faso, Cameroon, Kenya, Zaire, China, Vietnam)	TB +HIV	Mortality*	Critically low
Tesfaye 2018 [S33]	2007 to 2016; English language, Ethiopia only	21/21 (15 for prevalence data) (Ethiopia)	TB +HIV	Prevalence*	Critically low
Teweldemedhin 2018 [S34]	1995 to Nov 2017; English language, Ethiopia only	30/30, but only 19/30 determined HIV infection among TB patients (Ethiopia)	TB +HIV	Prevalence*	Critically low
Uchida 2019 [S35]	1919 to 2017; English language	2/7 (India, Nigeria)	TB +HIV	Treatment outcomes*	Critically low
Waitt 2011 [S36]	1966 to 2010; English language	40 / 62 (China, Sudan, Brazil, Vietnam, South Africa, Gambia, Malawi, India, Russia, Thailand, Tanzania, Guinea Bissau, Peru, Mexico, Zambia, Uganda, Bolivia)	TB +HIV; TB +Non-infective comorbidities	Mortality*	Critically low
Wang 2019 [S13]	up to May 2018; English language	21 / 22 (Turkey, India, China, Vietnam, South Africa, Indonesia, Malaysia, Madagascar)	TB meningitis +HIV	Prevalence and prevalence of death	Critically low
Wu 2016 [S50]	up to Oct 2012; English or Chinese language	23/39 (Peru, India, Bangladesh, Lesotho, Iran, China, Latvia, Russia, Uzbekistan, Turkey, South Africa)	MDR-TB +HIV	Prevalence*	Critically low
TB + DM					
Alebel 2019 [S14]	up to Sep 2017; English language, in SSA countries	16/16 (Benin, Tanzania, Guinea-Bissau, Uganda, Nigeria, Ethiopia, Guinea, Madagascar, Kenya, Cameroon)	TB +DM	Prevalence	Low
Almeida 2018 [S51]	up to Nov 2015	2/11 (Iran, China)	PTB +DM	Mortality*	Critically low
Baker 2011 [S37]	1980 to Dec 2010	12 / 33 (Indonesia, Thailand, India, Turkey, Iran, Russia, Tunisia, Republic of the Congo, Mexico, China)	TB +DM	Prevalence*, Mortality*, Treatment outcomes*	Critically low
Chen 2013 [S15]	2000-Apr 2013; in China	22/22 (China)	PTB +DM	Prevalence	Critically low
Gautam 2021 [S4]	1980 to Jul 2020; English language, in Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka	65/ 74 (India, Pakistan, Nepal, Bangladesh, and Sri-Lanka)	TB +DM	Prevalence (also by countries), OR of mortality, treatment failure, culture conversion, recurrence, and MDR-TB	Low

Han 2016 [S38]	1980 to Jul 2015; English language	27/54 (total articles included), 27/33 (articles used for the meta-analysis) (Congo, Tunisia, Russia, Turkey, Thailand, China, India, Mexico, Iran, Kiribati, Brazil, Malaysia, Tanzania, Peru, Indonesia)	TB +DM	Mortality*, Treatment outcomes*	Critically low
Huang 2020 [S39]	1966 to Jul 2019; English only	10/13 (India, China, Mexico, Thailand, Georgia, Iran)	TB +DM	Prevalence*	Critically low
Huangfu 2019 [S16]	1980 to Jul 2018	57/104 (Congo, Indonesia, Iran, Thailand, Tunisia, Turkey, Brazil, India, Mexico, China, Malaysia, Fiji, Kiribati, Ethiopia, Argentina, Poland, Tanzania, Russia, Egypt, Uganda, Georgia, Saudi Arabia, Senegal)	TB +DM	OR of death only and treatment failure and death	Low
Jeon 2010 [S40]	up to May 2009 (databases), 2007 to 2008 (World Lung Conferences abstracts)	16 / 18 studies that met our inclusion criteria on screening for DM among patients with TB (32 studies included in total) (India, Russia, Nigeria, Guinea, Pakistan, Turkey, Indonesia, Tanzania, Mexico, Iran)	TB +DM	Prevalence*, RR*	Critically low
Lutfiana 2019 [S41]	2012 to Sep 2017; English language	32/41 (South Africa, China, India, Thailand, Bangladesh, Georgia, Brazil, Tanzania, Vietnam, Mongolia)	TB +DM	Prevalence*	Critically low
Noubiap 2019 [S17]	1986 to Jun 2017	138/ 200 (Benin, Ethiopia, Guinea-Bissau, Nigeria, Senegal, South Africa, Tanzania, Uganda, Georgia, Kazakhstan, Romania, Turkey, Egypt, Iran, Libya, Pakistan, Tunisia, Yemen, Guyana, Mexico, Brazil, Peru, Bangladesh, India, Sri Lanka, China, Fiji, Indonesia, Kiribati, Malaysia, Marshall Islands, Thailand)	TB +DM	Prevalence (by income level, regions and countries)	Critically low
Shao-hua 2016 [S18]	up to Nov 2015; in China	13 / 13 (China)	PTB +DM	OR and aOR of adverse outcomes (failure to retreatment, death, and loss)	Critically low
Tegegne 2018 [S42]	up to Jul 2018; English language	17 / 25 (Iran, Georgia, Mexico, Egypt, Thailand, Peru, China, Indonesia, Bangladesh, Turkey)	TB +DM	Prevalence*	High
Workneh 2017 [S43]	up to Mar 2016; English language	80/94 (India, China, Iran, Indonesia, Pakistan, Sri Lanka, Nepal, Thailand, Georgia, Philippines, Malaysia, Benin, Ethiopia, Tanzania, Guinea, Kenya, Ethiopia, Uganda, Nigeria, South Africa, Madagascar, Mexico, Peru, Brazil, Kiribati, Marshall Islands, Guyana, Fiji)	TB +DM	Prevalence*	Low
TB + Mental disorders					
Alene 2018 [S19]	up to September 2017	37/40 (1 studies on Canada and 2 on South Korea) (China, Peru, Russia, Argentina, Turkey, Iran, Lesotho, Latvia, South Africa, Tanzania, Haiti, Pakistan, Ethiopia, Vietnam, Indonesia, Nigeria, Namibia)	MDR-TB +Depression; MDR-TB +Anxiety; MDR-TB +Psychosis	Prevalence (also by regions)	Critically low
Duko 2020 [S20]	up to Dec 2019; English language	25/25 (Pakistan, Turkey, India, Brazil, China, Nigeria, Cameroon, Ethiopia)	TB +Depression; MDR-TB +Depression	Prevalence (also by sex)	High
Lee 2020 [S21]	1990 to Oct 2018; English, French, Spanish, Portuguese, and Korean languages	10/10 (South Africa, Ethiopia, Zimbabwe, Zambia, Tanzania, Peru, China)	TB +Mental Disorders	OR of poor TB treatment outcomes, loss to follow-up and non-adherence to treatment. Prevalence*, Mortality*	Critically low
Rensburg 2020 [S44]	2000 to 2019; English language	100/100 (Pakistan, South Africa, Peru, Pakistan, China, Ethiopia, Thailand, India, Sudan, Cameroon, Kazakhstan, Sri Lanka, Nigeria, Zambia, Russia, Brazil, Poland, Burkina Faso, Estonia, Angola, Romania, Ukraine)	TB +Mental illness (Depression, Anxiety, Alcohol use, and General Mental health)	Prevalence*	Critically low

