

15 Appendix 5. Working Party scope

*Joint BSAC/HIS Working Party on multi-drug-resistant Gram-negative bacteria:
a proposal for the Councils to consider*

1. Guideline title
Prevention and control of multi-drug-resistant Gram-negative bacteria: recommendations from a Joint Working Party

- 1.1 Short title

- Multi-drug-resistant Gram-negative bacteria

2. The remit

To examine and make recommendations both for treatment and prevention of transmission of MDR Gram-negative infections, resulting in the publication of guidelines on:

- current epidemiology and infection control issues; and
- therapeutic issues and antibiotic guidance for treating infections caused by MDR Gram-negative bacteria.

3. Clinical need for the guideline

- 3.1 Epidemiology

- There are a rising number of MDR Gram-negative infections in critical care units, and the dual problems of finding an appropriate antibiotic and preventing spread.
- Antimicrobial Resistance and Hospital Acquired Infection Advisory Committee (ARHAI) has recently produced brief guidelines on infection control and treatment options for these infections.
- There was significant interest attracted by the May 2010 BSAC conference examining the lack of development of new antibiotics effective against Gram-negative bacteria.
- The recent outbreaks of Gram-negative infections related to infrared taps in neonatal units causing cross-infections and deaths led to the Department of Health's decision to review advice on tap design.
- The Department of Health has recognized that whilst control of meticillin-resistant *S. aureus* and *C. difficile* has been relatively successful, Gram-negative infections have continued to increase. Consequent to this is the surveillance subcommittee of ARHAI recommendation that *E. coli* bacteraemia be included in mandatory reporting from April 2011; a recommendation that has received ministerial approval.
- Outbreaks of MDR *Acinetobacter* spp. have been very troublesome in critical care units from time to time, but control measures appear to be poorly effective.

- 3.2 Current practice

Members of BSAC and HIS, with the knowledge of the Councils of each, have been discussing the issues surrounding the recent increase in infections with MDR Gram-negative bacteria in UK hospitals.

Following discussions and consideration of the forthcoming ARHAI report, we now believe it an appropriate time to set up a Joint Working Party to look at making authoritative recommendations both for treatment and prevention of transmission of these infections.

4. The guideline

The guideline development process is described on the NICE website. The scope defines what the guideline will and will not examine, and what the guideline developers will consider. The scope is based on the referral from the three societies.

4.1 Population

4.1.1 Groups that will be covered

- a) Adults
- b) Children over one month old
- c) Particular consideration given to patients aged 65 years and older, people at high risk of acquiring MDR bacteria such as those requiring care in hospital settings

4.1.2 Groups that will not be covered

- a) Cystic fibrosis
- b) Community outbreaks

4.2 Healthcare setting

- a) All settings in which National Health Service care is received

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

- a) Consideration will be given to laboratory testing and susceptibility testing, although only screening and confirmatory tests available in a general microbiology laboratory and not those limited to reference laboratories.
- b) The use of antibiotic combinations in the therapy of infections will be considered, particularly oral combinations that can be used in the outpatient setting.
- c) Mainly infections in critical and non-critical care patients in secondary care. However, the same general principles would apply in community settings, particularly in areas where inappropriate treatment is encouraging selection.

4.3.2 Clinical issues that will not be covered

- a) Children younger than one month (neonates). This group has physiologically different needs and care is very specialized.
- b) People with cystic fibrosis who need specialized care.
- c) People who receive community health care in nursing homes.

4.4 Main outcomes

Outputs will be the production of guidelines, which will be approved via a process of national consultation. The intention is to inform and guide practice, but also to

highlight areas where more research is needed. The following will be produced and published as indicated:

- a) Current epidemiology and infection control issues – *Journal of Hospital Infection*.
- b) Therapeutic issues and antibiotic guidance for treating infections caused by MDR Gram-negative bacteria – *Journal of Antimicrobial Chemotherapy*.
- c) In addition, it is expected that each journal will carry a leading article or review article on the guidance that is published by the joint society.
- d) The Working Party will follow the SIGN process when developing guidance, including the hosting of a national stakeholder meeting as part of the national stakeholder consultation process.

4.5 Economic aspects

Developers will take into account both clinical effectiveness and cost-effectiveness when making recommendations involving a choice between alternative interventions.

4.6 Status

4.6.1 Scope

Final scope

4.6.2 Timing

The work will start in October 2011.

5. Patient representation and equality

Patient representatives are invited to all meetings and will be involved in the writing and drafting of the guidelines. As part of these discussions, potential impacts on equality of groups sharing protected characteristics are considered and incorporated into the guidelines. Health inequalities associated with socio-economic factors and with inequities in access for groups to health care and social care are considered and opportunities identified to improve health.

16 Appendix 6. Search strategy

16.1 CINAHL (January 1984–December 2012)

#	Query	Results
S83	S48 AND S82	275
S82	S55 OR S56 OR S81	515,966
S81	S57 or S58 or S59 or S60 or S61 or S62 or S63 or S64 or S65 or S66 or S67 or S68 or S69 or S70 or S71 or S72 or S73 or S74 or S75 or S76 or S77 or S78 or S79 or S80	471,263
S80	T1 ((time points n3 over) or (time points n3 multiple) or (time points n3 three) or (time points n3 four) or (time points n3 five) or (time points n3 six) or (time points n3 seven) or (time points n3 eight) or (time points n3 nine) or (time points n3 ten) or (time points n3 eleven) or (time points n3 twelve) or (time points n3 month*) or (time points n3 hour*) or (time points n3 day*) or (time points n3 'more than')) or AB ((time points n3 over) or (time points n3 multiple) or (time points n3 three) or (time points n3 four) or (time points n3 five) or (time points n3 six) or (time points n3 seven) or (time points n3 eight) or (time points n3 nine) or (time points n3 ten) or (time points n3 eleven) or (time points n3 twelve) or (time points n3 month*) or (time points n3 hour*) or (time points n3 day*) or (time points n3 'more than'))	1,527
S79	T1 ((control w3 area) or (control w3 cohort*) or (control w3 compar*) or (control w3 condition) or (control w3 group*) or (control w3 intervention*) or (control w3 participant*) or (control w3 study)) or AB ((control w3 area) or (control w3 cohort*) or (control w3 compar*) or (control w3 condition) or (control w3 group*) or (control w3 intervention*) or (control w3 participant*) or (control w3 study))	45,564
S78	T1 (multicentre or multicenter or multi-centre or multi-center) or AB random*	101,899
S77	T1 random* OR controlled	94,669
S76	T1 (trial or (study n3 aim) or 'our study') or AB ((study n3 aim) or 'our study')	87,121
S75	T1 (pre-workshop or preworkshop or post-workshop or postworkshop or (before n3 workshop) or (after n3 workshop)) or AB (pre-workshop or preworkshop or post-workshop or postworkshop or (before n3 workshop) or (after n3 workshop))	283
S74	T1 (demonstration project OR demonstration projects OR preimplement* or pre-implement* or post-implement* or postimplement*) or AB (demonstration project OR demonstration projects OR preimplement* or pre-implement* or post-implement* or postimplement*)	1,290
S73	(intervention n6 clinician*) or (intervention n6 community) or (intervention n6 complex) or (intervention n6 design*) or (intervention n6 doctor*) or (intervention n6 educational) or (intervention n6 family doctor*) or (intervention n6 family physician*) or (intervention n6 family practitioner*) or (intervention n6 financial) or (intervention n6 GP) or (intervention n6 general practice*) Or (intervention n6 hospital*) or (intervention n6 impact*) Or (intervention n6 improv*) or (intervention n6 individualize*) Or (intervention n6 individualise*) or (intervention n6 individualizing) or (intervention n6 individualising) or (intervention n6 interdisciplin*) or (intervention n6 multicomponent) or (intervention n6 multi-component) or (intervention n6 multidisciplin*) or (intervention n6 multi-disciplin*) or (intervention n6 multifacet*) or (intervention n6 multi-facet*) or (intervention n6 multimodal*) or (intervention n6 multi-modal*) or (intervention n6 personalize*) or (intervention n6 personalise*) or (intervention n6 personalizing) or (intervention n6 personalising) or (intervention n6 pharmaci*) or (intervention n6 pharmacist*) or (intervention n6 pharmacy) or (intervention n6 physician*) or (intervention n6 practitioner*) Or (intervention n6 prescrib*) or (intervention n6 prescription*) or (intervention n6 primary care) or (intervention n6 professional*) or (intervention* n6 provider*) or (intervention* n6 regulatory) or (intervention n6 regulatory) or (intervention n6 tailor*) or (intervention n6 target*) or (intervention n6 team*) or (intervention n6 usual care)	23,198
S72	T1 (collaborativ* or collaboration* or tailored or personalised or personalized) or AB (collaborativ* or collaboration* or tailored or personalised or personalized)	38,021
S71	T1 pilot	13,958
S70	(MH 'Pilot Studies')	36,433
S69	AB 'before-and-after'	17,437
S68	AB time series	1,670

