ANNEX B: SUMMARIES OF INCLUDED STUDIES

Table 3. Characteristics of included studies.

Study	Country	Year(s) of study	Population type	Population screened	Number of Cases	Brief study description and method of screening
Abrahao et al.[37]	Brazil	2000-2001	At-risk (Prison)	1,052	54	A population of prison inmates in Sao Paulo were screened using symptom screening, TST, and sputum-smear and culture.
Adane et al.[38]	Ethiopia	2013-2014	At-risk (Prison)	9,299	32	A population of prison inmates in Tigray were initially screened for cough of any duration, followed by a full symptom screening (cough more than two weeks with at least one other symptom). Sputum samples were collected from presumptive cases for culture and smear-microscopy.
Akhtar et al.[39]	Pakistan	2002	General	5,479	18	Door-to-door screening of households in a peri-urban neighborhood of Karachi where sputum samples were collected from patients reporting cough of two or more weeks for smear microscopy and culture.
Al-Darraji et al. [40]	Malaysia	2012-2013	At-risk (prison)	442	48	Systematic screening of consenting inmates at a Malaysian prison using two sputum samples analyzed

						by GeneXpert MTB/RIF, smear microscopy and liquid culture.
Alemayahu et al. [41]	Ethiopia	2012	At-Risk (PLHIV)	250	15	A cross-sectional study of active case finding and detection of drug resistance among PLHIV using sputum smear microscopy and Mycobacteria culture, as well as PCR-based genotyping on culture-positive isolates.
Ali et al.[42]	Ethiopia	2013	At-risk (Prison)	15,495	71	Prison inmates were screened for symptoms (cough of two weeks duration, sputum production, chest pain, recent loss of appetite, and weight loss), past TB history, or HIV. TB suspects provided sputum for smear microscopy and culture.
Andre et al. [43]	DR Congo	2014-2016	General	617,432	3,455	An investigation of the effect of using volunteer screeners in active TB case-finding of community and high-risk groups in DR Congo. Volunteer screeners referred people with prolonged cough to a local clinic, where sputum-smear microscopy was performed.
Andre et al. [43]			At-Risk (Marginalized)	33,002	845	
Anger et al. [44]	USA	1997-2003	At-Risk (HHC)	27,293	268	A retrospective cohort study of close contacts of patients with TB who underwent symptom screening, TST, and CXR.

Aunsborg et al. [45]	Guinea-Bissau	2014	At-Risk (PLHIV)	164	22	A feasibility study of using the clinical Bandim TBscore for TB case finding among PLHIV.
Aye et al. [46]	Myanmar	2014-2016	At-Risk (HHC)	56,709	74	An assessment of the effect of ACF of TB by a household and community intervention using symptom screening (prolonged cough, hemoptysis, weight loss, fever, night sweat, and gland enlargement) followed up by CXR, sputum-smear microscopy, and GeneXpert.
Aye et al. [46]			General	162,881	984	
Ayles et al. #1 [47]	South Africa & Zambia	2006-2010	At-Risk (HHC)	21,493	214	Household contacts of newly diagnosed patients with TB were visited by counsellors three times during the index patient's treatment. Symptom screening was performed, and sputum-smear was used for confirmation.
Ayles et al. #2[48]	Zambia	2005	General	8,044	79	Households were visited at random in one urban and one rural area and residents provided sputum sample for smear microscopy and culture.
Badiaga et al.[49]	France	2005	At-risk (Homeless)	221	2	A prevalence survey of respiratory illnesses in two homeless shelters in Marseilles using a standardized questionnaire and examined by a doctor. Sputum samples were collected for smear microscopy and culture and CXR was evaluated. If CXR was abnormal

						the subject was referred to the hospital, where they were evaluated by microscopy, PCR, and culture.
Balcha et al. [50]	Ethiopia	2011	At-Risk (PLHIV)	812	145	This study assessed the rate of TB in PLHIV before starting anti-retro viral therapy (ART) using PCR and sputum smear.
Banu et al. #1 [51]	Bangladesh	2005-2010	At-Risk (Prison)	60,585	466	An assessment of ACF of TB on prevalence and transmission of pulmonary TB at the entry point of and inside Dhaka Central Jail, Bangladesh. Three sputum samples were collected and evaluated using smear microscopy, culture, drug susceptibility testing, and genotyping.
Banu et al. #2[52]	Bangladesh	2009-2010	At-risk (Slum)	9,877	25	A house-to-house survey was conducted in an urban slum and residents were screened for TB symptoms. Individuals with productive cough for three or more weeks were considered TB suspect and provided sputum for smear microscopy and culture.
Banu et al. #3[51, 53]	Bangladesh	2005-2007	At-risk (Prison)	11,000	245	Inmates were interviewed by a doctor who examined all TB suspects (cough for more than three weeks). All

						suspects provided sputum samples for smear microscopy and culture
Basett et al. [54]	South Africa	2007-2008	At-Risk (PLHIV)	825	158	An investigation of ACF of TB among patients undergoing ART using symptom screening (cough, fever, night sweats, weight loss, chest pain, and dyspnea) followed up by sputum smear microscopy, PCR, and mycobacterial culture.
Berhe et al.[55]	Ethiopia	2011	General	12,175	30	Random samples from urban and rural clusters were selected and screened for symptoms (cough for more than two weeks). Symptomatic individuals provided sputum samples for microscopy and culture.
Beyanga et al. [56]	Tanzania	2016	At-Risk (HHC)	456	29	An investigation of case finding among HHCs of patients with TB in Mwanza City, Tanzania, using fluorescent smear microscopy, GeneXpert, and Löwenstein-Jensen culture.
Bhat et al.[57]	India	2007-2008	At-risk (Marginalized)	22,270	83	A prevalence survey of a tribal population using symptom screening (persistent cough, chest pain, fever, hemoptysis). If symptomatic or had a history of