Ruiz-Grosso 2020 [S3]	up to Aug 2019; English language	8/8 (South Africa, Peru, Ethiopia, China, Zimbabwe, Zambia, Tanzania)	TB +Depression	OR of negative outcomes (death and loss to follow-up), death, loss to follow-up and non-adherence	Critically low
TB + HCV					
Behzadifar 2019 [S22]	2000 to Mar 2018; English language	13/21 (Georgia, Argentina, Iran, Brazil, Egypt, Pakistan, China, Sudan, Iraq)	TB +HCV	Prevalence	Moderate
TB + other					
Basham 2020 [S45]	up to Jan 2020 (databases), 2013 to Dec 2019 (The International Journal of Tuberculosis and Lung Disease); English language	5/16 (Tanzania, Egypt, Peru, Russia, Estonia)	TB + cardiovascular disease	OR*, Mortality*	Critically low
Leung 2020 [S23]	up to Jun 2019; any language	14/47 (Lithuania, China, Czech Republic)	TB +Lung cancer; TB +non-Hodgkin's lymphoma; TB +Leukaemia	RR of lung cancer, non-Hodgkin's lymphoma, and leukaemia	Low
Rehm 2009 [S46]	up to Sep 2008; English language	14/53 (Russia, India, Brazil, Belarus, Kazakhstan, Romania, Slovenia)	TB+AUD (Alcohol Use Disorder)	Prevalence*	Critically low

Notes: aOR: adjusted OR; DM: Diabetes Mellitus; DR-TB: Drug resistant TB; HCV: Hepatitis C Virus; HIV: Human immunodeficiency virus; LMIC: Low- and middle-income countries; MDR-TB: Multidrug resistant TB; OR: Odds Ratio; PTB: Pulmonary TB; RR: Relative Risk; SSA: Sub-Saharan Africa; Tuberculosis; XDR-TB: Extensively drug-resistant TB.