#	Query	Results
S67	T1 time series	359
S66	AB (before* n10 during or before n10 after) or AU (before* n10 during or before n10 after)	32,982
S65	T1 ((time point*) or (period* n4 interrupted) or (period* n4 multiple) or (period* n4 time) or (period* n4 various) or (period* n4 varying) or (period* n4 week*) or (period* n4 month*) or (period* n4 year*)) or AB ((time point*) or (period* n4 interrupted) or (period* n4 multiple) or (period* n4 time) or (period* n4 various) or (period* n4 varying) or (period* n4 week*) or (period* n4 month*) or (period* n4 year*))	51,050
S64	T1 ((quasi-experiment* or quasiexperiment* or quasi-random* or quasirandom* or quasi control* or quasicontrol* or quasi* W3 method* or quasi* W3 study or quasi* W3 studies or quasi* W3 trial or quasi* W3 design* or experimental W3 method* or experimental W3 study or experimental W3 studies or experimental W3 trial or experimental W3 design*)) or AB ((quasi-experiment* or quasiexperiment* or quasi-random* or quasirandom* or quasi control* or quasicontrol* or quasi* W3 method* or quasi* W3 study or quasi* W3 studies or quasi* W3 trial or quasi* W3 design* or experimental W3 method* or experimental W3 study or experimental W3 studies or experimental W3 trial or experimental W3 design*))	12,758
S63	T1 pre w7 post or AB pre w7 post	9,367
S62	MH 'Multiple Time Series' or MH 'Time Series'	1,312
S61	T1 ((comparative N2 study) or (comparative N2 studies) or evaluation study or evaluation studies) or AB ((comparative N2 study) or (comparative N2 studies) or evaluation study or evaluation studies)	11,680
S60	MH Experimental Studies or Community Trials or Community Trials or Pretest-Posttest Design + or Quasi-Experimental Studies + Pilot Studies or Policy Studies + Multicenter Studies	34,567
S59	T1 (pre-test* or pretest* or posttest* or post-test*) or AB (pre-test* or pretest* or posttest* or 'post test*) OR T1 (preimplement* or pre-implement*) or AB (pre-implement* or preimplement*)	6,868
S58	T1 (intervention* or multiintervention* or multi-intervention* or postintervention* or post-intervention* or preintervention* or pre-intervention*) or AB (intervention* or multiintervention* or multi-intervention* or postintervention* or post-intervention* or preintervention* or pre-intervention*)	151,748
S57	(MH 'Quasi-Experimental Studies')	5,747
S56	(TI (systematic* n3 review*) or (AB (systematic* n3 review*)) or (TI (systematic* n3 bibliographic*)) or (AB (systematic* n3 bibliographic*)) or (TI (systematic* n3 literature)) or (AB (systematic* n3 literature)) or (TI (systematic* n3 review*)) or (AB (systematic* n3 review*)) or (TI (comprehensive* n3 literature)) or (AB (comprehensive* n3 literature)) or (TI (comprehensive* n3 bibliographic*)) or (AB (comprehensive* n3 bibliographic*)) or (JN 'Cochrane Database of Systematic Reviews') or (TI (information n2 synthesis)) or (TI (data n2 synthesis)) or (AB (information n2 synthesis)) or (AB (data n2 synthesis)) or (TI (data n2 extract*)) or (AB (data n2 extract*)) or (TI (medline or pubmed or psycit or cinahl or (psycinfo not 'psycinfo database') or 'web of science' or scopus or embase)) or (AB (medline or pubmed or psycit or cinahl or (psycinfo not 'psycinfo database') or 'web of science' or scopus or embase)) or (MH 'Systematic Review') or (MH 'Meta Analysis') or (TI (meta-analy* or metaanaly*)) or (AB (meta-analy* or metaanaly*))	59,817
S55	S49 OR S50 OR S51 OR S52 OR S53 OR S54	158,596
S54	T1 ('control* N1 clinical' or 'control* N1 group*' or 'control* N1 trial*' or 'control* N1 study' or 'control* N1 studies' or 'control* N1 design*' or 'control* N1 method*') or AB ('control* N1 clinical' or 'control* N1 group*' or 'control* N1 trial*' or 'control* N1 study' or 'control* N1 studies' or 'control* N1 design*' or 'control* N1 method*')	1
S53	T1 controlled or AB controlled	68,638
S52	T1 random* or AB random*	117,418
S51	T1 ('clinical study' or 'clinical studies') or AB ('clinical study' or 'clinical studies')	7,969
S50	(MM 'Clinical Trials+')	10,670
S49	T1 ((multicent* n2 design*) or (multicent* n2 study) or (multicent* n2 studies) or (multicent* n2 trial*)) or AB ((multicent* n2 design*) or (multicent* n2 study) or (multicent* n2 studies) or (multicent* n2 trial*))	8,917
S48	S18 AND S21 AND S47	917
S47	S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46	16,726