						TB, sputum was collected for smear microscopy and culture.
Bjerregaard-Andersen et al.[58]	Guinea-Bissau	2006-2007	General	2,989	4	House-to-house screening for symptoms (cough, expectorate, hemoptysis, breathlessness, chest pain, fever, nightly sweats, fatigue, weight loss, and loss os appetite). Individuals with cough or two other symptoms were referred to a physician for further evaluation. Sputum smear and CXR was ordered by physician if deemed necessary.
Bogdanova et al. [59]	Russia	2013-2017	General	2,410,613	684	A cost effectiveness study of ACF. HHCs were visited by a doctor and referred to CXR. Mass screening was performed by CXR at municipal hospitals or mobile radiology units.
Bogdanova et al. [59]			At-Risk (HHC)	8,100	61	
Borgen et al. [60]	The Netherlands	2005	At-Risk (Contacts)	15,518	12	A large-scale contact investigation of customers of a supermarket attended by a patient with TB in the Netherlands using TST and/or CXR.
Bozorgmehr et al. [61]	Germany	2002-2015	At-Risk (Refugees)	119,037	98	An analysis of using country of origin in targeting TB screening in asylum seekers in Germany using symptom screening, CXR, and TST/IGRA confirmed by chest computer scan, sputum test, and culture tests.

China Tuberculosis Control Collaboration[62]	China	2000	General	365,097	1,340	A nationally representative prevalence survey was undertaken. Adults were considered TB suspect if they had haemoptysis or cough for at least three weeks or abnormal fluorograph. All those with persistent cough or abnormal fluorograph were given CXR and had sputum collected for smear microscopy and culture.
Carbone et al. [63]	Brazil	2013	At-Risk (Prison)	3,380	31	A cross sectional study of latent and active tuberculosis in a sample of inmates in 12 prisons in Central-West Brazil, using TST on all inmates and sputum smear microscopy and culture on inmates reporting cough of any duration.
Cavany et al. [64]	The UK	2012-2015	At-Risk (HHC)	16,495	294	Contact tracing study among TB cases in London over the course of 3 years using symptom screening, TST/IGRA, and CXR.
Chen C et al. [65]	China	2013-2014	General	19,334	52	An evaluation of community based ACF in identifying symptomatic individuals with TB in rural China.
Chen JO et al. [26]	China	2013-2015	General	97,521	66	A retrospective cohort study of ACF in ten communities in Yunnan Province, China, using symptom screening

						(cough or expectoration over 2 weeks, or hemoptysis) followed up by CXR.
Cheng et al. [66]	Mongolia	2010	At-Risk (Health Workers)	2,269	12	Evaluation of a framework for TB screening among healthcare workers in 28 facilities in Inner Mongolia Autonomous Region, using symptom screening (cough more than two weeks), TST, and CXR.
Chheng et al. [67]	Uganda	2002-2007	At-Risk (Contacts)	177	18	Tuberculosis screening among first degree relatives of index TB cases using symptom screening, TST, CXR, sputum smear microscopy, and culture.
Corbett et al. #1 [68]	Zimbabwe	2006-2008	General	10,177	392	A cluster randomized controlled trial of active tuberculosis case finding either by mobile van or door to door screening, using symptom screening (cough more than two weeks) and fluorescence sputum smear microscopy), DETECTB.
Corbett et al. #2 [69]	Zimbabwe	2005-2006	General	8,979	79	An investigation of provider-initiated TB screening based on a previous TB-HIV prevalence survey, using symptom screening (cough of any duration,

						hemoptysis, fever, and night sweats), sputum culture, smear microscopy, and CXR.
Corbett et al. #3[70]	Zimbabwe	2001-2002	General	4,668	27	A prevalence survey was conducted in 22 small and medium-sized enterprises in Harare. A symptom screening was performed (cough, fever, hemoptysis, night sweats, unintentional weight loss) and sputum was collected for all participants for smear and culture.
Cowger et al. [71]	Thailand & Vietnam	2010-2011	At-Risk (PLHIV)	1,448	119	Evaluation of an algorithm, screening for cough, fever, and night sweats followed up by sputum smear microscopy and CXR, to diagnose and rule out TB in PLHIV in 11 HIV clinics.
Crepet et al. [72]	Italy	2012-2013	At-Risk (Migrants)	3,588	3	A screening for active TB among migrants, using symptom screening (cough more than three weeks, fever, night sweats, weight loss, hemoptysis, and chest pain) and CXR.
Creswell et al. [73]	Pakistan	2012	General	529,447	1,010	An evaluation of the feasibility of privately initiated systematic TB screening in Pakistan, using a symptom-based quick-screen through a mobile phone app (cough more than three weeks, previous history of TB, or

						family member with TB) followed up by sputum smear microscopy.
Dabhi et al.[74]	India	2014-2015	At-Risk (Diabetics)	957	10	Non-insulin dependent diabetic patients were screened at a diabetic clinic in Vellore using symptom screening (cough > 2 weeks, fever, night sweats, loss of appetite and weight loss) and clinical exam. TB suspects were confirmed with CXR and sputum examination.
Day et al.[75]	South Africa	1999-2001	At-risk (PLHIV)	899	44	Screening was performed on employees of a gold mine attending a free HIV clinic for the first time. Trained nurses screened for symptoms (cough and sputum production, weight loss) and a doctor examined the patient and read CXR. Sputum was obtained for microscopy and culture.
Delva et al. [76]	Haiti	2013-2014	General	94,867	374	Assessed the yield of a screening in four underserved areas of Port-Au-Prince, using symptom screening (cough, hemoptysis, fever, weight loss, and night sweats) followed up by sputum smear microscopy.
Dememew et al.[77]	Ethiopia	2017-2018	At-Risk (Health Workers)	113	22	Trained TB focal persons and health extension workers screened selected at-risk groups using symptom screening (cough, fever, and night sweating for more
Dememew et al.[77]			At-Risk (Mixed)	653	38	