* Outcomes available for individual studies, but not pooled

Supplementary Table 4: Outcomes reported by each systematic review

Lead author and year	Clusters covered	Outcomes	Quality rating
TB+HIV			
Alemu 2020	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 7.1% - 30.4%	Low
Arega 2020	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 1.70%-45.80%	Critically low
Bastos 2019	TB +HIV	Outcomes available for individual studies, but not pooled: Mortality*: range 3.6% - 30.9%, Treatment outcomes*: cure (33% - 62%), abandonment of treatment (4.2% - 13.6%)	Critically low
Bisson 2020	MDR-TB +HIV	Low and lower-middle income countries: 5.1% (130 of (2421+130) pooled individuals from two studies) - no MA Upper-middle: 3585/(3585+3244)= 52.5% (pooled individuals from two studies) - no MA	Low
Chem 2019	MDR-TB +HIV	Successful treatment: OR 0.87 (0.79 - 0.96), 6 studies, number of participants NR, I ² NR, range 0.75 - 1.26) Mortality: 18% (14%-23%, 9 studies, number of participants NR, I ² =91.1%, range=9%-31%) Cured: 34% (22%-45%, 9 studies, number of participants NR, I ² =98.9%, range= 3%-60%) Outcomes available for individual studies, but not pooled: Prevalence*: 21.73% - 100%	Critically low
Edessa 2020	DR-TB +HIV	Unsuccessful treatment: † RR 1.18 (1.07-1.30, 19 studies, 8301 participants, I ² =48%, range=0.71-2.37) Unsuccessful treatment (western SSA region) : RR 1.42 (0.95-2.13, 2 studies, 790 participants, I ² =12%, range=1.31-2.37) Unsuccessful treatment (eastern SSA region): RR 1.47 (95% CI: 1.23-1.75, 6 studies, 1970 participants, I ² =0%, range=1.14-1.77) Unsuccessful treatment (southern SSA region): † RR 1.09 (0.98-1.20, 11 studies, 5541 participants, I ² =43%, range=0.71-1.41) Mortality: † RR 1.50 (1.30-1.74, 16 studies, 7365 participants, I ² =39%, range=0.73-2.18) Mortality (western SSA region) : RR 1.42 (0.96-2.09, 1 study, 588 participants) Mortality (eastern SSA region): RR 1.52 (95% CI: 1.19-1.93, 5 studies, 1442 participants, I ² =0%, range=1.20-2.18) Mortality (southern SSA region): † RR 1.49 (1.21-1.83, 10 studies, 5335 participants, I ² =60%, range=0.73-1.47) Treatment failure: † RR 0.66 (0.38-1.13, 10 studies, 5474 participants, I ² =73%, range=0.15-2.40) Loss to follow up: † RR 0.82 (0.74-0.92, 14 studies, 7051 participants, I ² =0%, range=0.49-2.61)	High
Endalamaw 2019	TB +HIV; PTB +HIV	Prevalence: 23.40% (95% CI 19.56%-27.24%, 13 studies, 19212 participants, I ² =97.6%, range=9.50%-52.10%) PTB: 22.08% (95% CI 14.36%-29.81%, 3 studies, 1079 participants, I ² =89.9%, range 14.97%-28.60%)	Moderate
Eshetie 2018	TB +HIV	Successful treatment: prev 67% (56%-79%, number of studies NR, number of participants NR, I ² NR, range NR) Unsuccessful treatment: prev 33% (21%-44%, number of studies NR, number of participants NR, I ² NR, range NR) Unsuccessful treatment: OR (TB+HIV vs TB) 1.98 (1.56-2.52, 20 studies, number of participants NR, I ² =81.0%, range 0.82-14.31)	Critically low
Gao 2010	TB +HIV	Prevalence: 0.9% (95% CI 0.6%-1.4%, 18 studies, number of participants NR, I ² = 92.21, range 0.1%-4.5%) Men: 1.1% (95% CI 0.6% - 2.0%, 9 studies, number of participants NR, I ² =94.7%) Women: 0.6% (95% CI 0.3% - 1.1%, 9 studies, number of participants NR, I ² =71.8%)	Critically low
Gao 2013	TB +HIV	Africa: 31.2% (95% CI 19.3% - 43.2%), 17 studies, number of participants NR, I ² =99.6%, range NR) Latin America: 25% (95% CI 19.3% - 30.8%), 7 studies, number of participants NR, I ² =95.2%, range NR)	Critically low
Gelaw 2019	TB +HIV	SSA: prevalence 31.81% (95% CI 27.83%-36.07%); 68 studies, 62696 participants, I ² =98%, range=6.03%-72.25%) Eastern region (SSA): prev. 31.14% (95% CI 25.39%-37.54%, 32 studies, 33637 participants, I ² =98%, range=6.03%-60.51%) Western region (SSA): prev. 25.48% (95% CI 19.70%-32.27%), 21 studies, 16145 participants, I ² =98%, range=10.26%-72.13%) Southern region (SSA): prev. 43.67% (95% CI 35.05%-52.69%, 12 studies, 11148 subject, I ² =99%, range=23.84%-72.25%) Central region (SSA): prev. 41.33% (95% CI 30.39%-53.19%, 3 studies, 2039 participants, I ² =96%, range=31.29%-51.56%)	High
Huddart 2020	TB +HIV	Case-fatality rate (during treatment): 10.91% (7.68%-15.50%), 35 studies, number of participants NR, Tau ² =0.90 (considered low heterogeneity if <4, according to the authors) Case-fatality rate (after treatment): 4.15% (1.06% to 16.24%), 5 studies, number of participants NR, Tau ² =1.902 (considered low heterogeneity if <4, according to the authors)	Critically low