#	Query	Results
S46	T1 ((belcomycin or colicort or colimycin* or colisitin or colisticin or Colistin or colistine or colomycin or (coly n1 mycin) or colymicin or colymycin or coly-mycin or multimycin or (Polymyxin n1 E) or totazina) OR AB ((belcomycin or colicort or colimycin* or colisitin or colisticin or Colistin or colistine or colomycin or (coly n1 mycin) or colymicin or colymycin or coly-mycin or multimycin or (Polymyxin n1 E) or totazina))	171
S45	(MH 'Colistin')	134
S44	T1 (((amdinocillin n1 pivoxil) or (FL n1 '1039') or FL1039 or fl1039 or FL-1039 or pivamdinocillin or Pivmecillinam or Selexid or coactabs or (ro n1 '109071') or (ro10 n1 '9071') or ro109071) OR AB (((amdinocillin n1 pivoxil) or (FL n1 '1039') or FL1039 or fl1039 or FL-1039 or pivamdinocillin or Pivmecillinam or Selexid or coactabs or (ro n1 '109071') or (ro10 n1 '9071') or ro109071))	13
S43	T1 (((Cephalosporanic n1 Acid*) or Cephalosporin* or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycins or Cefmetazole or Cefotetan or Cefoxitin) OR AB (((Cephalosporanic n1 Acid*) or Cephalosporin* or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycins or Cefmetazole or Cefotetan or Cefoxitin))	1,569
S42	T1 ((Axepim* or bmy 28142 or bmy28142 or BMY-28142 or Cefepim* or cefepitax or ceficad or cepimax or forzyn beta or maxcef or maxfrom or maxipime or Quadrocef) OR AB ((Axepim* or bmy 28142 or bmy28142 or BMY-28142 or Cefepim* or cefepitax or ceficad or cepimax or forzyn beta or maxcef or maxfrom or maxipime or Quadrocef))	171
S41	(MH 'Cephalosporins+')	2,105
S40	T1 ((berkfurin or biofurin or chemiofuran or dantafur or f 30 or f30 or fua-med or furaben or furadantin* or furadantoin or furadina or furadoine or furadonin or furadonine or furalan or furanpur or furantocompren or furantoin* or furobactina or furofen or furophen or infurin or ituran or ivadantin or macrobid or macrodantin* or macrofuran or macrofuran or micofurantin* or mitrofuratoin or nephronex or nierofu or nifurantin or nifuryl or (nitro n1 macro) or nitrofuracin or nitrofuradantoin or nitrofurantine or nitrofurantoin* or nitrofurin or novofuran or nsc 2107 or nsc2107 or orafuran or parfuran or phenurin or (potassium n1 furagin) or ralodantin or trocurine or urantoin or (uro n1 tablinen) or urodil or urodin or urofuran or urolong or urotablinen or uro-tablinen or urotoina or uvamin) OR AB ((berkfurin or biofurin or chemiofuran or dantafur or f 30 or f30 or fua-med or furaben or furadantin* or furadantoin or furadina or furadoine or furadonin or furadonine or furalan or furanpur or furantocompren or furantoin* or furobactina or furofen or furophen or infurin or ituran or ivadantin or macrobid or macrodantin* or macrofuran or macrofuran or micofurantin* or mitrofuratoin or nephronex or nierofu or nifurantin or nifuryl or (nitro n1 macro) or nitrofuracin or nitrofuradantoin or nitrofurantine or nitrofurantoin* or nitrofurin or novofuran or nsc 2107 or nsc2107 or orafuran or parfuran or phenurin or (potassium n1 furagin) or ralodantin or trocurine or urantoin or (uro n1 tablinen) or urodil or urodin or urofuran or urolong or urotablinen or uro-tablinen or urotoina or uvamin))	325
S39	T1 (((az n1 threonam) or azactam or azenam or azthreonam or aztreonam or (corus n1 '1020') or dynabiotic or primbactam or SQ 26,776 or sq 26,776 or sq 26776 or SQ-26,776 or sq26776 or sq-26776 or urobactam) OR AB (((az n1 threonam) or azactam or azenam or azthreonam or aztreonam or (corus n1 '1020') or dynabiotic or primbactam or SQ 26,776 or sq 26,776 or sq 26776 or SQ-26,776 or sq26776 or sq-26776 or urobactam))	96
S38	(MH 'Aztreonam')	54
S37	T1 ((fosfocil or fosfocin or fosfocina or fosfomicin or fosfomycin or fosfonomycin or 'mk 0955' or mk 955 or mk0955 or mk955 or monuril or phosphomycin or phosphonomycin) OR AB ((fosfocil or fosfocin or fosfocina or fosfomicin or fosfomycin or fosfonomycin or 'mk 0955' or mk 955 or mk0955 or mk955 or monuril or phosphomycin or phosphonomycin))	57
S36	T1 ((akacin or akicin or amiacacina or amicasil or amicin or amiglymide v or amikacin* or amikafur or amikalem or amikan or amikayect or amikin or amiklin or amikoziť or amiktam or amitracin or amixin or amukin or apalin or bb k 8 or bb k8 or bbk 8 or bb-k 8 or bbk8 or bbk-8 or bb-k8 or biclin or biklin or biokacin or briclin or briklin or chemacin or cinmik or fabianol or gamikal or glukamin or kacinth-a or kanbine or kormakin or likacin or lukadin or miacin or mikasome or onikin or oprad or orlobin or pediakin or pierami or riklinak or savox or selaxa or selemycin or sulfate amikacin or tybikin or vs 107 or vs107 or yectamid) OR AB ((akacin or akicin or amiacacina or amicasil or amicin or amiglymide v or amikacin* or amikafur or amikalem or amikan or amikayect or amikin or amiklin or amikoziť or amiktam or amitracin or amixin or amukin or apalin or bb k 8 or bb k8 or bbk 8 or bb-k 8 or bbk8 or bbk-8 or bb-k8 or biclin or biklin or biokacin or briclin or briklin or chemacin or cinmik or fabianol or gamikal or glukamin or kacinth-a or kanbine or kormakin or likacin or lukadin or miacin or mikasome or onikin or oprad or orlobin or pediakin or pierami or riklinak or savox or selaxa or selemycin or sulfate amikacin or tybikin or vs 107 or vs107 or yectamid))	342
S35	(MH 'Amikacin')	140

#	Query	Results
S34	T1 ((adelanin or alcomicin or apigent or apogen or apoten or azupel or bactiderm or biogaracin or bristagen or cidomycin or danigen or dermogen or dianfarma or dispagent or duragentam* or epigent or (frieso n1 gent) or garabiotic or garalone or garamicin* or garamycin or garbilocin or gencin or gendril or genoptic or genrex or gensumycin or gentabiotic or gentabiox or gentac or gentacidin or gentacin or gentacor or gentacycol or gentacyl or gentafair or gentagram or gentak or gental or gentaline or gentalline or gentalol or gentalyne or gentamax or gentame* or gentamicin* or gentamina or gentamycin* or gentamyl or gentamytrex or gentaplus or gentarad or gentasil or gentasol or gentasone or gentasporin or gentatrim or refobacin or ribomicin or rigaminol or rocy gen or roxida or rupegen or sagestam or sch 9724 or sch9724 or sedanzin or servigenta or skinfect or sulmycin or tangyn or u-gencin or versigen or yectamicina)) OR AB ((adelanin or alcomicin or apigent or apogen or apoten or azupel or bactiderm or biogaracin or bristagen or cidomycin or danigen or dermogen or dianfarma or dispagent or duragentam* or epigent or (frieso n1 gent) or garabiotic or garalone or garamicin* or garamycin or garbilocin or gencin or gendril or genoptic or genrex or gensumycin or gentabiotic or gentabiox or gentac or gentacidin or gentacin or gentacor or gentacycol or gentacyl or gentafair or gentagram or gentak or gental or gentaline or gentalline or gentalol or gentalyne or gentamax or gentame* or gentamicin* or gentamina or gentamycin* or gentamyl or gentamytrex or gentaplus or gentarad or gentasil or gentasol or gentasone or gentasporin or gentatrim or gentavet or genticin* or genticyn or gentiderm or gentimycin or gentocin or gentogram or gentomycin or genum or geomycine or gevramycin or g-mycin or gmyticin or g-mycticin or grammicin or hexamycin or jenamicin or konigen or lacromycin or lisagent or martigenta or migenta or miragenta or miramycin or nichogencin or nsc 82261 or nsc82261 or obogen or ocugenta or ocu-mycin or oftagen or optagram or ophagen or optigen or opti-genta or ottogenta or pyogenta or refobacin or ribomicin or rigaminol or rocy gen or roxida or rupegen or sagestam or sch 9724 or sch9724 or sedanzin or servigenta or skinfect or sulmycin or tangyn or u-gencin or versigen or yectamicina))	993
S33	(MH 'Gentamicins')	808
S32	T1 ((Aminoglycosides or Anthracyclines (Aclarubicin or Daunorubicin or Plicamycin or Butirosin Sulfate or Sisomicin or Hygromycin B or Kanamycin or Dibekacin or Nebramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricins or Streptozocin)) OR AB ((Aminoglycosides or Anthracyclines (Aclarubicin or Daunorubicin or Plicamycin or Butirosin Sulfate or Sisomicin or Hygromycin B or Kanamycin or Dibekacin or Nebramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricins or Streptozocin))	1,269
S31	(MH 'Aminoglycosides+')	6,215
S30	T1 (((chinolone n1 derivative) or fluoroquinolones or (haloquinolone n1 derivative) or ketoquinolines or oxoquinolines or quinolinones or quinolones) OR AB (((chinolone n1 derivative) or fluoroquinolones or (haloquinolone n1 derivative) or ketoquinolines or oxoquinolines or quinolinones or quinolones)	834
S29	(MH 'Quinolines+') OR (MH 'Antiinfective Agents, Quinolone+')	4,842
S28	T1 ((tigecycline or (tbg n1 mino) or tygacil or gar 936 or gar936 or (tert n1 butylglycinamido*))) OR AB ((tigecycline or (tbg n1 mino) or tygacil or gar 936 or gar936 or (tert n1 butylglycinamido*)))	208
S27	T1 (((brl n1 '17421') or brl17421 or (thiophenemalonamic n1 acid) or negaban or temocillin or temopen)) OR AB (((brl n1 '17421') or brl17421 or (thiophenemalonamic n1 acid) or negaban or temocillin or temopen))	10

