

## Web Appendix 1 – Clinical Questions and Literature search

### Clinical Questions

1. How should the lung disease attributable to NTM infection be defined?
2. What samples should be used to detect pulmonary NTM infection?
3. What microbiological tests should be used to detect NTM in respiratory samples?
4. What microbiological tests should be used to speciate and type NTM from respiratory samples?
5. Does in vitro drug susceptibility testing predict response to antibiotic treatment in people with NTM-pulmonary disease?
6. What is the evidence for transmission of NTM between individuals?
7. What investigations should be performed in patients suspected of having NTM-pulmonary disease?
8. What factors influence when NTM treatment should be started?
9. What antibiotic regimen should be used to treat *Mycobacterium avium* complex-pulmonary disease?
10. What antibiotic regimen should be used to treat *M. kansasii*-pulmonary disease?
11. What antibiotic regimen should be used to treat *M. malmoense*-pulmonary disease?
12. What antibiotic regimen should be used to treat *M. xenopi*-pulmonary disease?
13. What antibiotic regimen should be used to treat *M. abscessus*-pulmonary disease?
14. Is there a role for adjuvant therapies in the management of NTM-pulmonary disease?
15. What investigations should be performed during treatment or following treatment for NTM-pulmonary disease?
16. Are there differences in outcome between patients with NTM-pulmonary disease treated in specialist versus non-specialist care settings?
17. What is the role of surgery in the treatment of NTM-pulmonary disease?
18. Does NTM infection affect an individual's suitability for lung transplantation?

## Search strategy: NTM\_BTS

12/11/2012

Sources to be searched;

Cochrane Database of Systematic Reviews (CDSR)  
Database of Abstracts of Reviews of Effects (DARE)  
Cochrane Central Register of Controlled Trials (CENTRAL)  
Health Technology Assessment Database (HTA)  
NHS Economic Evaluations Database (NHSEED)  
MEDLINE and MEDLINE In-Process  
EMBASE

Date range searched: without limits

Human studies only

The majority of the guideline questions can be answered with the general search strategy.  
The question 4 and 5 have separated searches due to their population is wider.

Question	Records
General Search	5741
Q4	847
Q5	598

## General Search

### MEDLINE and MEDLINE In-Process

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_MEDLINE

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid

- 1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (10421)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (429)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (12278)
- 4 1 or 2 or 3 (16272)
- 5 exp Respiratory Tract Diseases/ (1003299)
- 6 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis").af. (1505843)
- 7 5 or 6 (1744204)
- 8 4 and 7 (4739)

- 9 exp animals/ not humans.sh. (3809972)
- 10 8 not 9 (4288)

4288 total results saved to Endnote library marked 'NTM\_BTS\_GENERAL\_MEDLINE' in Custom 4 field.

## EMBASE

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_embase

EMBASE 1974 to November 20

- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (4252)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (473)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13982)
- 4 1 or 2 or 3 (16177)
- 5 exp respiratory tract disease/ (1603242)
- 6 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis").af. (2001888)
- 7 5 or 6 (2414846)
- 8 4 and 7 (5117)
- 9 (exp animal/ or nonhuman/) not exp human/ (5245998)
- 10 8 not 9 (4511)

4511 total results saved to Endnote library marked 'NTM\_BTS\_GENERAL\_EMBASE' in Custom 4 field.

## Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)

<http://www.thecochranelibrary.com>

Searched online 21/11/12

Strategy saved as: NTM\_BTS\_cochrane

- #1 MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 102
- #2 MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 57
- #3 #1 or #2 116
- #4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 119
- #5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 115

#6 #3 or #4 or #5 204  
#7 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis"):ti,ab,kw (Word variations have been searched) 68459  
#8 MeSH descriptor: [Respiratory Tract Diseases] explode all trees 36500  
#9 #7 or #8 77565  
#10 #6 and #9 58

Of 58 total results in Cochrane Library 1 were from CDSR, 0 from DARE, 56 from CENTRAL, 0 from HTA and 1 from NHSEED. Results saved to Endnote library marked NTM\_CDSR\_BTS\_GENERAL, NTM\_BTS\_CENTRAL\_GENERAL, and NTM\_NHSEED\_GENERAL in Custom 4 field.