Dememew et al.[77]			At-Risk (Prison)	1,112	27	than two weeks or weight loss). Presumptive TB cases were referred to health facilities for clinical evaluation, sputum evaluation, fine needle aspiration, or CXR.
Demissie et al. [78]	Ethiopia	2012	General	12,149	23	A prevalence survey to determine the proportion of smear-positive TB in in Addis Ababa, using a symptom questionnaire followed up by sputum smear microscopy if symptomatic.
den Boon et al.[79]	South Africa	2002	General	1,170	29	A random survey of two communities in Cape Town. Participants were transported to facility for CXR and sputum collection (smear microscopy and culture).
Deribew et al.[80]	Ethiopia	2009	General	30,040	9	A community survey where adults reporting cough of two weeks or more were considered TB suspect and asked to provide sputum for smear microscopy.
Dey et al.[81]	India	2018	At-Risk (Slums)	386,242	177	Community volunteers made house visits in high burden neighborhoods of Kolkata screening for symptoms of TB (cough > 2 weeks, fever > 2 weeks, and weight loss). TB suspects were referred to health facilities for smear microscopy, CXR, and Xpert.
Dierberg et al. [82]	India	2011-2013	At-Risk (Refugees)	27,714	96	An evaluation of screening for TB and MDR-TB in Tibetan refugees in India using WHO symptom

						questionnaire, followed up by CXR and sputum smear microscopy and/or GeneXpert.
Dolla et al. [83]	India	2013	At-Risk (Homeless)	301	5	An investigation of TB prevalence among the homeless in Chennai City using symptom questionnaire and CXR followed up by sputum smear microscopy if CXR was abnormal.
Elden et al. [84]	Eswatini	2009	At-Risk (PLHIV)	1,467	28	An evaluation of intensified case finding conducted by nurses and lay counsellors at all HIV service entry points clinics and a hospital in rural Swaziland using symptom screening (cough>2 weeks, night sweat>2 weeks, weight loss>4 weeks, fever>2 weeks, chest pain) followed up by sputum smear microscopy.
Erkens et al. [85]	The Netherlands	1998-2002	At-Risk (immigrants)	68,122	187	An entry and follow up screening of people coming to the Netherlands, primarily using CXR.

Fatima et al. #1 [86]	Pakistan	2011-2012	At-Risk (Urban slums)	165,280	1,707	An investigation of a community outreach program where five randomly selected districts in urban slums in the Sindh Province were covered by mobile chest camps where symptom screening was performed and followed up sputum smear microscopy if cough>2 weeks.
Fatima et al. #2 [87]	Pakistan	2013-2015	At-Risk (Contacts)	783,043	4,710	The investigators enrolled contacts living within a 50-meter radius of an index patient and screened them using PCR analysis.
Fournet et al.[88]	Brazil	2002-2003	At-risk (Prison)	1,633	75	A prevalence survey in two Brazilian prisons. Inmates had CXR taken and if abnormal provided sputum for smear microscopy and culture.
Fox et al. [89]	Vietnam	2010-2015	At-Risk (Contacts)	10,069	180	In Vietnam a cluster randomized trial sought out contacts of index patients and screened them using a symptom screening and subsequent sputum smear microscopy.

Gashu et al. [90]	Ethiopia	2014	At-Risk (Contacts)	272,441	2,091	Trained lay people sought out and screened any contacts of people registered for anti-TB treatment for active or latent TB using symptom screening (cough, fever, night sweat, weight loss), followed up by sputum smear microscopy.
Goetsch et al. [91]	Germany	2002-2007	At-Risk (Drug users and the homeless)	3,477	39	Evaluation of voluntary X-ray investigation in ACF of TB in illicit drug users and the homeless in Frankfurt.
Gopi et al. (Survey I) [92]	India	1999-2001	General	76,001	482	An evaluation of two surveys employing screening by symptom questionnaire and CXR in a rural part of South India.
Gopi et al. (Survey II) [92]		2001-2003	General	78,268	367	
Gounder et al.[93]	South Africa	2008-2009	At-Risk (Pregnant)	3,963	15	Pregnant women presenting for routine care were screened for TB symptoms (cough > 2 weeks, sputum production, fever, night sweats, or weight loss). TB suspects were asked for sputum samples for smear microscopy and culture.

Griffiths et al.[1]	The UK	2002-2004	General	13,478	37	New patients in primary care practices in London were verbally screened (BCG status, symptoms, migration history, and contact with TB cases) to assess risk of TB. If deemed appropriate, patients had tuberculin skin testing, CXR, and further referral.
Gupta et al. [94]	Tanzania	2011	At-Risk (Drug users)	150	6	An examination of yield of ACF among intravenous drug users newly started on methadone using a symptom-based questionnaire (cough, fever, weight loss, change in appetite), followed-up by sputum smear microscopy if cough persisted.
Habeenzu et al. [95]	Zambia	2000-2001	At-Risk (Prison)	1,080	245	A case-finding study for pulmonary TB in 13 Zambian prisons using a structured questionnaire (including cough and previous history of TB), fluorescence sputum microscopy and culture.

Habib et al.[96]	Pakistan	2016-2018	At-Risk (Diabetics)	3,824	375	Individuals attending community camps and "healthy life" centers were verbally screened for diabetes mellitus (DM). Those with a history of DM or elevated blood glucose were screened for TB using CXR and Xpert MTB/RIF.
Hamusse et al.[97]	Ethiopia	2013	General	33,073	43	A community survey conducted by health workers screening for symptoms (cough more than two weeks, fever, loss of appetite, weight loss, hemoptysis, chest pain, difficulty breathing). Individuals with symptoms submitted sputum for smear microscopy and culture.
Harling et al. [98]	The UK	2002	At-Risk (Refugees)	8,258	11	Screening among asylum seekers arriving in the UK using TST.
Hoa et al.[99]	Vietnam	2006-2007	General	94,179	269	A nationally representative prevalence survey was conducted, identifying TB suspected using interview and mobile CXR. Individuals were considered TB suspect if they had productive cough for more than two weeks, current TB treatment, CXR abnormalities consistent with TB, or history of TB with the previous

						two years. TB suspects provided sputum for smear microscopy and culture.
Horie et al.[100]	Vietnam	2002-2003	General	11,654	22	A prevalence survey in Hanoi. All participants had CXR taken and answered symptom questionnaires (cough for at least three weeks, sputum production and fever). Individuals with symptoms or abnormal CXR provided sputum for smear microscopy and culture.
Huang et al.[101]	Taiwan	2002	At-risk (Institutionalized)	4,200	38	A CXR screening of patients admitted to a mental hospital. Patients with abnormal CXR provided sputum for smear microscopy and culture.
Imsanguan et al. [102]	Thailand	2017-2018	At-Risk (Contacts)	184	11	An evaluation contact investigation in Chiang Rai Province, Thailand using symptom screening followed up by CXR.