#	Query	Results
S26	T1 ((aclam or aktil or ambilan or amocla or amoclan or amoclav or amoksiklav or amolanic or amometin or (amox n1 clav) or amox-clav or (amoxi n1 plus) or (amoxNear/3clavulan*) or amoxiclav or amoxiclav-bid or amoxiclav-teva or amoxsiklav or amoxclin or (amoxycillin-clavulanic n1 acid) or ancla or (auclatin n1 duo) or augamox or augmaxcil or augmentan or augmentin* or augmex or augpen or (augucillin n1 duo) or augurcin or ausclav or auspicil or bactiv or bactoclav or bioclavid or (brl n1 '25000') or brl25000 or brl-25000 or cavumox or ciblor or (clacillin n1 duo) or clamax or clamentin or clamobit or clamonex or clamovid or clamoxin or (clamoxy n1 duo*) or clarin-duo or clavamox or clavar or clavinox or clavodar or clavoxil or (clavoxilin n1 plus) or clavubactin or clavudale or clavulanate-amoxicillin or clavulin or (clavulox n1 duo) or clavumox or (co n1 amoxiclav) or (co n1 amoxyclav) or coamoxiclav or co-amoxiclav or coamoxyclav or (cramon n1 duo) or (croanan n1 duo) or curam or danoclav or (darziti n1 plus) or e-moxclav or enhancin or fleming or fugentin or (fullicilina n1 plus) or gumentin or hibiotic or inciav or klamonex or kmoxilin or lactamox or lansiclav or moxiclav or moxicle or moxyclav or natravox or nufaclav or palentin or quali-mentin or ranclav or spektramox or stacillin or suplentini or synermox or synulox or (velamox n1 cl) or vestaclav or viaclav or vulamox or xiclav or (zami n1 '8503'))) OR AB ((aclam or aktil or ambilan or amocla or amoclan or amoclav or amoksiklav or amolanic or amometin or (amox n1 clav) or amox-clav or (amoxi n1 plus) or (amoxNear/3clavulan*) or amoxiclav or amoxiclav-bid or amoxiclav-teva or amoxsiklav or amoxclin or (amoxycillin-clavulanic n1 acid) or ancla or (auclatin n1 duo) or augamox or augmaxcil or augmentan or augmentin* or augmex or augpen or (augucillin n1 duo) or augurcin or ausclav or auspicil or bactiv or bactoclav or bioclavid or (brl n1 '25000') or brl25000 or brl-25000 or cavumox or ciblor or (clacillin n1 duo) or clamax or clamentin or clamobit or clamonex or clamovid or clamoxin or (clamoxy n1 duo*) or clarin-duo or clavamox or clavar or clavinox or clavodar or clavoxil or (clavoxilin n1 plus) or clavubactin or clavudale or clavulanate-amoxicillin or clavulin or (clavulox n1 duo) or clavumox or (co n1 amoxiclav) or (co n1 amoxyclav) or coamoxiclav or co-amoxiclav or coamoxyclav or (cramon n1 duo) or (croanan n1 duo) or curam or danoclav or (darziti n1 plus) or e-moxclav or enhancin or fleming or fugentin or (fullicilina n1 plus) or gumentin or hibiotic or inciav or klamonex or kmoxilin or lactamox or lansiclav or moxiclav or moxicle or moxyclav or natravox or nufaclav or palentin or quali-mentin or ranclav or spektramox or stacillin or suplentini or synermox or synulox or (velamox n1 cl) or vestaclav or viaclav or vulamox or xiclav or (zami n1 '8503')))	805
S25	T1 ((cl 307579 or cl298741 or cl307579 or tazabactam or tazobac* or tazocel or tazocillin* or tazocin or tazomax or tazanam or tazopril or yp 14 or yp14 or ytr 830 or ytr 830h or ytr830 or ytr830h or zosyn)) OR AB ((cl 307579 or cl298741 or cl307579 or tazabactam or tazobac* or tazocel or tazocillin* or tazocin or tazomax or tazanam or tazopril or yp 14 or yp14 or ytr 830 or ytr 830h or ytr830 or ytr830h or zosyn))	247
S24	T1 ((acopex or avocin or cl 227,193 or Cl 227193 or cl 227193 or cl 227193 or cl227,193 or Cl227193 or cl227193 or cl227193 or Cl-227193 or cl-227193 or cypercil or hishiyaclorin or ivacin or pentcillin or pentocillin or picillin* or pipcil or pipera hameln or piperacil or piperacillin* or piperacin or pipera-hameln or piperacillin or piperilline or pipraci* or pipraks or pipril or piprilin or pitamycin or t 1220 or t1220 or t-1220 or taiperacillin)) OR AB ((acopex or avocin or cl 227,193 or Cl 227193 or cl 227193 or cl 227193 or cl227,193 or Cl227193 or cl227193 or cl227193 or Cl-227193 or cl-227193 or cypercil or hishiyaclorin or ivacin or pentcillin or pentocillin or picillin* or pipcil or pipera hameln or piperacil or piperacillin* or piperacin or pipera-hameln or piperacillin or piperilline or pipraci* or pipraks or pipril or piprilin or pitamycin or t 1220 or t1220 or t-1220 or taiperacillin))	296
S23	T1 ((Carbapenem* or doripenem or ertapenem or Imipemide or Imipenem or Invanoz or Invanz or meropenem or Merrem or 'MK 0787' or MK0787 or MK-0787 or N Formimidoylthienamycin or N-Formimidoylthienamycin or Penem or Ronem or S 4661 or S-4661 or SM 7338 or SM-7338 or Thienamycin*)) OR AB ((Carbapenem* or doripenem or ertapenem or Imipemide or Imipenem or Invanoz or Invanz or meropenem or Merrem or 'MK 0787' or MK0787 or MK-0787 or N Formimidoylthienamycin or N-Formimidoylthienamycin or Penem or Ronem or S 4661 or S-4661 or SM 7338 or SM-7338 or Thienamycin*))	974
S22	(MH 'Carbapenems+')	559
S21	S19 OR S20	14,473
S20	(MH 'Drug Resistance, Microbial+')	14,182
S19	T1 ((multiresistant or (multi n1 resistan*))) OR AB ((multiresistant or (multi n1 resistan*)))	604
S18	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17	7,706
S17	T1 (((bacillus n1 morgan*) or (bacterium n1 morgana) or (morganella n1 morgagni*) or (morganella n1 morganii) or (proteus n1 morgagni) or (proteus n1 morgana*) or (salmonella n1 morgana))) OR AB (((bacillus n1 morgan*) or (bacterium n1 morgana) or (morganella n1 morgagni*) or (morganella n1 morganii) or (proteus n1 morgagni) or (proteus n1 morgana*) or (salmonella n1 morgana)))	20
S16	T1 (((Citrobacter n1 freundii) or (bacterium n1 freundii) or (Escherichia n1 freundii))) OR AB (((Citrobacter n1 freundii) or (bacterium n1 freundii) or (Escherichia n1 freundii)))	32
S15	(MH 'Citrobacter')	40
S14	T1 Serratia OR AB Serratia	238