Lukoye 2015	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 25.4% - 79.9%	Critically low
McMurry 2018	TB +HIV; TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: range 1.9% - 45%	Low
Mekonnen 2019	TB lymphadenitis +HIV	Africa: 52% (95% CI 33%-71%, 14 studies, number of participants NR, I ² =99.2%, range 6%-91%) Ethiopia: 21% (95% CI 12%-30%, 6 studies, number of participants NR, I ² =92.9%, range 6%-67%)	High
Mesfin 2014	MDR-TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 3.4% - 31.6%, OR*	Critically low
Pormohammad 2018	TB Meningitis +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 0% - 100%	Critically low
Pourakbari 2019	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 0.4% - 38%	Critically low
Purmohamad 2020	TB meningitis +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 0% - 91%	Critically low
Rajendran 2020	TB +HIV; TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: MDR-TB+DM: 26.7% (1 study); MDR-TB+HIV: 17.6% (1 study)	Critically low
Reddy 2010	TB +HIV	161 / 166 (97%) – no meta-analysis	Critically low
Samuels 2018	MDR/XDR-TB +HIV ; MDR/XDR-TB +DM	Unsuccessful treatment: MDR/XDR-TB + HIV (low gross domestic product countries): RR 2.23 (1.60-3.11, 7 studies, 2662 participants, I ² =41%, range=0.67-3.33) MDR/XDR-TB + HIV (LMIC): RR 1.34 (1.04-1.72, 13 studies, 5816 participants, I ² =88%, range=0.55-3.33) MDR/XDR-TB + DM (vs MDR/XDR-TB only): RR 0.90 (0.65-1.23, 3 studies, 687 participants, I ² =19%, range=0.23-0.98) Treatment Failure (defined as 5 cultures positive within the last 12 months of therapy or any culture positivity within the last 3 cultures; alternatively, failure was defined as treatment discontinuation due to lack of appropriate response or significant adverse events): MDR/XDR-TB + HIV (vs MDR/XDR-TB only): RR 0.75 (0.44-1.29, 7 studies, 5930 participants, I ² =55%, range=0.32-2.40) Outcomes available for individual studies, but not pooled: Prevalence*:	Low
Seid 2018	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 2.0% - 100%	Critically low
Sotgiu 2009	MDR-TB +HIV; XDR-TB +HIV	Outcomes available for individual studies, but not pooled: Mortality*: , Treatment outcomes*:	Critically low
Straetemans 2011	TB +HIV	Outcomes available for individual studies, but not pooled: Mortality*: range 2.2% - 34.4%	Critically low
Tesfaye 2018	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 11.4% - 36.2%	Critically low
Teweldemedhin 2018	TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*: range 6%-52.1%	Critically low
Uchida 2019	TB +HIV	Outcomes available for individual studies, but not pooled: Treatment outcomes*: Unsuccessful outcomes (death, failure, loss to follow-up and transferred-out HIV positive): aOR 3.6 (95%CI 1.1-11.7) (1 study)	Critically low
Waitt 2011	TB +HIV; TB + Non-infective comorbidities	Outcomes available for individual studies, but not pooled: Mortality*:	Critically low
Wang 2019	TB meningitis +HIV	Prevalence: 10.6% (95% CI: 4.2%–24.6%, number of studies NR, number of participants NR, I ² NR, range NR) Mortality: 53.4% (42.4%–64.1%, 7 studies, 547 participants, I ² = 2.1%, range NR)	Critically low
Wu 2016	MDR-TB +HIV	Outcomes available for individual studies, but not pooled: Prevalence*:	Critically low
TB+DM			

Alebel 2019	TB +DM	Prevalence TB+DM: 9% (95% CI 6%-12%, 16 studies, 13286 participants, I ² = 97.48%, range: 2%-38%) Nigeria: 15% (95% CI 7%-23%, 4 studies, 4998 participants, I ² NR, range NR) Ethiopia: 10% (95% CI 6%-13%, 3 studies, 1633 participants, I ² NR, range NR) Tanzania: 11% (95% CI 9%-12%, 2 studies, 1309 participants, I ² NR, range NR)	Low
Almeida 2018	PTB +DM	Outcomes available for individual studies, but not pooled: Mortality*: OR 9.70 (95% CI 2.92-32.22)	Critically low
Baker 2011	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: , Mortality*: range of RR 1.26 - 28.47, Treatment outcomes*: relapse: range of RR 1.88 - 5.96; remaining sputum culture positive: range of RR 0.79 - 2.17, failure/death: range of RR 1.44 - 3.13	Critically low
Chen 2013	PTB +DM	Prev: 7.20% (95% CI 6.01%-8.39%, 22 studies, 56805 participants, I ² NR, range 2.08%-16.16%)	Critically low
Gautam 2021	TB +DM	Pooled prevalence 21% (95% CI 18%-23%, 65 studies, 49,792 patients, I ² =98.28%, range NR) MDR-TB OR 1.05 (95% CI 0.63-1.74, 4 studies, number of participants NR, I ² =40.71%, range NR) Among adults only: 21.0% (95% CI 18.0–23.0%, 55 studies, number of participants NR, I ² = 97.99%, range NR) Bangladesh prevalence 11.0% (95% CI 10.0%–12.0%, 2 studies, number of participants NR, I ² NR, range NR) India prevalence 22.0% (95% CI 19.0%–25.0%, 47 studies, number of participants NR, I ² =97.92%, range NR) Nepal prevalence 12.0% (95% CI 4.0%–20.0%, 4 studies, number of participants NR, I ² =96.70%, range NR) Pakistan prevalence 19.0% (95% CI 11.0%–27.0%, 10 studies, number of participants NR, I ² =99.18%, range NR) Sri Lanka prevalence 24.0% (95% CI 21.0%–27.0%, 2 studies, number of participants NR, I ² NR, range NR) Mortality in TB+DM vs TB: OR 1.74 (1.21-2.51, 5 studies, number of participants NR, I ² =19.43%, range 0.14-1.95) Treatment failure: OR 1.65 (1.12-2.44, 5 studies, number of participants NR, I ² =49.63%, range 1.34-21.91) Cured: OR 0.32, 95% CI 0.10 - 1.05, 1 study) Recurrence: OR 0.53 (95% CI 0.32, 0.87, 1 study) MDR-TB: OR 1.05 (0.63-1.74, 4 studies, number of participants NR, I ² =40.71%, range=0.45-4.70)	Low
Han 2016	TB +DM	Outcomes available for individual studies, but not pooled: Mortality*: range of OR 0.41 - 29.22, Treatment outcomes*: Sputum culture conversion at 2 to 3 months: range of OR 0.57 - 5.27; Failure/death: range of OR 0.86 - 18.91; Relapse: range of OR 0.97 - 6.35	Critically low
Huang 2020	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: range 9% - 49%	Critically low
Huangfu 2019	TB +DM	Mortality: OR 1.80 (95%CI 1.35–2.40; 32 studies, number of participants NR, I ² =91%, range NR) Treatment failure or death: OR 1.90 (95%CI 1.43–2.53; 22 studies, number of participants NR, I ² =87.3%, range NR)	Low
Jeon 2010	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: , RR*	Critically low
Lutfiana 2019	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: range 3.3%-100%	Critically low
Noubiap 2019	TB +DM	Prevalence: Low income countries: 7.9% (95% CI 4.9%-11.5%, 15 studies, 9434 participants, I ² =96.8%, range NR) Lower-middle income: 17.7% (95% CI 15.1%-20.5%, 48 studies, 48036 participants, I ² =98.3%, range NR) Upper-middle income: 14.4% (95% CI 12.8%-16.0%, 75 studies, 1,994,027 participants, I ² =99.9%, range NR) African region: 8.0% (95% CI 5.9%-10.4%, 119 studies, 474,944 participants, I ² =99.8%, range 1.9%-32.4%) Southeast Asia: 19.0% (95% CI 16.2%-21.9%, 30 studies, 30382 participants, I ² =97.0%, range 5.1%-54.1%) Benin: 1.9% (95% CI 0.2%-4.7%, 1 study, 159 participants) Ethiopia: 18.8% (95% CI 1.9%-47.1%, 2 studies, 1749 participants, I ² =99.2%, range: 8.3%-32.4%) Guinea-Bissau: 2.7% (95% CI 0.3%-6.8%, 1 study, 110 participants) Nigeria: 7.8% (95% CI 4.4%-12.0%, 4 studies, 9821 participants, I ² =97.8%, range=4.8%-12.0%) Senegal: 4.9% (95% CI 2.2%-8.5%, 2 studies, 2848 participants, I ² =75.1%, range=3.8%-7.0%) South Africa: 9.4% (95% CI 7.6%-11.3%, 1 study, 947 participants) Tanzania: 8.5% (95% CI 4.8%-13.0%, 7 studies, 4178 participants, I ² =95.1%, range=2.6%-16.7%)	Critically low