Jackson-Sillah et al. [103]	The Gambia	2002-2004	At-Risk (HHC)	2,174	33	A household contact screening among a group of cases from the greater Banjul area using symptom screening (fever, cough, dyspnea, hemoptysis, night sweat, weight loss, and anorexia) and TST followed up by CXR.
James et al. [104]	Cambodia	2012-2013	General	68,486	397	A comparison of cost-effectiveness of different models of TB screening. One focusing on household contacts of index patients and one arm focusing on door-to-door screening in an urban environment using symptom screening followed up by sputum smear microscopy or GeneXpert.
James et al. [104]			At-Risk (Urban slums)	315,874	737	
James et al. [104]			At-Risk (HHC)	33,029	807	
Jerene et al. [105]	Ethiopia	2013-2014	At-Risk (HHC)	15,527	389	In Oromia and Amhara regions of Ethiopia, investigators screened household contacts for TB using symptom screening (cough>2 weeks) followed up by sputum smear microscopy.

Jiménez-Fuentes et al. [106]	Spain	2009-2012	At-Risk (Mixed at-risk groups)	5,982	30	A retrospective screening of at-risk groups, including drug users, the economically disadvantaged, and recent immigrants using symptom screening and CXR.
John et al. [107]	Nigeria	2012-2013	At-risk (Marginalized)	96,736	1,310	Screening of nomadic communities using symptom screening (cough for at least two weeks) followed up by sputum smear microscopy.
Kakinda et al.[108]	Uganda	2017	At-Risk (HHC)	2,707	38	Patients with TB were visited by two health workers, a nurse, and a community health worker, who screened household contacts based on symptoms (evening persistent fevers > 2 weeks, night sweats > 3 weeks, and weight loss). Coughing TB suspects provided sputum sample for Xpert. Other TB suspects were referred for clinical examination.

Kali et al.[109]	South Africa	2003	At-risk (PLHIV/Pregnant)	370	8	HIV-infected pregnant women were screened at clinics for the prevention of mother-to-child transmission of HIV for TB symptoms (cough more than two weeks, hemoptysis, night sweats, weight loss, chest pain, shortness of breath, sputum production, loss of appetite, tiredness). If symptomatic they were examined by a nurse and provided sputum for microscopy and culture.
Kamenska et al. (Strategy 1) [110]	Ukraine	2014	At-Risk (Mixed at-risk groups)	43,087	513	An evaluation of different strategies for ACF of TB in intravenous drug users, sex workers, men who have sex with men, ex-prisoners, Roma, and homeless using decentralized symptom screening and specimen collection (strategy 1), decentralized symptom screening with patient referred for specimen collection (strategy 2), and strategy 2 plus GeneXpert (strategy 3).
Kamenska et al. (Strategy 2) [110]		2015-2017	At-Risk (Mixed at-risk groups)	488,432	1,473	
Kamenska et al. (Strategy 3) [110]		2018	At-Risk (Mixed at-risk groups)	149,241	351	

Karamagi et al. [111]	Uganda	2016-2017	At-Risk (Fishermen)	2,125	27	An evaluation of an ACF intervention among key vulnerable populations in 48 facilities in Uganda using symptom screening and sputum smear microscopy/GeneXpert.
Karamagi et al. [111]			At-Risk (HHC)	2,205	40	
Karamagi et al. [111]			At-Risk (PLHIV)	911	12	
Karamagi et al. [111]			At-Risk (Prison)	7,028	34	
Karki et al. [112]	Papua New Guinea	2015-2016	General	10,700	113	Evaluation of active community case finding in Morobe Province. Over 3 months 26 villages were screened using symptom screening (cough, fever, weight loss, hemoptysis, fatigue, night sweats) followed up by sputum smear microscopy.
Kebede et al.[113]	Ethiopia	2010-2011	General	46,697	110	A national prevalence survey using symptom screening (cough for at least two weeks) and CXR. Those with symptoms or abnormal CXR provided sputum for microscopy and culture.

Kempker et al. [114]	Georgia	2014-2015	At-Risk (PLHIV)	131	15	A study of ACF of active pulmonary tuberculosis among PLHIV in Tbilisi using sputum smear microscopy and Xpert TB/RIF assay.
Khaparde et al. [115]	India	2010-2011	At-Risk (HHC)	1,556	17	Evaluation of HHC investigation for active TB case finding in Chattisgarh using symptom screening followed up by CXR and sputum smear microscopy.
Khatana et al. [116]	India	2014-2015	At-Risk (Contacts)	598	27	A quasi-randomized interventional study in two TB units in Kashmir to evaluate contact tracing using symptom screening followed up by sputum smear microscopy.
Kigozi et al. [117]	South Africa	2016	At-Risk (HHC)	259	17	An evaluation of HHC investigation among patients with TB of 40 primary health care centers in Manguang Metropolitan District using symptom screening (cough, weight loss, fever, and night sweats) followed up by clinical evaluation including sputum smear microscopy.