#	Query	Results
S13	(MH 'Serratia') OR (MH 'Serratia Infections')	174
S12	TI Proteus OR AB Proteus	257
S11	(MH 'Proteus') OR (MH 'Proteus Infections')	118
S10	TI ((Acinetobacter or mimia or mimiae or herellea or acinetobacterium)) OR AB ((Acinetobacter or mimia or mimiae or herellea or acinetobacterium))	889
S9	(MH 'Acinetobacter Infections')	581
S8	TI 'p. aeruginosa' OR AB 'p. aeruginosa'	610
S7	TI (((bacillus n1 pyocyaneus) or (bacterium n1 (aeruginosum or pyocyaneum)) or (blue n1 apus) or (Pseudomonas n1 (aeruginosa or aureofaciens or pyoceaneus or pyocyanea or pyocyaneus)))) OR AB (((bacillus n1 pyocyaneus) or (bacterium n1 (aeruginosum or pyocyaneum)) or (blue n1 apus) or (Pseudomonas n1 (aeruginosa or aureofaciens or pyoceaneus or pyocyanea or pyocyaneus))))	1,855
S6	TI ((enterobacter or aerobacter)) OR AB ((enterobacter or aerobacter))	370
S5	TI (('k. pneumoniae' or 'b. friedlander')) OR AB (('k. pneumoniae' or 'b. friedlander'))	200
S4	TI ((klebsiella or Calymmatobacterium or (aerobacter n1 aerogenes) or ((bacillus or bacterium) n1 pneumonia) or ((friedlaender or Friedlander) n1 bacillus) or (Hyalococcus n1 pneumonia) or Pneumobacillus)) OR AB ((klebsiella or Calymmatobacterium or (aerobacter n1 aerogenes) or ((bacillus or bacterium) n1 pneumonia) or ((friedlaender or Friedlander) n1 bacillus) or (Hyalococcus n1 pneumonia) or Pneumobacillus))	1,039
S3	(MH 'Klebsiella') OR (MH 'Klebsiella Infections')	835
S2	TI ((Eaggec or (escherichia n1 coli) or (e n1 coli) or (alkalescens-dispar n1 group) or (bacillus n1 escherichii) or (Coli n1 bacillus) or (Coli n1 bacterium) or colibacillus or (colon n1 bacillus))) OR AB ((Eaggec or (escherichia n1 coli) or (e n1 coli) or (alkalescens-dispar n1 group) or (bacillus n1 escherichii) or (Coli n1 bacillus) or (Coli n1 bacterium) or colibacillus or (colon n1 bacillus)))	2,914
S1	(MH 'Escherichia Coli') OR (MH 'Escherichia Coli Infections')	2,983

16.2 Cochrane Library (Issue 11, 2012)

ID Search

#1 MeSH descriptor: [Escherichia coli] explode all trees

#2 (Eaggec or (escherichia near/1 coli) or (e near/1 coli) or (alkalescens-dispar near/1 group) or (bacillus near/1 escherichii) or (Coli near/1 bacillus) or (Coli near/1 bacterium) or colibacillus or (colon near/1 bacillus)):ti,ab,kw (Word variations have been searched)

#3 MeSH descriptor: [Klebsiella] explode all trees

#4 (klebsiella or Calymmatobacterium or (aerobacter near/1 aerogenes) or ((bacillus or bacterium) near/1 pneumonia) or ((friedlaender or Friedlander) near/1 bacillus) or (Hyalococcus near/1 pneumonia) or Pneumobacillus):ti,ab,kw (Word variations have been searched)

#5 k. pneumoniae or b. friedlander:ti,ab,kw (Word variations have been searched)

#6 MeSH descriptor: [Enterobacter] explode all trees

#7 (enterobacter or aerobacter):ti,ab,kw (Word variations have been searched)

#8 MeSH descriptor: [Pseudomonas aeruginosa] explode all trees

- #9 ((bacillus near/1 pyocyaneus) or (bacterium near/1 (aeruginosum or pyocyaneum)) or (blue near/1 apus) or (Pseudomonas near/1 (aeruginosa or aureofaciens or pyoceaneus or pyocyanea or pyocyaneus))):ti,ab,kw (Word variations have been searched)
- #10 p. aeruginosa:ti,ab,kw (Word variations have been searched)
- #11 MeSH descriptor: [Acinetobacter] explode all trees
- #12 (Acinetobacter or mima or mimae or herellea or acinetobacterium):ti,ab,kw (Word variations have been searched)
- #13 MeSH descriptor: [Proteus] explode all trees
- #14 Proteus:ti,ab,kw (Word variations have been searched)
- #15 MeSH descriptor: [Serratia] explode all trees
- #16 Serratia:ti,ab,kw (Word variations have been searched)
- #17 MeSH descriptor: [Citrobacter freundii] explode all trees
- #18 ((Citrobacter near/1 freundii) or (bacterium near/1 freundii) or (Escherichia near/1 freundii)):ti,ab,kw (Word variations have been searched)
- #19 MeSH descriptor: [Morganella morganii] explode all trees
- #20 ((bacillus near/1 morgan\$) or (bacterium near/1 morgana) or (morganella near/1 morgagni\$) or (morganella near/1 morganii) or (proteus near/1 morgagni) or (proteus near/1 morgana\$) or (salmonella near/1 morgana)):ti,ab,kw (Word variations have been searched)
- #21 #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
- #22 (multiresistant or (multi near/1 resistan\$)):ti,ab,kw (Word variations have been searched)
- #23 MeSH descriptor: [Drug Resistance, Multiple] explode all trees
- #24 #22 or #23
- #25 MeSH descriptor: [Colistin] explode all trees
- #26 (belcomycin or colicort or colimycin\$ or colisitn or colisticin or Colistin or colistine or colomycin or (coly near/1 mycin) or colymicin or colymycin or coly-mycin or multimycin or (Polymyxin near/1 E) or totazina):ti,ab,kw (Word variations have been searched)
- #27 MeSH descriptor: [Carbapenems] explode all trees
- #28 (Carbapenem\$ or doripenem or ertapenem or Imipemide or Imipenem or Invanoz or Invanz or meropenem or Merrem or 'MK 0787' or MK0787 or MK-0787 or N Formimidoylthienamycin or N-Formimidoylthienamycin or Penem or Ronem or S 4661 or S-4661 or SM 7338 or SM-7338 or Thienamycin\$):ti,ab,kw (Word variations have been searched)
- #29 MeSH descriptor: [Piperacillin] explode all trees
- #30 (acopex or avocin or cl 227,193 or Cl 227193 or cl 227193 or cl 227193 or cl227,193 or Cl227193 or cl227193 or cl227193 or Cl-227193 or cl-227193 or cypercil or hishiyaclorin or ivacin or pentcillin or pentocillin or picillin\$ or pipcil or pipera hameln or piperacil or piperacillin\$ or piperacin or pipera-hameln or

piperacillin or piperilline or pipraci\$ or pipraks or pipril or pipriline or pitamycin or t 1220 or t1220 or t-1220 or taiperacillin):ti,ab,kw (Word variations have been searched)

#31 (cl 307579 or cl298741 or cl307579 or tazabactam or tazobac\$ or tazocel or tazocillin\$ or tazocin or tazomax or tazonam or tazopril or yp 14 or yp14 or ytr 830 or ytr 830h or ytr830 or ytr830h or zosyn):ti,ab,kw (Word variations have been searched)

#32 MeSH descriptor: [Amoxicillin-Potassium Clavulanate Combination] explode all trees

#33 (aclam or aktil or ambilan or amocla or amoclan or amoclav or amoksiklav or amolanic or amometin or (amox near/1 clav) or amox-clav or (amoxi near/1 plus) or (amoxNear/3clavulan\$) or amoxiclav or amoxiclav-bid or amoxiclav-teva or amoxsiklav or amoxxin or (amoxycillin-clavulanic near/1 acid) or ancla or (auclatin near/1 duo) or augamox or augmaxcil or augmentan or augmentin\$ or augmex or augpen or (augucillin near/1 duo) or augurcin or ausclav or auspiloc or bactiv or bactoclav or bioclavid or (brl near/1 '25000') or brl25000 or brl-25000 or cavumox or ciblor or (clacillin near/1 duo) or clamax or clamentin or clamobit or clamonex or clamovid or clamoxin or (clamoxyll near/1 duo\$) or clarin-duo or clavamox or clavar or clavonex or clavodar or clavoxil or (clavoxilin near/1 plus) or clavubactin or clavudale or clavulanate-amoxicillin or clavulin or (clavulox near/1 duo) or clavumox or (co near/1 amoxiclav) or (co near/1 amoxyclav) or coamoxiclav or co-amoxiclav or coamoxyclav or (cramon near/1 duo) or (croanan near/1 duo) or curam or danoclav or (darzitol near/1 plus) or e-moxclav or enhancin or fleming or fugentin or (fullicilina near/1 plus) or gumentin or hibiotic or inciclav or klamonex or kmoxilin or lactamox or lamsiclav or moxiclav or moxicle or moxyclav or natravox or nufaclav or palentin or quali-mentin or ranclav or spektramox or stacillin or suplentin or synermox or synulox or (velamox near/1 cl) or vestaclav or viaclav or vulamox or xiclav or (zami near/1 '8503')):ti,ab,kw (Word variations have been searched)