		<p>Uganda: 7.3% (95% CI 4.7%-10.3%, 2 studies, 390 participants, I²=9.9%, range=5.4%-8.5%)</p> <p>Kazakhstan: 7.1% (95% CI 5.1%-9.4%, 1 study, 562 participants) Romania: 18.4% (95% CI 13.6%-23.7%, 1 study, 228 participants) Turkey: 7.8% (95% CI 6.8%-8.8%, 3 studies, 2773 participants, I²=0%, range=7.9%-8.6%) Georgia: 12.4% (95% CI 7.4%-18.5%, 1 study, 137 participants)</p> <p>Egypt: 22.8% (95% CI 15.2%-31.4%, 3 studies, 578 participants, I²=81.4%, range=15.8%-27.7%) Iran: 17.8% (95% CI 12.5%-23.8%, 11 studies, 3134 participants, I²=93.3%, range=5.5%-40.0%) Libya: 6.1% (95% CI 3.5%-9.4%, 1 study, 262 participants) Pakistan: 22.0% (95% CI 12.8%-32.8%, 6 studies, 5201 participants, I²=98.8%, range=11.4%-39.6%) Tunisia: 7.6% (95% CI 5.9%-9.6%, 1 study, 788 subject) Yemen: 9.5% (95% CI 6.0%-13.8%, 1 study, 220 participants)</p> <p>Guyana: 14.0% (95% CI 7.8%-21.6%, 1 study, 100 participants) Mexico: 30.8% (95% CI 26.4%-35.3%, 10 studies, 192420 participants, I²=97.9%, range=19.3%-54.4%)</p> <p>Brazil: 7.2% (95% CI 6.3%-8.1%, 12 study, 1726436 participants, I²=99.7%, range=3.3%-33.1%) Peru: 4.8% (95% CI 1.7%-9.5%, 4 studies, 3983 participants, I²=96.8%, range=2.5%-11.1%)</p> <p>Bangladesh: 10.6% (95% CI 7.2%-14.5%, 3 studies, 3010 participants, I²=85.9%, range=8.3%-12.8%) India: 19.9% (95% CI 16.8%-23.2%, 26 studies, 27260 participants, I²=97.2%, range=5.1%-54.1%) Sri Lanka: 24.1% (95% CI 16.6%-32.5%, 1 study, 112 participants)</p> <p>China: 14.5% (95% CI 10.5%-19.0%, 14 studies, 19529 participants, I²=98.4%, range=2.7%-30.1%) Fiji: 10.1% (95% CI 4.4%-17.7%, 3 studies, 1139 participants, I²=91.8%, range=5.2%-13.7%) Indonesia: 14.8% (95% CI 12.2%-17.7%, 1 study, 634 participants) Kiribati: 36.7% (95% CI 31.1%-42.5%, 1 study, 275 participants) Malaysia: 26.9% (95% CI 17.8%-37.0%, 5 studies, 23438 participants) Marshall Island: 45.2% (95% CI 32.9%-57.7%, 1 study, 62 participants) Thailand: 7.5% (95% CI 6.2%-8.8%, 5 studies, 17862 participants, I²=81.6%, range=6.0%-16.3%)</p>	
Shao-hua 2016	PTB +DM	Retreatment: OR 2.05 (1.30-3.22, 3 studies, 499 participants, I ² =0%, range NR) aOR 3.38 (1.56-7.29, 2 studies, n participants NR, I ² =75%, range NR)	Critically low
Tegegne 2018	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: range 5% - 36%	High
Workneh 2017	TB +DM	Outcomes available for individual studies, but not pooled: Prevalence*: range 1.9% - 45%	Low
Alene 2018	MDR-TB + Depression; MDR-TB +Anxiety; MDR-TB +Psychosis	Depression: Overall: Prev. 25% (95% CI 14%-39%, 15 studies, n participants NR, I ² =98%, range= 3%-79%) African region: 16% (95% CI 9%-24%, 3 studies, n participants NR, I ² NR, range NR) The Americas Region: 36% (95% CI 23%-50%, 3 studies, n participants NR, I ² NR, range NR) South-East Asia Region: 22% (95% CI 0%-60%, 3 studies, n participants NR, I ² NR, range NR) European region: 11% (95% CI 4%-21%, 3 studies, n participants NR, I ² NR, range NR) Eastern Mediterranean Region: 73% (95% CI 64%-81%, 2 studies, n participants NR, I ² NR, range NR) Western Pacific Region: 5% (95% CI 1%-12%, 1 study, , n participants NR, I ² NR, range NR)	Critically low