#### **Q4a. Does in vitro drug susceptibility testing predict response to antibiotic treatment in people with NTM pulmonary infection?**

#### **Q4b. How should drug susceptibility testing be performed for NTM?**

##### **MEDLINE and MEDLINE In-Process**

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_Q4\_MEDLINE

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

- 1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (10421)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (429)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (12278)
- 4 1 or 2 or 3 (16272)
- 5 exp \*Microbial Sensitivity Tests/ or exp \*Drug Resistance, Bacterial/ (32312)
- 6 (susceptib\* or resistan\*).ti. (228981)
- 7 5 or 6 (237096)
- 8 4 and 7 (798)
- 9 exp animals/ not humans.sh. (3809972)
- 10 8 not 9 (685)

685 total results saved to Endnote library marked 'NTM\_BTS\_Q4\_MEDLINE' in Custom 4 field.

##### **EMBASE**

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_Q4\_EMBASE

EMBASE 1974 to 2012 November 20

- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (4252)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (473)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13982)
- 4 1 or 2 or 3 (16177)
- 5 exp \*drug resistance/ or exp \*antibiotic sensitivity/ (93112)
- 6 (susceptib\* or resistan\*).ti. (270924)
- 7 5 or 6 (297129)
- 8 4 and 7 (849)
- 9 (exp animal/ or nonhuman/) not exp human/ (5245998)
- 10 8 not 9 (454)

454 total results saved to Endnote library marked 'NTM\_BTS\_Q4\_EMBASE' in Custom 4 field.

### **Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)**

<http://www.thecochranelibrary.com>

Searched online 21/11/12

Strategy saved as: NTM\_BTS\_Q4

- #1 MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 102
- #2 MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 57
- #3 #1 or #2 116
- #4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 119
- #5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 115
- #6 #3 or #4 or #5 204
- #7 MeSH descriptor: [Microbial Sensitivity Tests] explode all trees 1250
- #8 MeSH descriptor: [Drug Resistance, Bacterial] explode all trees 710
- #9 susceptib\* or resistan\*:ti (Word variations have been searched) 6232
- #10 #7 or #8 or #9 7643
- #11 #6 and #10 28

Of 28 total results in Cochrane Library 0 were from CDSR, 0 from DARE, 28 from CENTRAL, 0 from HTA and 0 from NHSEED. Results saved to Endnote library marked NTM\_BTS\_Q4\_CENTRAL in Custom 4 field.

## Q5. What is the evidence for transmission of NTM between individuals?

### MEDLINE and MEDLINE In-Process

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_Q5\_MEDLINE

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

- 1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (10421)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (429)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (12278)
- 4 1 or 2 or 3 (16272)
- 5 exp \*Disease Transmission, Infectious/ or exp \*Communicable Diseases/ or exp \*Cross Infection/ or tm.fs. (161699)
- 6 ((transmi\* or spread\* or communica\*) adj4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)).ti,ab. (47429)
- 7 5 or 6 (200514)
- 8 4 and 7 (503)
- 9 exp animals/ not humans.sh. (3809972)
- 10 8 not 9 (404)

404 total results saved to Endnote library marked 'NTM\_BTS\_Q5\_MEDLINE' in Custom 4 field.

### EMBASE

Searched 21/11/12 via OVID interface

Strategy saved as: NTM\_BTS\_Q5\_EMBASE

EMBASE 1974 to 2012 November 20

- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (4252)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (473)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or

## BTS Guidelines for the management of non-tuberculous mycobacterial pulmonary disease (NTM-PD)

nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13982)

4 1 or 2 or 3 (16177)

5 exp disease transmission/ or communicable disease/ or cross infection/ (199799)

6 ((transmi\* or spread\* or communica\*) adj4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)).ti,ab. (57668)

7 5 or 6 (246512)

8 4 and 7 (559)

9 (exp animal/ or nonhuman/) not exp human/ (5245998)

10 8 not 9 (398)

398 total results saved to Endnote library marked 'NTM\_BTS\_Q5\_EMBASE' in Custom 4 field.

### Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)

<http://www.thecochranelibrary.com>

Searched online 21/11/12

Strategy saved as: NTM\_BTS\_Q5

#1 MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 102

#2 MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 57

#3 #1 or #2 116

#4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 119

#5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 115

#6 #3 or #4 or #5 204

#7 MeSH descriptor: [Disease Transmission, Infectious] explode all trees 631

#8 MeSH descriptor: [Communicable Diseases] explode all trees 103

#9 MeSH descriptor: [Cross Infection] explode all trees 1132

#10 ((transmi\* or spread\* or communica\*) adj4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)):ti,ab,kw (Word variations have been searched) 0

#11 #7 or #8 or #9 or #10 1839

#12 #6 and #11 0

Of 0 total results in Cochrane Library 0 were from CDSR, 0 from DARE, 0 from CENTRAL, 0 from HTA and 0 from NHSEED.

### Total Results General Search

Database	Results	After deduplication	Custom 4 field
MEDLINE and MEDLINE In-Process	4288	4148	NTM_BTS_GENERAL_MEDLINE
EMBASE	4511	1572	NTM_BTS_GENERAL_EMBASE
CDSR	1	1	NTM_BTS_CDSR_GENERAL

CENTRAL	56	20	NTM_BTS_CENTRAL_GENERAL
NHSEED	1	0	NTM_BTS_NHSEED_GENERAL
<b>Total</b>	<b>8857</b>	<b>5741</b>	

All results saved to Endnote X3 library NTM\_BTS\_GENERAL.enl

#### Total Results Q4

Database	Results	After deduplication	Custom 4 field
MEDLINE and MEDLINE In-Process	685	667	NTM_BTS_Q4_MEDLINE
EMBASE	454	160	NTM_BTS_Q4_EMBASE
CENTRAL	28	20	NTM_BTS_Q4_CENTRAL
<b>Total</b>	<b>1167</b>	<b>847</b>	

All results saved to Endnote X3 library NTM\_BTS\_Q4.enl

#### Total Results Q5

Database	Results	After deduplication	Custom 4 field
MEDLINE and MEDLINE In-Process	404	392	NTM_BTS_Q5_MEDLINE
EMBASE	398	206	NTM_BTS_Q5_EMBASE
<b>Total</b>	<b>802</b>	<b>598</b>	

All results saved to Endnote X3 library NTM\_BTS\_Q5.enl



## NTM\_BTS

23/6/2015

Sources to be searched;

Cochrane Database of Systematic Reviews (CDSR)  
Database of Abstracts of Reviews of Effects (DARE)  
Cochrane Central Register of Controlled Trials (CENTRAL)  
Health Technology Assessment Database (HTA)  
NHS Economic Evaluations Database (NHSEED)  
MEDLINE and MEDLINE In-Process  
EMBASE

Date range searched: without limits

Human studies only

The majority of the guideline questions can be answered with the general search strategy. Questions 4 and 5 have a more focused search because of the wider population

Question	New Records from update search June 2015
General Search	1419
Q4B	137
Q5	131

## General Search

### MEDLINE and MEDLINE In-Process

Searched 19<sup>th</sup> June 2015 via OVID interface

**Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>**

Search Strategy:

- 
- 1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (11637)
  - 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (493)
  - 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13717)
  - 4 1 or 2 or 3 (18237)
  - 5 exp Respiratory Tract Diseases/ (1098930)
  - 6 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis").af. (1695403)
  - 7 5 or 6 (1956112)
  - 8 4 and 7 (5321)
  - 9 exp animals/ not humans.sh. (4059857)
  - 10 8 not 9 (4825)

4825 results

### EMBASE

Searched 19<sup>th</sup> June 2015 via OVID interface

**Database: Embase <1974 to 2015 Week 24>**

Search Strategy:

- 
- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (5157)
  - 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (569)
  - 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum

or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (15231)

4 1 or 2 or 3 (17984)

5 exp respiratory tract disease/ (1832613)

6 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis").af. (2315857)

7 5 or 6 (2795278)

8 4 and 7 (6168)

9 (exp animal/ or nonhuman/) not exp human/ (5601590)

10 8 not 9 (5459)