#34 ((brl near/1 '17421') or brl17421 or (thiophenemalonamic near/1 acid) or negaban or temocillin or temopen):ti,ab,kw (Word variations have been searched)

#35 (tigecycline or (tbg near/1 mino) or tygacil or gar 936 or gar936 or (tert near/1 butylglycinamido\$)):ti,ab,kw (Word variations have been searched)

#36 MeSH descriptor: [Quinolones] explode all trees

#37 ((chinolone near/1 derivative) or fluoroquinolones or (haloquinolone near/1 derivative) or ketoquinolines or oxoquinolines or quinolinones or quinolones):ti,ab,kw (Word variations have been searched)

#38 MeSH descriptor: [Aminoglycosides] explode all trees

#39 (Aminoglycosides or Anthracyclines or Aclarubicin or Daunorubicin or Plicamycin or Butirosin Sulfate or Sisomicin or Hygromycin B or Kanamycin or Dibekacin or Nebramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricins or Streptozocin):ti,ab,kw (Word variations have been searched)

#40 MeSH descriptor: [Gentamicins] explode all trees

#41 (adelanin or alcomycin or apigent or apogen or apoten or azupel or bactiderm or biogaracin or bristagen or cidomycin or danigen or dermogen or dianfarma or dispagent or duragentam\$ or epigent or (frieso near/1 gent) or garabiotic or garalone or garamicin\$ or garamycin or garbilocin or gencin or gendril or genoptic or genrex or gensumycin or gentabiotic or gentabiox or gentac or gentacidin or gentacin or gentacor or gentacycol or gentacyl or gentafair or gentagram or gentak or gental or gentaline or gentalline or gentalol or gentalyn or gentamax or gentame\$ or gentamicin\$ or gentamina or gentamycin\$ or gentamyl or gentamytrex or gentaplus or gentarad or gentasil or gentasol or gentasone or gentasporin or gentatrim or gentavet or genticin\$ or genticyn or gentiderm or gentimycin or gentocin or gentogram or gentomycin or genum or geomycine or gevramycin or g-mycin or

gmyticin or g-mycticin or grammicin or hexamycin or jenamicin or konigen or lacromycin or lisagent or martigenta or migenta or miragenta or miramycin or nichogencin or nsc 82261 or nsc82261 or obogen or ocugenta or ocu-mycin or oftagen or ophtagram or ophagen or optigen or opti-genta or ottogenta or pyogenta or refofacin or ribomicin or rigaminol or rocy gen or roxida or rupegen or sagestam or sch 9724 or sch9724 or sedanzin or servigenta or skinfect or sulmycin or tangyn or u-gencin or versigen or yectamicina):ti,ab,kw (Word variations have been searched)

#42 MeSH descriptor: [Amikacin] explode all trees

#43 (akacin or akicin or amicacina or amicasil or amicin or amiglymide v or amikacin\$ or amikafur or amikalem or amikan or amikayect or amikin or amiklin or amikozit or amiktam or amitracin or amixin or amukin or apalin or bb k 8 or bb k8 or bbk 8 or bb-k 8 or bbk8 or bbk-8 or bbk8 or biclin or biklin or biokacin or briclin or briklin or chemacin or cinmik or fabianol or gamikal or glukamin or kacinth-a or kanbine or kormakin or likacin or lukadin or miacin or mikasome or onikin or oprad or orlobin or pediakin or pierami or riklinak or savox or selaxa or selemycin or sulfate amikacin or tybikin or vs 107 or vs107 or yectamid):ti,ab,kw (Word variations have been searched)

#44 MeSH descriptor: [Fosfomycin] explode all trees

#45 (fosfocil or fosfocin or fosfocina or fosfomicin or fosfomycin or fosfonomycin or 'mk 0955' or mk 955 or mk0955 or mk955 or monuril or phosphomycin or phosphonomycin):ti,ab,kw (Word variations have been searched)

#46 MeSH descriptor: [Aztreonam] explode all trees

#47 ((az near/1 threonam) or azactam or azenam or azthreonam or aztreonam or (corus near/1 '1020') or dynabiotic or primbactam or SQ 26,776 or sq 26,776 or sq 26776 or SQ-26,776 or sq26776 or sq-26776 or urobactam):ti,ab,kw (Word variations have been searched)

#48 MeSH descriptor: [Nitrofurantoin] explode all trees

#49 (berkfurin or biofurin or chemiofuran or dantafur or f 30 or f30 or fua-med or furaben or furadantin\$ or furadantoin or furadina or furadoine or furadonin or furadonine or furalan or furanpur or furantocompren or furantoin\$ or furobactina or furofen or furophen or infurin or ituran or ivadantin or macrobid or macrodantin\$ or macrofuran or macrofurin or micofurantin\$ or mitrofuratoin or nephronex or nierofu or nifurantin or nifuryl or (nitro near/1 macro) or nitrofuracin or nitrofuradantoin or nitrofurantine or nitrofurantoin\$ or nitrofurin or novofuran or nsc 2107 or nsc2107 or orafuran or parfuran or phenurin or (potassium near/1 furagin) or ralodantin or trocurine or urantin or (uro near/1 tablinen) or urodil or urodin or urofuran or urolong or urotablinen or uro-tablinen or urotoina or uvamin):ti,ab,kw (Word variations have been searched)

#50 MeSH descriptor: [Cephalosporins] explode all trees

#51 ((Cephalosporanic near/1 Acid\$) or Cephalosporin\$ or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cephalothin or Cephapirin or Cephalixin or Cefaclor or Cefadroxil or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycins or Cefmetazole or Cefotetan or Cefoxitin):ti,ab,kw (Word variations have been searched)

#52 MeSH descriptor: [Amdinocillin Pivoxil] explode all trees

#53 ((amdinocillin near/1 pivoxil) or (FL near/1 '1039') or FL1039 or fl1039 or FL-1039 or pivamdinocillin or Pivmecillinam or Selexid or coactabs or (ro near/1 '109071') or (ro10 near/1 '9071') or ro109071):ti,ab,kw (Word variations have been searched)

#54 #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #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 or #52 or #53

#55 #21 and #24 and #54 (21)

16.3 Embase (January 1980–December 2012)

1 exp Escherichia coli/ (255846)

2 (Eaggec or (escherichia adj coli) or (e adj coli) or (alkalescens-dispar adj group) or (bacillus adj escherichii) or (Coli adj bacillus) or (Coli adj bacterium) or colibacillus or (colon adj bacillus)).ti,ab. (240749)

3 exp Klebsiella/ (30199)

4 (klebsiella or Calymmatobacterium or (aerobacter adj aerogenes) or ((bacillus or bacterium) adj pneumonia) or ((friedlaender or Friedlander) adj bacillus) or (Hyalococcus adj pneumonia) or Pneumobacillus).ti,ab. (22836)

5 ('k. pneumoniae' or 'b. friedlander').ti,ab. (5513)

6 exp Enterobacter/ (12784)

7 (enterobacter or aerobacter).ti,ab. (9700)

8 exp Pseudomonas aeruginosa/ (55073)

9 ((bacillus adj pyocyaneus) or (bacterium adj (aeruginosum or pyocyaneum)) or (blue adj apus) or (Pseudomonas adj (aeruginosa or aureofaciens or pyoceaneus or pyocyanea or pyocyaneus))).ti,ab. (43474)

10 'p. aeruginosa'.ti,ab. (17572)

11 exp Acinetobacter/ (12028)

12 (Acinetobacter or mima or mimae or herellea or acinetobacterium).ti,ab. (10917)

13 exp Proteus/ (14447)

14 Proteus.ti,ab. (10461)

15 exp Serratia/ (9507)

16 Serratia.ti,ab. (7407)

17 exp Citrobacter freundii/ (1778)

18 ((Citrobacter adj freundii) or (bacterium adj freundii) or (Escherichia adj freundii)).ti,ab. (1675)

19 exp Morganella morganii/ (1134)

20 ((bacillus adj morgani\$) or (bacterium adj morgana) or (morganella adj morgagni\$) or (morganella adj morganii) or (proteus adj morgagni) or (proteus adj morgana\$) or (salmonella adj morgana)).ti,ab. (804)