Kilicaslan et al.[118]	Turkey	1997-2000	At-risk (Contacts)	3,310	222	A contact investigation at 24 TB dispensaries using symptom screening, CXR, and bacteriological testing.
Kimerling et al. [119]	Cambodia	2000	At-Risk (PLHIV)	441	54	An investigation of the burden of active pulmonary TB among PLHIV in a home care program in Phnom Penh using symptom screening and sputum smear microscopy.
Kirkpatrick et al.[120]	The UK	2005	At-risk (Contacts)	137	1	A contact investigation of a cluster a job centre using Mantoux test, followed by gamma interferon test if positive, followed by CXR if positive, and confirmed by clinical assessment if abnormal CXR.
Kranzer et al. [121]	South Africa	2009-2011	At-Risk (PLHIV)	520	30	Through a mobile HIV service, operating out of Cape Town, investigators implemented a TB screening strategy using symptom screening and sputum smear microscopy.
Lawn et al. [122]	South Africa	2012-2013	At-Risk (PLHIV)	427	139	A systematic rapid screening for TB among PLHIV on the first day of acute hospital admission using comprehensive clinical sampling (sputum, urine, blood,

						pus and other relevant samples) evaluated by GeneXpert and Mycobacterial culture.
Lebina et al. [123]	South Africa	2011-2012	At-Risk (Contacts)	2,464	55	A small contact tracing screening. Every contact was evaluated using sputum smear and PCR.
Lee et al. [124]	Philippines	2014	At-Risk (Extreme poverty)	4,635	53	An evaluation of ACF implemented by International Care Ministries in people living in extreme poverty using symptom screening (cough, fever, fatigue, weight loss) followed up by sputum smear microscopy and CXR.
Legesse et al.[125]	Ethiopia	2010	General	18,192	62	A house-to-house community prevalence survey using symptom screening (cough for at least two weeks, expectoration, hemoptysis, chest pain, night sweat, breathlessness, loss of appetite/weight, fever). TB suspects provided sputum for smear microscopy and culture.
Leung et al. [126]	Hong Kong	2001	At-Risk (Prison)	814	10	An evaluation of CXR screening for TB among male prisoners in a prison in Hong Kong.

Lewis et al.[127]	South Africa	2000-2001	At-risk (Miners)	1,955	51	Gold miners attending annual medical examination were screened for TB using CXR, symptom questionnaire (cough, sputum production, hemoptysis, night sweats, fever, weight loss), and sputum collection for microscopy and culture. If positive they were referred for further examination.
Little et al. [128]	South Africa	2013-2014	At-Risk (HHC)	282	14	An evaluation of the yield of HHC tracing among newly diagnosed patients with TB in Vhembe District using sputum smear microscopy and culture.
Lorent et al. [129]	Cambodia	2012-2013	At-Risk (Urban poor)	315,874	783	A large door-to-door survey conducted in poor urban settlements in Phnom Penn using symptom screening and sputum smear microscopy.
Mabuto et al. [130]	South Africa	2011-2012	At-Risk (Bus drivers)	686	10	A screening among minibus drivers in Cape Town using symptom screening (cough, fever, night sweats, and weight loss) and fluorescence sputum microscopy and culture.

Manzardo et al.[131]	Spain	2001-2004	At-risk (Immigrants)	2,464	8	A screening for tropical diseases in immigrants having arrived in the previous five years. TB screening was performed using TST and CXR.
Marks et al.[28]	Vietnam	2014-2018	General	173,968	436	A controlled trial to evaluate the effect of community-wide screening for TB. In the intervention group residents were screened for symptoms (cough, sputum production, hemoptysis) and asked for a sputum sample for for Xpert, microscopy, and culture.
Masur et al. [132]	Haiti	2013	At-Risk (Urban slum)	7,500	100	A large-scale screening for TB in a slum in Port-au-Prince combined with HHC tracing three years after the 2010 earthquake. Community health workers screened for cough of more than two weeks and referred for evaluation.
Masur et al. [132]			At-Risk (HHC)	317	44	

Matee et al.[133]	Tanzania	2001-2006	At-risk (PLHIV)	2,216	103	PLHIV screened in preparation for the DARDAR vaccination study. All subjects had baseline CXR and sputum collected for microscopy and culture.
Merid et al. #1 [134]	Ethiopia	2016	General	24,517	34	An evaluation of the utility of a volunteer health development army in conducting population screening for active TB in rural Ethiopia using symptom screening (cough>2 weeks) followed up by sputum smear microscopy, GeneXpert, and culture.
Merid et al. #2 [135]	Ethiopia	2015	At-Risk (Prison)	2,068	31	An investigation of the burden of pulmonary TB using ACF among prisoners using symptom screening (cough>2 weeks) followed up by sputum smear microscopy, GeneXpert, and culture.
Middelkoop et al.[136]	South Africa	2008	General	1,250	20	A community prevalence survey using symptom questionnaire and sputum for microscopy and culture.

Migambi et al.[137]	Rwanda	2012	General	43,128	40	A national survey designed using a cluster random sampling approach. All residents in selected villages were administered a short, structured symptoms interview followed by CXR. If presence of cough of any duration and/or CXR abnormalities or refusal to be screened by CXR, sputum samples were collected for microscopy and solid culture.
Miller et al. [138]	Brazil	2005-2006	At-Risk (HHC)	23,865	92	A pair-matched cluster-randomized trial comparing symptom screening among HHCs and spot sputum collection in a large, impoverished squatters' settlement in Rio de Janeiro.
Mor et al. #1[139]	Israel	2009	At-Risk (Immigrants)	1,087	11	Screening of undocumented immigrants from the Horn of Africa and into Israel by CXR.

Mor et al. #2[139, 140]	Israel	2001-2005	At-risk (Immigrants)	13,379	57	Screening for active TB among Ethiopian immigrants to Israel using CXR, symptom questionnaire and TST. If any test is positive subjects provided sputum for smear microscopy and culture.
Morishita et al. [141]	The Philippines	2012-2014	General	2,293	5	Screening among marginalized populations and high school students using a mobile unit with CXR and PCR.
Morishita et al. [141]			At-Risk (Marginalized)	22,810	759	
Mugisha et al. [142]	Uganda	2002-2004	At-Risk (PLHIV)	6,305	293	This study focused on PLHIV presenting to a volunteer HIV counseling center, where they were screened for TB symptoms (cough, hemoptysis, fever, weight loss, and night sweats) followed up by sputum smear microscopy.