5459 results saved to Endnote library

### **Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)**

<http://www.thecochranelibrary.com>

Searched online 19<sup>th</sup> June 2015

Search Name: BTS\_NTM\_GEN

Last Saved: 19/06/2015 14:56:20.548

Description: 19062015

ID Search

#1 MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 111

#2 MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 61

#3 #1 or #2 125

#4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 144

#5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonae or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 129

#6 #3 or #4 or #5 239  
#7 (lung\* or pulmon\* or pneumo\* or respirat\* or bronch\* or "cystic fibrosis"):ti,ab,kw  
(Word variations have been searched) 88046  
#8 MeSH descriptor: [Respiratory Tract Diseases] explode all trees 41603  
#9 #7 or #8 98638  
#10 #6 and #9 71

Of 71 total results in Cochrane Library 2 were from CDSR, 1 from DARE, 67 from CENTRAL, 0 from HTA and 1 from NHSEED.

#### **Q4a. Does in vitro drug susceptibility testing predict response to antibiotic treatment in people with NTM pulmonary infection?**

#### **Q4b. How should drug susceptibility testing be performed for NTM?**

##### **MEDLINE and MEDLINE In-Process**

searched 22<sup>nd</sup> June 2015 via OVID interface

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

Search Strategy:

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1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (11637)  
2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (493)  
3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13717)  
4 1 or 2 or 3 (18237)  
5 exp \*Microbial Sensitivity Tests/ or exp \*Drug Resistance, Bacterial/ (38004)  
6 (susceptib\* or resistan\*).ti. (269462)  
7 5 or 6 (278795)  
8 4 and 7 (913)  
9 exp animals/ not humans.sh. (4059857)  
10 8 not 9 (786)

786 results saved to Endnote library

## EMBASE

Searched 22<sup>nd</sup> June 2015 via OVID interface

Database: Embase <1974 to 2015 Week 25>

Search Strategy:

- 
- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (5172)
  - 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (570)
  - 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonae or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (15242)
  - 4 1 or 2 or 3 (18005)
  - 5 exp \*drug resistance/ or exp \*antibiotic sensitivity/ (102775)
  - 6 (susceptib\* or resistan\*).ti. (317381)
  - 7 5 or 6 (344484)
  - 8 4 and 7 (939)
  - 9 (exp animal/ or nonhuman/) not exp human/ (5606733)
  - 10 8 not 9 (500)

500 results saved to Endnote library

## Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)

<http://www.thecochranelibrary.com>

Searched online 22<sup>nd</sup> June 2015

Search Name: BTS NTM Q4B

Last Saved: 22/06/2015 14:59:42.862

Description:

ID	Search
#1	MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 111
#2	MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 61
#3	#1 or #2 125

- #4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 144
- #5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 129
- #6 #3 or #4 or #5 239
- #7 MeSH descriptor: [Microbial Sensitivity Tests] explode all trees 1345
- #8 MeSH descriptor: [Drug Resistance, Bacterial] explode all trees 822
- #9 susceptib\* or resistan\*:ti (Word variations have been searched) 9382
- #10 #7 or #8 or #9 10891
- #11 #6 and #10 29

Of 29 total results in Cochrane Library 1 were from CDSR, 0 from DARE, 28 from CENTRAL, 0 from HTA and 0 from NHSEED.

## Q5. What is the evidence for transmission of NTM between individuals?

### MEDLINE and MEDLINE In-Process

Searched 22<sup>nd</sup> June 2015 via OVID interface

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

- 1 exp Nontuberculous Mycobacteria/ or exp Mycobacterium Infections, Nontuberculous/ (11637)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (493)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (13717)
- 4 1 or 2 or 3 (18237)
- 5 exp \*Disease Transmission, Infectious/ or exp \*Communicable Diseases/ or exp \*Cross Infection/ or tm.fs. (181170)
- 6 ((transmi\* or spread\* or communica\*) adj4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)).ti,ab. (57613)
- 7 5 or 6 (228718)
- 8 4 and 7 (579)
- 9 exp animals/ not humans.sh. (4059857)
- 10 8 not 9 (467)

467 results saved to Endnote library.