21 or/1-20 (396800)

22 (multiresistant or (multi adj resistan\$)).ti,ab. (5599)

23 exp multidrug resistance/ (29629)

24 22 or 23 (33705)

25 exp Colistin/ (8049)

26 (belcomycin or colicort or colimycin\$ or colisitn or colisticin or Colistin or colistine or colomycin or (coly adj mycin) or colymicin or colymycin or coly-mycin or multimycin or (Polymyxin adj E) or totazina).ti,ab. (3104)

27 exp Carbapenems/ (4745)

28 (Carbapenem\$ or doripenem or ertapenem or Imipemide or Imipenem or Invanoz or Invanz or meropenem or Merrem or 'MK 0787' or MK0787 or MK-0787 or N Formimidoylthienamycin or N-Formimidoylthienamycin or Penem or Ronem or S 4661 or S-4661 or SM 7338 or SM-7338 or Thienamycin\$).ti,ab. (18086)

29 exp Piperacillin/ (14822)

30 (acopex or avocin or cl 227,193 or Cl 227193 or cl 227193 or cl 227193 or cl227,193 or Cl227193 or cl227193 or cl227193 or Cl-227193 or cl-227193 or cypencil or hishiyaclorin or ivacin or pentcillin or pentocillin or picillin\$ or pipcil or piperahameln or piperacil or piperacillin\$ or piperacin or piperahameln or piperacillin or piperilline or pipraci\$ or pipraks or pipril or piprilin or pitamycin or t 1220 or t1220 or t-1220 or taiperacillin).ti,ab. (6462)

31 exp Amoxicillin-Potassium Clavulanate Combination/ (23616)

32 (aclam or aktil or ambilan or amocla or amoclan or amoclav or amoksiklav or amolanic or amometin or (amox adj clav) or amox-clav or (amoxi adj plus) or (amox adj3 clavulan\$) or amoxiclav or amoxiclav-bid or amoxiclav-teva or amoxsiklav or amoxxlin or (amoxycillin-clavulanic adj acid) or ancla or (auclatin adj duo) or augamox or augmaxcil or augmentan or augmentin\$ or augmex or augpen or (augucillin adj duo) or augurcin or ausclav or auspicil or bactiv or bactoclav or bioclavid or (brl adj '25000') or brl25000 or brl-25000 or cavumox or ciblor or (clacillin adj duo) or clamax or clamentin or clamobit or clamonex or clamovid or clamoxin or (clamoxyl adj duo\$) or clarin-duo or clavamox or clavar or clavinex or clavodar or clavoxil or (clavoxilin adj plus) or clavubactin or clavudale or clavulanate-amoxicillin or clavulin or (clavulox adj duo) or clavumox or (co adj amoxiclav) or (co adj amoxyclav) or coamoxiclav or co-amoxiclav or coamoxyclav or (cramon adj duo) or (croanan adj duo) or curam or danoclav or (darzitol adj plus) or e-moxclav or enhancin or fleming or fugentin or (fullicilina adj plus) or gumentin or hibiotic or inciclav or klamonex or kmoxilin or lactamox or lansiclav or moxiclav or moxicle or moxyclav or natravox or nufaclav or

palentin or quali-mentin or ranclav or spektramox or stacillin or suplentin or synermox or synulox or (velamox adj cl) or vestaclav or viaclav or vulamox or xiclav or (zami adj '8503')).ti,ab. (11598)

33 exp Quinolones/ (101072)

34 ((chinolone adj derivative) or fluoroquinolones or (haloquinolone adj derivative) or ketoquinolines or oxoquinolines or quinolinones or quinolones).ti,ab. (15677)

35 exp Aminoglycosides/ (10599)

36 (Aminoglycosides or Anthracyclines or Aclarubicin or Daunorubicin or Plicamycin or Butirosin Sulfate or Sisomicin or Hygromycin B or Kanamycin or Dibekacin or Nebramycin + or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricins or Streptozocin).ti,ab. (56708)

37 exp Gentamicins/ (70647)

38 (adelanin or alcomycin or apigent or apogen or apoten or azupel or bactiderm or biogaracin or bristagen or cidomycin or danigen or dermogen or dianfarma or dispagent or duragentam\$ or epigent or (frieso adj gent) or garabiotic or garalone or garamicin\$ or garamycin or garbilocin or gencin or gendril or genoptic or genrex or gensumycin or gentabiotic or gentabiox or gentac or gentacidin or gentacin or gentacor or gentacycol or gentacyl or gentafair or gentagram or gentak or gental or gentaline or gentalline or gentalol or gentalyn or gentamax or gentame\$ or gentamicin\$ or gentamina or gentamycin\$ or gentamyl or gentamytrex or gentaplus or gentarad or gentasil or gentasol or gentasone or gentasporin or gentatrim or gentavet or genticin\$ or genticyn or gentiderm or gentimycin or gentocin or gentogram or gentomycin or genum or geomycine or gevramicin or g-mycin or gmyticin or g-mycticin or grammicin or hexamycin or jenamicin or konigen or lacromycin or lisagent or martigenta or migenta or miragenta or miramicin or nichogencin or nsc 82261 or nsc82261 or obogen or ocugenta or ocu-mycin or oftagen or ophtagram or ophagen or optigen or opti-genta or ottogenta or pyogenta or refobacin or ribomicin or rigaminol or rocy gen or rovidax or rupegen or sagestam or sch 9724 or sch9724 or sedanazin or servigenta or skinfect or sulmycin or tangyn or u-gencin or versigen or yectamicina).ti,ab. (23700)

39 exp Amikacin/ (28644)

40 (akacin or akicin or amicacina or amicasil or amicin or amiglymide v or amikacin\$ or amikafur or amikalem or amikan or amikayect or amikin or amiklin or amikozit or amiktam or amitracin or amixin or amukin or apalin or bb k 8 or bb k8 or bbk 8 or bb-k 8 or bbk8 or bbk-8 or bb-k8 or biclin or biklin or biokacin or briclin or briklin or chemacin or cinmik or fabianol or gamikal or glukamin or kacinth-a or kanbine or kormakin or likacin or lukadin or miacin or mikasome or onikin or oprad or orlobin or pediakin or pierami or riklinak or savox or selaxa or selemycin or sulfate amikacin or tybikin or vs 107 or vs107 or yectamid).ti,ab. (9841)

41 exp Fosfomicin/ (5561)

42 (fosfocil or fosfocin or fosfocina or fosfomicin or fosfomicin or fosfomicin or fosfonomycin or 'mk 0955' or mk 955 or mk0955 or mk955 or monuril or phosphomicin or phosphonomycin).ti,ab. (2386)

43 exp Aztreonam/ (10567)

44 ((az adj threonam) or azactam or azenam or azthreonam or aztreonam or (corus adj '1020') or dynabiotic or primbactam or SQ 26,776 or sq 26,776 or sq 26776 or SQ-26,776 or sq26776 or sq-26776 or urobactam).ti,ab. (3245)

45 exp Nitrofurantoin/ (9724)

46 (berkfurin or biofurin or chemiofuran or dantafur or f 30 or f30 or fua-med or furaben or furadantin\$ or furadantoin or furadina or furadoine or furadonin or furadonine or furalan or furanpur or furantocompren or furantoin\$ or furobactina or furofen or furophen or infurin or ituran or ivadantin or macrobid or macrodantin\$ or macrofuran or macrofurin or micofurantin\$ or mitrofuratoin or nephronex or nierofu or nifurantin or nifuryl or (nitro adj macro) or nitrofuracin or nitrofuradantoin or nitrofurantine or nitrofurantoin\$ or nitrofurin or novofuran or nsc 2107 or nsc2107 or orafuran or parfuran or phenurin or (potassium adj furagin) or ralodantin or trocurine or urantin or (uro adj tablinen) or urodil or urodin or urofuran or urolong or urotablinen or uro-tablinen or urotoina or uvamin).ti,ab. (3412)

47 exp Cephalosporins/ (150937)

48 (Axepim\$ or bmy 28142 or bmy28142 or BMY-28142 or Cefepim\$ or cefepitax or ceficad or cepimax or forzyn beta or maxcef or maxfrom or maxipime or Quadrocef).ti,ab. (2995)