Mwansa-Kambafwile et al. [143]	South Africa	2011-2012	At-Risk (Contacts)	718	22	A contact screening. Patients with TB were offered paper slips to provide contact information to close contacts who were subsequently invited to be screened based on symptoms followed up by sputum smear microscopy and GeneXpert.
Nachega et al.[144]	South Africa	2001	At-risk (PLHIV)	318	13	A screening study on HIV-infected mothers at a perinatal HIV research unit. Screening was performed during post-natal follow-up using TST. Those with positive reaction were screened for symptoms and using CXR. If positive, subjects provided sputum for smear microscopy and culture.
Nair et al. [145]	India	2007-2014	At-Risk (HHC)	544	29	Retrospective record review of HHCs of newly diagnosed patients with sputum smear positive TB enrolled in a clinical trial at National Institute of Research in Tuberculosis, Chennai. Screening was performed using symptom questionnaire and CXR followed up by sputum smear microscopy.

Ngadaya et al.[146]	Tanzania	2007	General	65,530	271	A study comparing prevalence of active TB by duration of cough. Outpatients at six health facilities were screened for cough. Those reporting cough regardless of duration provided sputum for smear microscopy.
Noeske et al.[147]	Cameroon	2003-2004	At-risk (Prison)	2,474	87	A prevalence survey of active TB at a prison using screening for cough of at least two weeks followed up by sputum smear microscopy if positive.
Nogueira et al.[148]	Brazil	2008	At-risk (Prison)	2,237	26	A prevalence survey of active TB at a prison using TST followed up by sputum smear microscopy and culture if positive.
Ogbudebe et al. [149]	Nigeria	2012	General	15,159	923	An assessment of the yield and profile of TB in three urban slums in southeastern Nigeria through ACF using symptom screening (cough, fever, weight loss, night
Ogbudebe et al. [149]			At-Risk (Contacts)	192	10	

Ogbudebe et al. [149]			At-Risk (PLHIV)	1,392	146	sweats, and lymph node swelling) followed up by evaluation and sputum smear microscopy.
Ohene et al. [150]	Ghana	2010-2014	At-Risk (Contacts)	8,166	53	A retrospective analysis of a contact investigation intervention at 10 facilities in Accra using a symptom-based questionnaire (cough, fever, night sweats, and weight loss) followed up by sputum smear microscopy.
Oshi et al. [151]	Nigeria	2012-2014	General	218,751	1,447	A retrospective evaluation of an active case-finding intervention utilizing community-based approaches and targeted systematic TB screening in Ebonyi State. Screening was performed using a symptom-based questionnaire followed up by sputum smear microscopy.
Page-Shipp et al. [152]	South Africa	2012	General	714	2	At the 2012 World TB day in South Africa, symptomatic individuals from goldmining and nearby communities were offered screening by PCR.
Page-Shipp et al. [152]			At-Risk (Miners)	947	10	

Pelissari et al. [153]	Brazil	2014-2016	At-Risk (Prison)	10,326	196	An assessment of TB prevalence by ACF in a public prison in southern Brazil using symptom screening and CXR followed up by sputum smear microscopy or Xpert.
Plant et al.[154]	Australia	1997-2001	At-risk (Immigrants)	6,018	36	Results of screening applicants for migration from Vietnam and Cambodia using CXR and clinical evaluation. If suggestive of TB, applicants provided sputum for smear microscopy and culture.
Pontarelli et al. [155]	Italy	2015-2016	At-Risk (Refugees)	2,567	14	A retrospective cohort study of screening for active TB in asylum seekers in Italy using symptom screening (fever, cough, night sweats, weight loss, and hemoptysis) followed up by CXR and sputum smear microscopy.
Qian et al.[156]	China	2007	At-risk (PLHIV)	195	9	A cross-sectional prevalence survey among PLHIV in one county in Shanxi province. Patients were screened using TST, CXR, and sputum smear microscopy in those reporting symptoms.

Rao et al. #1[157]	Pakistan	2002	At-risk (Prison)	4,870	32	A prevalence survey at a Karachi prison using symptom screening (cough, chest pain, hemoptysis, weight loss, fever) followed up by CXR sputum smear microscopy if positive.
Rao et al. #2[158, 159]	India	2009-2010	General	95,071	221	A prevalence survey of urban and rural populations of Jabalpur district using symptom screening (cough at least two weeks, chest pain, fever, hemoptysis). Those with symptoms of history of previous TB had sputum collected for smear microscopy and culture.
Rao et al. #3[159]	India	2007-2008	At-risk (Marginalized)	11,116	169	Prevalence survey among a tribal population using symptom screening (cough at least two weeks, chest pain, fever, hemoptysis) followed up by sputum smear microscopy and culture if positive.
Reddy et al.[160]	Peru	2007	At-risk (PLHIV)	471	27	A screening of PLHIV prior to isoniazid preventive therapy using Mycobacterial culture.

Rekha Devi et al. [161]	India	2008-2010	General	4,371	24	A cross-sectional study of the prevalence of TB and paragonimiasis in remote areas of North-Eastern India using screening for cough followed up by sputum smear microscopy.
Rivera et al. [162]	Haiti	2014-2015	At-Risk (Slums)	104,097	1,110	An investigation of prevalence of undiagnosed TB through GHESKIO's ACF campaign in Haitian slums, screening for chronic cough followed up by physical examination, CXR, and sputum smear microscopy.
Romero-Sandoval et al.[163]	Ecuador	2001	At-risk (Marginalized)	653	44	A house-to-house prevalence survey in an indigenous community using a symptom questionnaire (primarily cough) followed up by sputum smear microscopy.