## EMBASE

Searched 22<sup>nd</sup> June 2015 via OVID interface

Database: Embase <1974 to 2015 Week 25>

- 1 exp atypical mycobacteriosis/ or exp atypical mycobacterium/ (5172)
- 2 (Mycobacteri\* or M).ti,ab. and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM).ti. (570)
- 3 ((Mycobacteri\* or M) adj4 ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)).ti. (15242)
- 4 1 or 2 or 3 (18005)
- 5 exp disease transmission/ or communicable disease/ or cross infection/ (219601)
- 6 ((transmi\* or spread\* or communica\*) adj4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)).ti,ab. (71332)
- 7 5 or 6 (278346)
- 8 4 and 7 (650)
- 9 (exp animal/ or nonhuman/) not exp human/ (5606733)
- 10 8 not 9 (449)

449 results saved to Endnote library

## Cochrane Library (includes CDSR, DARE, CENTRAL, HTA and NHSEED)

<http://www.thecochranelibrary.com>

Searched online 23<sup>rd</sup> June 2015

- #1 MeSH descriptor: [Mycobacterium Infections, Nontuberculous] explode all trees 111
- #2 MeSH descriptor: [Nontuberculous Mycobacteria] explode all trees 61
- #3 #1 or #2 125
- #4 (Mycobacteri\* or M) and (MOTT or MABSC or MAC or MAIC or MAI or MFC or ATM or NTM):ti,ab,kw (Word variations have been searched) 144
- #5 ((Mycobacteri\* or M) and ("slow growers" or "rapid growers" or "slowly growing" or "rapidly growing" or atypical or opportunist\* or environmental or "non tuberculous" or nontuberculous or "other than Tuberculosis" or pigmented or "abscessus complex" or abscessus or bolletii or massiliense or "avium complex" or avium or intracellulare or "avium intracellulare" or "battey bacillus" or asiaticum or celatum or chelonae or chelonei or duvalii or flavescens or fortuitum or genavense or gilvum or gordonae or haemophilum or immunogenum or kansasii or malmoense or marinum or mucogenicum or nonchromogenicum or obuense or peregrinum or scrofulaceum or "simiae complex" or simiae or

lentiflavum or smegmatis or szulgai or sulgai or "terrae complex" or terrae or ulcerans or buruli or xenopi)):ti (Word variations have been searched) 129

#6 #3 or #4 or #5 239

#7 MeSH descriptor: [Disease Transmission, Infectious] explode all trees 806

#8 MeSH descriptor: [Communicable Diseases] explode all trees 115

#9 MeSH descriptor: [Cross Infection] explode all trees 1376

#10 ((transmi\* or spread\* or communica\*) near/4 (human\* or individual\* or person\* or people or patient\* or direct\* or contact\*)):ti,ab,kw (Word variations have been searched) 3885

#11 #7 or #8 or #9 or #10 5884

#12 #6 and #11 0

Of 0 total results in Cochrane Library 0 were from CDSR, 0 from DARE, 0 from CENTRAL, 0 from HTA and 0 from NHSEED.

### Results: General Search

Database	Results	After deduplication against 1) All new search results 2) All original search results
MEDLINE and MEDLINE In-Process	4825	
EMBASE	5459	
CDSR	2	
CENTRAL	67	
DARE	1	
NHSEED	1	
<b>Total</b>	<b>10,355</b>	<b>1419</b>

All 1419 results saved to Endnote library BTS NTH GEN Update FINAL June 2015.enl

### Results: Q4B

Database	Results	After deduplication against 1) All new search results 2) All original search results
MEDLINE and MEDLINE In-Process	786	
EMBASE	500	
CDSR	1	
CENTRAL	28	
<b>Total</b>	<b>1315</b>	<b>137</b>

All 137 results saved to Endnote library BTS NTM Q4B Update FINAL June 2015.enl



**Results Q5**

<b>Database</b>	<b>Results</b>	<b>After deduplication against</b> <b>1) All new search results</b> <b>2) All original search results</b>
MEDLINE and MEDLINE In-Process	467	
EMBASE	449	
<b>Total</b>	<b>916</b>	<b>131</b>

All results saved to Endnote library BTS NTM Q5 update FINAL June 2015.enl