		<p>Anxiety: Overall: Prev: 24% (95% CI 2%-57%, 3 studies, n participants NR, I²=95%, range=12%-56%) The Americas Region: 14% (95% CI 9%-21%, 2 studies, n participants NR, I² NR, range NR) South-East Asia Region: 56% (95% CI 45%-66%, 1 studies, n participants NR, I² NR, range NR)</p> <p>Psychosis: (Overall includes a study from S.Korea) African region: 12% (95% CI 8%-17%, 5 studies, n participants NR, I² NR, range NR) The Americas Region: 11% (95% CI 7%-17%, 2 studies, n participants NR, I² NR, range NR) South-East Asia Region: 10% (95% CI 5%-17%, 2 studies, n participants NR, I² NR, range NR) European region: 6% (95% CI 0%-17%, 2 studies, n participants NR, I² NR, range NR) Eastern Mediterranean Region: 7% (95% CI 1%-17%, 1 studies, n participants NR, I² NR, range NR)</p>	
Duko 2020	TB + Depression; MDR-TB +Depression	<p>Prevalence: 45.19% (95% CI 38.04%-52.55%, 25 studies, 4903 participants, I²=96.28%, range=15.56%-80.00%) Women: 51.54% (95% CI 40.34%-62.60%, 17 studies, number of participants NR, I² = 92.55%, range NR) Men: 45.25% (95% CI 35.19%-55.71%, 17 studies, number of participants NR, I² = 95.09%, range NR) MDR-TB: 52.34% (95% CI 38.09%-66.22%, 5 studies, number of participants NR, I²=92.55%, range=NR)</p>	High
Lee 2020	TB +Mental Disorders	<p>Unsuccessful treatment: OR 2.13 (95%CI 0.85-5.37, 4 studies, 1196 participants, I²=82%, range NR) Loss to follow up: OR 1.90 (95%CI 0.33-10.91, 2 studies, 1139 participants, I²=78%, range NR) Non-adherence to treatment (measured by self-report, missed visits, pill count, or physiological tests): OR 1.60 (95% CI 0.84-3.02, 4 studies, 10851 participants, I²=86%, range=0.94-3.67) Outcomes available for individual studies, but not pooled: Prevalence*: Depression: range 37.5% - 53.9%; Mental disorder: range 18.9%-22.4%; Psychological distress: range 22% - 67.6%; PTSD: 29.6% (1 study), Mortality*:</p>	Critically low
Rensburg 2020	TB +Mental illness (Depression, Anxiety, Alcohol use, and General Mental health)	<p>Outcomes available for individual studies, but not pooled: Prevalence*: Depression: range 9.3% - 84%; Anxiety: range 2%-47.2%; Alcohol use: range 5% - 63%; Psychiatric comorbidity: range 3%; Psychological distress: range 22% - 83.6%; Poor mental quality: range 13.1% (1 study); Common mental disorder/Mental disorder: range 22.4%-38.3%</p>	Critically low
Ruiz-Grosso 2020	TB +Depression	<p>Mortality or loss to follow-up: OR = 4.26 (95% CI 2.33-7.79, 2 studies, 973 participants, I²=0%, range=3.65-4.88) Mortality: OR 2.85 (1.52-5.36, 2 studies, 973 participants, I²=0%, range=1.76-2.99) Loss to follow up: OR 8.70 (4.95-9.09, 2 studies, 973 participants, I²=0%, range=4.95-9.09) Non-adherence to TB treatment: OR 1.38 (0.70-2.72, 3 studies, 9349 participants, I²=94.36%, range=0.92-3.67)</p>	Critically low
TB+HCV			
Behzadifar 2019	TB +HCV	Africa: 11% (95% CI 1%-23%, 3 studies, 327 participants, I ² =93.9%, range=NR)	Moderate
TB+other			
Basham 2020	TB + cardiovascular disease	Outcomes available for individual studies, but not pooled: Mortality*: range of ORs 2.50 - 3.01	Critically low
Leung 2020	TB +Lung cancer; TB +non-Hodgkin's lymphoma; TB +Leukaemia	<p>Upper middle-income countries Lung cancer: RR 1.53 (95% CI 1.25-1.87, 9 studies, number of participants NR, I²=94.6%, range NR) non-Hodgkin's lymphoma: RR 1.70 (95% CI 1.13-2.56, 1 study, number of participants NR, I²=NA) leukaemia: RR 1.61 (95% CI 1.13-2.29, 1 study, number of participants NR, I²= NA)</p>	Low
Rehm 2009	TB+ Alcohol Use Disorder	Outcomes available for individual studies, but not pooled: Prevalence*:	Critically low

Note: Quality was assessed using the AMSTAR2 tool. aOR: adjusted OR; DM: Diabetes Mellitus; DR-TB: Drug resistant TB; HCV: Hepatitis C Virus; HIV: Human immunodeficiency virus; LMIC: Low- and middle-income countries; MDR-TB: Multidrug resistant TB; NR: Not reported; OR: Odds Ratio; prev.: prevalence; PTB: Pulmonary TB; RR: Relative Risk; SSA: Sub-Saharan Africa; Tuberculosis; XDR-TB: Extensively drug-resistant TB.