Rumman et al.[2]	Jordan	2005	General	61,730	2	A prevalence survey of urban and rural communities in Balqa province using symptom questionnaire (cough more than three weeks). Suspects were referred to the nearest health center for clinical examination and sputum smear microscopy.
Sanaie et al. [164]	Afghanistan 2011-2012		General	1,699,277	8,124	A complex study evaluating three types of active case finding: systematically screening for cough followed up by smear microscopy at 1) at health clinics 2) household contacts 3) camps for internally displaced people.
Sanaie et al.[164]			At-Risk (HHC)	16,645	304	
Sanaie et al.[164]			At-Risk (Internally Displaced)	306,205	735	

Sanchez et al. #1[165]	Brazil	2005	At-risk (Prison)	1,696	46	Screening for active TB upon admission to three prisons in Rio de Janeiro using CXR followed by sputum smear microscopy and culture if abnormal.
Sanchez et al. #2[166]	Brazil	2002	At-risk (Prison)	1,052	48	A cross-sectional prevalence survey in a prison in Rio de Janeiro using a modified WHO score symptom screening (cough at least three weeks, sputum production, weight loss, loss of appetite, chest pain), CXR, and TST. If suspect, inmates provided sputum for smear microscopy and culture.
Santha et al.[167]	India	2001-2002	General	55,561	267	A study comparing yields of smear-positive TB patients when screening new out-patients at health facilities using either coughing for at least two weeks or three weeks as screening tool.

Santos et al. [168]	Brazil	2017-2018	At-Risk (Prison)	5,387	214	A study of yield, efficiency, and costs of mass screening for TB in Brazilian prisons using a symptom assessment, CXR, and sputum Xpert and culture.
Saunders et al. [169]	Peru	2002-2016	At-Risk (Shantytowns)	2,666	232	A prospective cohort study of active and passive case finding in shantytowns in Peru using sputum smear microscopy and clinical assessment irrespective of symptoms.
Schepisi et al.[170]	Italy	2009-2010	At-Risk (Immigrants and refugees)	6,347	11	An analysis of three types of TB screening among immigrants and asylum seekers at primary care facilities and mobile clinics using symptom-based screening (fever, cough, night sweats, weight loss, hemoptysis, and chest pain) followed up by sputum smear microscopy and CXR.
Sculier et al.[171]	Cambodia	2007-2008	At-risk (PLHIV)	212	37	A study to evaluate abdominal ultrasound for diagnosis of TB in PLHIV. All participants were screened using smear microscopy and culture.

Sekandi et al. #1 [172]	Uganda	2008-2009	General	5,102	39	A dual-infection screening. A door-to-door survey of a small community in Uganda. Patients were screened for chronic cough and followed up with sputum smear microscopy or culture if coughing.
Sekandi et al. #2 [173]	Uganda	2005	At-Risk (Slums)	930	33	A door-to-door survey in five random slum areas of Kampala. Adults were interviewed to identify chronic coughers, and subsequent sputum smear.
Sengai et al. [174]	Zimbabwe	2017	At-Risk (High burden areas)	39,065	663	An evaluation of targeted screening for active TB using mobile trucks in 15 high burden districts of Zimbabwe. Screening was performed using symptom assessment (cough, fever, and night sweats) and CXR followed up by sputum smear microscopy or Xpert.
Shah et al. #1 [175]	Pakistan	2010-2011	At-Risk (HHC)	19,191	490	Trained lay workers provided house visits to confirmed TB cases and screened for symptoms of TB (fever, cough, dyspnea, hemoptysis, and weight loss). Suspects were provided free transport to a sputum smear.

Shah et al. #2[176]	Vietnam	2001-2004	At-risk (PLHIV)	597	29	A study evaluating CXR as a screening method in PLHIV. Further examination was done if CXR was abnormal and diagnosis was based on microbiological, radiographic, and clinical evidence.
Shapiro et al. [177]	South Africa	2009	General	983	4	Field teams screened for active TB in households with a newly diagnosed TB case using a symptom questionnaire and sputum smear microscopy. If symptomatic and smear negative, suspects were referred to CXR.
Shapiro et al. [177]			At-Risk (HHC)	2,843	169	
Shargie et al.[178]	Ethiopia	2003	General	16,697	13	A prevalence survey of smear-positive TB in a rural population using screening for symptoms (cough of more than two weeks, chest pain, difficulty breathing). If symptomatic, sputum was collected for smear microscopy.
Shenoi et al. [179]	South Africa	2010-2012	General	5,615	41	A community-based HIV/TB case finding regimen in a rural subdistrict of South Africa using symptom screening and subsequent sputum smear.

Shriraam et al. [180]	India	2016-2017	At-Risk (Migrant workers)	580	1	A cross-sectional study of TB prevalence among migrant brick kiln workers, screening for cough more than two weeks followed up by sputum smear microscopy and GeneXpert.
Soemantri et al.[181]	Indonesia	2004	General	50,154	80	A national prevalence survey of smear-positive TB using screening for symptoms (productive cough yielding sputum or blood). If positive, sputum was collected for smear microscopy.
Ssemmondo et al. [182]	Uganda	2013-2014	General	27,214	10	A symptom screening focused on chronic cough was offered alongside a mobile HIV testing facility. Sputum smear microscopy was offered to people with prolonged cough.
Su et al. [183]	Taiwan	2004-2005	General	17,105	22	An evaluation of a pre-employment screening program using CXR in an industrial park in Taiwan.
Tefera et al. [184]	Ethiopia	2015	At-Risk (HHC)	1,509	19	A cross-sectional study evaluating HHC screening at TB/DOTS facilities in Ethiopia using symptom screening followed up by clinical investigation at a hospital.