* Outcomes available for individual studies, but not pooled. Range of effect estimates reported.

† Includes one study focused on children

Supplementary Table 5: Conditions that were considered chronic (and therefore included) or not (and therefore excluded) for this review

Condition/risk factor	Should be considered as a comorbidity in this review?	Description or details
Included		
Acquired immunodeficiency syndrome (AIDS)	Yes	
Anxiety	Yes	Clinical diagnostic of an anxiety disorder or assessed with a validated scale
Arthritis	Yes	
Asthma	Yes	
Autoimmune diseases	Yes	
Cancer	Yes	Any type of cancer
Cardiovascular disease	Yes	
cerebrovascular accident	Yes	
cerebrovascular accident	Yes	Cerebrovascular disease is a form of cardiovascular disease
chronic airflow obstruction	Yes	As a proxy for COPD
Chronic kidney disease / Chronic renal failure	Yes	No if acute renal failure- Yes if chronic renal failure
Chronic liver disease / Cirrhosis / Chronic hepatic dysfunction	Yes	
Chronic lung disease	Yes	
Chronic obstructive pulmonary disease (COPD)	Yes	COPD is form of chronic lung disease
Cor pulmonale	Yes	
Depression	Yes	Clinical diagnostic or assessed with a validated scale (e.g. PHQ-9)
Diabetes mellitus (DM)	Yes	
hearing defect	Yes	
Heart disease / Cardiopathies	Yes	
Heart failure	Yes	
Hepatitis B virus (HBV)	Yes	
Hepatitis C virus (HCV)	Yes	
HIV	Yes	
hyperthyroidism	Yes	
hypothyroidism	Yes	
Mental disorder	Yes	Umbrella term for conditions such as PTSD, OCD, depression, anxiety disorders, etc.
Obsessive compulsive disorder (OCD)	Yes	
Panic disorder	Yes	

pneumoconiosis	Yes	
Post-traumatic stress disorder (PTSD)	Yes	
seizures (cause not determined)	Yes if called epilepsy	Yes only if called epilepsy
Substance use / drug abuse	Yes	usually reserved for illicit substances
T. pallidum	Yes	
Unstable angina	Yes	
Excluded		
Acute Respiratory Distress Syndrome	No	Acute
Anaemia	No	
Aspergillus coinfection	No	complications of HIV
BMI	No	
Candida coinfection	No	complications of HIV
cardiomyopathy	No	Can be acute and/or reversible
Cavitary disease	No	
Chronic corticosteroid therapy	No	Treatment
Chronic diarrhoea	no	Unless it's inflammatory bowel disorders, no.
cryptococcus	No	complications of HIV
cryptococcal IRIS (immune reconstitution inflammatory syndrome) adenitis	No	
deep venous thrombosis	NO	
dermatitis	No	
Drinking alcohol	No	No, unless it is something like 'harmful use of alcohol' or 'alcohol dependence'
drug-induced hepatotoxicity/ liver injury	No	
Dyslipidemia	No	
haemorrhoids/fistula-in-ano	No	
HTLV (Human T-Cell LymphotropicVirus)	No	complications of HIV
Hypertension	No	
hypokalaemia	No	
hyponatremia	No	complications of HIV
Intestinal parasites	No	
Leukopenia	no	
Malnourishment	No	
Obesity	No	

pancreatitis	No	Unless Long term pancreatitis and it is clearly specified
Pneumonia	No	Acute condition
pneumothorax	No	
Pulmonary edema	No	Symptom
pulmonary fungal infection	No	complications of HIV
sacroiliitis	NO	
scabies	No	
severe epistaxis	No	
Skin conditions	no	
smoking	No	Would not fall under 'substance abuse', even if it is reported as 'high dependence smoking'
visual impairment (reported as a symptom of DM)	No (reported as a complication)	