Thind et al.[185]	South Africa	2009	At-risk (Contacts)	3,033	93	Evaluation of a contact tracing programme using symptom screening (cough at least two weeks, sputum production, fever, hemoptysis, dyspnoea, pleuritic chest pain, weight loss, night sweats). TB suspects provided sputum for smear microscopy and culture.
Thorson et al.[186]	Vietnam	2000	General	35,832	25	A prevalence study to determine sex differential prevalence in Ha Tay Province screening for cough of more than three weeks and confirming by sputum smear microscopy and CXR.
Tripodi et al.[187]	France	2006-2007	At-risk (Health workers)	148	0	A cross sectional study in health workers at the University Hospital of Nantes using TST and confirming by CXR.
Tupasi et al.[188]	Philippines	2007	General	22,867	151	A nationally representative prevalence survey using symptom screening (cough at least two weeks, hemoptysis, fever, night sweats, chest pain, weigh loss) and CXR. Diagnosis was confirmed by sputum smear microscopy and culture.

Van Duc et al.[189]	Vietnam	2005	At-risk (Marginalized)	300	1	A prevalence survey in a psychiatric hospital using symptom screening (hemoptysis, prolonged cough, cough with sputum, weight loss, chest pain, dyspnoea) and CXR. Diagnosis was confirmed by sputum smear microscopy.
Verver et al. [190]	Zambia	2013-2014	At-Risk (Health care workers)	1,082	18	A study focused on the screening of health care workers. This consisted of a symptom screening and subsequent sputum smear.
Vieira et al.[191]	Brazil	2006	At-risk (Prison)	397	7	A prevalence survey of a prison in the state of Sao Paulo screening for cough of more than three weeks and confirming by sputum smear microscopy and culture
Vijayageetha et al.[192]	India	2018	At-Risk (Pregnant)	4,203	1	Ten trained staff screened women at an antenatal clinic for TB symptoms (cough, hemoptysis, fever, weight loss, night sweats, swelling of lymph nodes, joint pain, neck stiffness, disorientation). TB suspects provided sputum for microscopy, Xpert, and/or culture.

Vo et al.[193]	Vietnam	2017-2019	At-Risk (Mixed)	321,020	1,306	A symptom-based screening (cough, hemoptysis, chest pain, dyspnea, fever, night sweats, fatigue, weight loss, and history of TB) of TB contacts and urban priority groups. All household contacts were referred to CXR. Others were referred for CXR if reporting at least one symptom. Individuals with CXR abnormalities were tested with Xpert MTB/RIF or smear microscopy.
Volkmann et al. [194]	Kenya	2014-2015	At-Risk (Contacts)	350	1	During a routine health strategy outreach, a TB symptom screen was added in Kisumu county. The intervention sought to identify close contacts of patients with TB, who were then screened for symptoms of TB.
Vyas et al. [195]	India	2014-2015	At-Risk (Health workers)	65,230	964	Community health workers screened for TB symptoms in Saharia communities, made referrals and collected sputum.
Wali et al. [196]	Pakistan	2019	At-Risk (Prison)	566	5	A cross sectional study conducted in Central Jail Gaddani in Balochistan province to screen for active TB among inmates, jail staff, and family of the staff using CXR followed up by sputum GeneXpert.

Wang et al.[197]	Taiwan	2003	At-risk (Health workers)	6,734	8	A prevalence survey of hospital workers using CXR and confirming through further examination, CT, sputum smear microscopy and culture, and PCR.
Wei et al.[198]	China	2013-2014	At-Risk (Smokers)	3,026	8	Smokers in a primary care practices were screened for risk of TB (diabetes, cough, fever, contact with patient with TB, age > 60 years). High risk patients were referred for CXR. If abnormal CXR, patients were referred to local TB dispensaries.
Weinrich et al. [199]	Germany	2015	At-Risk (Refugees)	17,487	10	A screening of migrants/refugees during the 2015 refugee crisis. Refugees arriving in Germany received CXR in order to assess prevalence and Number Needed to Screen.
Whalen et al.[200]	Uganda	1995-2004	At-risk (Contacts)	1,918	49	A contact tracing study using history and physical examinations and confirming by sputum smear microscopy, CXR and culture.
Wood et al.[201]	South Africa	2005	At-risk (Marginalized)	762	23	A prevalence survey in a high HIV-prevalence community consisting mostly of individuals living in

						shacks. Subjects were screened using sputum smear microscopy and culture.
Wu et al.[202]	Taiwan	2002-2003	At-risk (Immigrants)	493	7	A retrospective study of mandatory screening records for foreign brides. Tuberculosis screening consisted of CXR in symptomatic individuals.
Yassin et al. [203]	Ethiopia	2010-2011	At-Risk (HHC)	8,005	69	Household contact screening based on cases identified through a door-to-door survey in Sidama Zone. HHCs were screened were screened for chronic cough and offered sputum smear microscopy or CXR if positive.
Yimer et al.[204]	Ethiopia	2008	General	47,478	38	A prevalence survey of smear-positive TB in Amhara Region screening house-to-house for symptoms (cough, chest pain, difficulty breathing) and confirming by sputum smear microscopy.

Yoon et al. [205]	Uganda	2013-2015	At-Risk (PLHIV)	1,245	203	An evaluation of a novel screening algorithm using blood C-reactive protein (CRP) and urine TB lipoarabinomannan assay (TB LAM) among PLHIV. All participants were screened for TB symptoms (cough, fever, night sweats, and weight loss), elevated CRP, and TB LAM, and had sputum smear microscopy, Xpert, and culture performed.
Zachariah et al.[206]	Malawi	2001-2002	At-risk (Contacts)	348	4	A study comparing passive and active case-finding among household contacts of smear-positive TB patients. In the active case-finding arm contacts were screened for cough for more than three weeks and if present were asked to provide sputum for smear microscopy and had CXR taken.
Zaman et al.[207]	Bangladesh	2001	General	59,395	52	A prevalence survey study of smear-positive TB in a rural area using symptom screening (cough for at least three weeks) and confirming by sputum smear microscopy and CXR.

Zhang et al.[208]	China	2007	At-Risk (Contacts)	13,310	90	A close contact screening based on records from 35 counties in Shandong Province. Contacts underwent symptom screening and subsequent sputum smear microscopy.