Supplementary Table 6: AMSTAR2 assessment details for each study

Study Id	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	confidence rating
Duko 2020	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	High
Alemu 2020	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Low
Arega 2020	Yes	No		Partial Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Critically low
Huddart 2020	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	Yes	Yes	Yes	No	Yes	Critically low
Huang 2020	Yes	Partial Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Critically low
Edessa 2020	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Partial Yes	No		Yes	Yes	Yes	Yes	Yes	High
Basham 2020	Yes	No	Yes	Partial Yes	Yes	Yes	No	Yes	Partial Yes	No	No	Yes	Yes	Yes			Critically low
Bisson 2020	Yes	Yes	Yes	Partial Yes	No	No	Partial Yes	No	No	No	NA	NA	NA	No	NA	Yes	Low
Huangfu 2019	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	Partial Yes	No	Yes	Yes	Yes	Yes	No	Yes	Low
Bastos 2019	Yes	Yes	Yes	Partial Yes	Yes	Yes	No	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Endalamaw 2019		Partial Yes	Yes	Partial Yes	No	Yes	Partial Yes	Partial Yes	Partial Yes	No	Yes	Yes	Yes	No	Yes	Yes	Moderate
Chem 2019	Yes	Partial Yes	Yes	Partial Yes	Yes	No	Partial Yes	Yes	Partial Yes	Yes	Yes	Yes	No	Yes	No	Yes	Critically low
Alebel 2019	Yes	Yes	Yes	Partial Yes	No	Yes	No	Partial Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Low
Behzadifar 2019	Yes	Partial Yes	Yes	Partial Yes	Yes	No	Partial Yes	Partial Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Moderate
Gelaw 2019	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	High
Alene 2018		Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	No	No	No	No	No	No	No	Yes	Critically low
Almeida 2018	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	No	No	No	No	Yes	Critically low
Eshetie 2018		No	Yes	Partial Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Critically low
Gao 2013	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	Yes	No	No	Yes	No	Yes	Critically low
	Yes	No		Partial Yes	No	No	Partial Yes	Partial Yes	No	No	NA	NA	NA	No	NA	No	Critically low
Baker 2011	Yes	No	Yes	Partial Yes	No	Yes	Partial Yes	Partial Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Critically low
Jeon 2010	Yes	No	Yes	Partial Yes	No	Yes	No	Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Gao 2010	Yes	No	Yes	Partial Yes	No	No	Yes	Yes	No	No	No	No	No	Yes	No	Yes	Critically low

	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	Critically low
Leung 2020	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Yes	Yes	Partial Yes	No	No	Yes	Yes	Yes	Yes	Yes	Low
Rensburg 2020	Yes	No	Yes	Partial Yes	Yes	No	No	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Han 2016	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	No	No	No	No	No	No	Yes	Yes	No	Critically low
Lee 2020	Yes	Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Critically low
Purmohamad 2020	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	No	No	Yes	Yes	Yes	Critically low
Rajendran 2020	Yes	No	Yes	Partial Yes	No	No	Yes	No	No	No	NA	NA	NA	No	NA	Yes	Critically low
Ruiz-Grosso 2020	Yes	Partial Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	Critically low
Pourakbari 2019	Yes	No	Yes	Partial Yes	Yes	Yes	No	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Critically low
Lutfiana 2019	Yes	No	Yes	Partial Yes	No	No	Partial Yes	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Wang 2019		No	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Critically low
Uchida 2019	Yes	No	Yes	No	Yes	No	No	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Mekonnen 2019	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Partial Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	High
Tewelmedhin 2018	Yes	No	Yes	No	Yes	No	Yes	Partial Yes	No	No	Yes	No	No	Yes	Yes	Yes	Critically low
Tegegne 2018	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Yes	Partial Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	High
Tesfaye 2018	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	No	Partial Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Critically low
Seid 2018	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	No	No	No	Yes	Yes	Critically low
Pormohammad 2018	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	Yes	Yes	No	Yes	Yes	Critically low
Samuels 2018	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Low
Lukoye 2015	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	No	No	No	No	No	No	Yes	Yes	Critically low
Mesfin 2014	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Yes	Partial Yes	No	No	No	No	Yes	Yes	Yes	Critically low
Straetemans 2011	Yes	Partial Yes	Yes	Partial Yes	No	No	Yes	Partial Yes	No	No	Yes	No	No	Yes	Yes	Yes	Critically low
Waitt 2011	Yes	No	Yes	No	No	No	Partial Yes	Partial Yes	No	No	No	NA	No	No	No	No	Critically low
Reddy 2010	Yes	No	No	Partial Yes	Yes	Yes	Yes	No	No	No	NA	NA	NA	No	NA	Yes	Critically low
Rehm 2009	Yes	No	Yes	Partial Yes	Yes	No	No	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low

Sotgiu 2009	Yes	No	Yes	Partial Yes	Yes	No	No	Partial Yes	No	No	NA	NA	NA	No	NA	Yes	Critically low
Noubiap 2019		Partial Yes	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Critically low
Wu 2016	Yes	No	Yes	Partial Yes	No	No	Partial Yes	Yes	No	No	Yes	Yes	No	Yes	No	Yes	Critically low
Gautam 2021	Yes	Partial Yes	Yes	Partial Yes	Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	Yes	Yes	Yes	Yes	Low
Chen 2013	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	Yes	Yes	Yes	Yes	No	Critically low
McMurry 2018	Yes	Partial Yes	Yes	Partial Yes	Yes	No	Partial Yes	Partial Yes	No	No	NA	NA	NA	No	NA	yes	Low
Workneh 2017	Yes	Partial Yes	Yes	Partial Yes	No	No	Partial Yes	Partial Yes	No	No	NA	NA	NA	no	NA	Yes	Low
Shao-hua 2016	Yes	No	Yes	Partial Yes	Yes	Yes	Partial Yes	Partial Yes	No	No	No	No	No	Yes	No	No	Critically low

Note: Items assessing critical domains are bolded.

1. Did the research questions and inclusion criteria for the review include the components of PICO?
2. Did the report of the review contain an explicit statement that the review methods were established prior to conduct of the review and did the report justify any significant deviations from the protocol?
3. Did the review authors explain their selection of the study designs for inclusion in the review?
4. Did the review authors use a comprehensive literature search strategy?
5. Did the review authors perform study selection in duplicate?
6. Did the review authors perform data extraction in duplicate?
7. Did the review authors provide a list of excluded studies and justify the exclusions?
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?
10. Did the review authors report on the sources of funding for the studies included in the review?
11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?
12. If meta-analysis was performed, did the review authors assess the potential 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?
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?
15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?