49 exp tazobactam/ (3045)

50 (cl 307579 or cl298741 or cl307579 or tazabactam or tazobac\$ or tazocel or tazocillin\$ or tazocin or tazomax or tazonam or tazopril or yp 14 or yp14 or ytr 830 or ytr 830h or ytr830 or ytr830h or zosyn).ti,ab. (3809)

51 exp temocillin/ (499)

52 ((brl adj '17421') or brl17421 or (thiophenemalonamic adj acid) or negaban or temocillin or temopen).ti,ab. (236)

53 exp tigecycline/ (3876)

54 (tigecycline or (tbg adj mino) or tygacil or gar 936 or gar936 or (tert adj butylglycinamido\$)).ti,ab. (1970)

55 exp cefepime/ (9948)

56 ((Cephalosporanic adj Acid\$) or Cephalosporin\$ or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cephalothin or Cephapirin or Cephalixin or Cefaclor or Cefadroxil or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycins or Cefmetazole or Cefotetan or Cefoxitin).ti,ab. (45983)

57 exp pivmecillinam/ (685)

58 ((amdinocillin adj pivoxil) or (FL adj '1039') or FL1039 or fl1039 or FL-1039 or pivamdinocillin or Pivmecillinam or Selexid or coactabs or (ro adj '109071') or (ro10 adj '9071') or ro109071).ti,ab. (280)

59 or/25-58 (349366)

60 21 and 24 and 59 (4969)

61 (review or review,tutorial or review, academic).pt. (1901059)

62 (systematic\$ adj5 review\$).tw,sh. (70959)

63 (systematic\$ adj5 overview\$).tw,sh. (869)

64 (quantitativ\$ adj5 review\$).tw,sh. (15516)

65 (quantitativ\$ adj5 overview\$).tw,sh. (203)

66 (quantitativ\$ adj5 synthesis\$).tw,sh. (2716)

67 (methodologic\$ adj5 review\$).tw,sh. (3414)

68 (methodologic\$ adj5 overview\$).tw,sh. (238)

69 (integrative research review\$ or research integration).tw. (94)

70 (meta-analys\$ or meta analys\$ or metaanalys\$).tw,sh. (96394)

71 (meta synthesis or meta synthesis or metasynthesis).tw,sh. (238)

72 (meta-regression or meta regression or metaregression).tw,sh. (2242)

73 (synthes\$ adj3 literature).tw. (1448)

74 (synthes\$ adj3 evidence).tw. (3583)

75 integrative review.tw. (604)

76 data synthesis.tw. (8747)

77 (research synthesis or narrative synthesis).tw. (547)

78 (systematic study or systematic studies).tw. (7413)

79 systematic comparison\$.tw. (1183)

80 comprehensive review\$.tw. (6873)

81 critical review.tw. (11216)

82 quantitative review.tw. (488)

83 structured review.tw. (492)

84 realist review.tw. (34)

85 realist synthesis.tw. (12)

86 review.ti. (264011)

87 systematic\$ literature review\$.tw. (3464)

88 'systematic review' / (55637)

89 'systematic review (topic)'/ (2885)

90 meta analysis/ (67746)

91 'meta analysis (topic)'/ (5552)

92 (synthes\$ adj2 qualitative).tw. (428)

93 (systematic adj2 search\$).tw. (7848)

94 systematic\$ literature research\$.tw. (102)

95 (review adj3 scientific literature).tw. (833)

96 (literature review adj2 side effect\$).tw. (10)

97 (literature review adj2 adverse effect\$).tw. (2)

98 (literature review adj2 adverse event\$).tw. (6)

99 (evidence-based adj2 review).tw. (1915)

100 critical analysis.tw. (5559)

101 (review\$ adj10 (papers or trials or trial data or studies or evidence or intervention\$ or evaluation\$ or outcome\$ or findings)).tw. (248295)

102 review.ti. (264011)

103 metanaly\$.tw. (316)

104 letter.pt. (800258)

105 editorial.pt. (417835)

106 104 or 105 (1218093)

107 or/61-103 (2212977)

108 107 not 106 (2200787)

109 (clin\$ adj2 trial).mp. (968683)

110 ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (blind\$ or mask\$)).mp. (190403)

111 (random\$ adj5 (assign\$ or allocat\$)).mp. (101920)

112 randomi\$.mp. (613392)

113 crossover.mp. (59181)

114 exp randomized-controlled-trial/ (334017)

115 exp double-blind-procedure/ (112280)

116 exp crossover-procedure/ (35737)

117 exp single-blind-procedure/ (16758)

118 exp randomization/ (60197)

119 or/109-118 (1282139)

120 intervention?.ti. or (intervention? adj6 (clinician? or collaborat\$ or community or complex or DESIGN\$ or doctor? or educational or family doctor? or family physician? or family practitioner? or financial or GP or general practice? or hospital? or impact? or improv\$ or individuali?e? or individuali?ing or interdisciplin\$ or multicomponent or multi-component or multidisciplin\$ or multidisciplin\$ or multifacet\$ or multi-facet\$ or multimodal\$ or multi-modal\$ or personali?e? or personali?ing or pharmacies or pharmacist? or pharmacy or physician? or practitioner? or prescrib\$ or prescription? or primary care or professional\$ or provider? or regulatory or regulatory or tailor\$ or target\$ or team\$ or usual care)).ab. (175033)

121 (hospital\$ or patient?).hw. and (study or studies or care or health\$ or practitioner? or provider? or physician? or nurse? or nursing or doctor?).ti,hw. (1363115)

122 demonstration project?.ti,ab. (2081)

123 (pre-post or 'pre test\$' or pretest\$ or posttest\$ or 'post test\$' or (pre adj5 post)).ti,ab. (78013)

124 (pre-workshop or post-workshop or (before adj3 workshop) or (after adj3 workshop)).ti,ab. (673)

125 trial.ti. or ((study adj3 aim?) or 'our study').ab. (724065)

126 (before adj10 (after or during)).ti,ab. (394152)

127 (time points adj3 (over or multiple or three or four or five or six or seven or eight or nine or ten or eleven or twelve or month\$ or hour? or day? or 'more than')).ab. (10006)

128 pilot.ti. (43036)

129 (multicentre or multicenter or multi-centre or multi-center).ti. (34428)

130 random\$.ti,ab. or controlled.ti. (819713)

131 review.ti. (264011)

132 *experimental design/ or *pilot study/ or quasi experimental study/ (5205)

133 ('quasi-experiment\$' or quasiexperiment\$ or 'quasi random\$' or quasirandom\$ or 'quasi control\$' or quasicontrol\$ or ((quasi\$ or experimental) adj3 (method\$ or study or trial or design\$))).ti,ab. (105122)

134 or/120-133 (3341084)

135 exp animals/ or exp invertebrate/ or animal experiment/ or animal model/ or animal tissue/ or animal cell/ or nonhuman/ (18985259)

136 human/ or normal human/ or human cell/ (14037258)

137 135 and 136 (14004971)

138 135 not 137 (4980288)

139 ('time series' adj2 interrupt\$).ti,ab. (922)

140 134 not (138 or 139) (2996658)

141 108 or 119 or 140 (5157863)

142 60 and 141 (1860)

16.4 Medline (January 1946–December 2012)

1 exp Escherichia coli/ (224545)

2 (Eaggec or (escherichia adj coli) or (e adj coli) or (alkalescens-dispar adj group) or (bacillus adj escherichii) or (Coli adj bacillus) or (Coli adj bacterium) or colibacillus or (colon adj bacillus)).ti,ab. (226847)

3 exp Klebsiella/ (13720)

4 (klebsiella or Calymmatobacterium or (aerobacter adj aerogenes) or ((bacillus or bacterium) adj pneumonia) or ((friedlaender or Friedlander) adj bacillus) or (Hyalococcus adj pneumonia) or Pneumobacillus).ti,ab. (18345)

5 ('k. pneumoniae' or 'b. friedlander').ti,ab. (3902)

6 exp Enterobacter/ (5504)

7 (enterobacter or aerobacter).ti,ab. (8130)

8 exp Pseudomonas aeruginosa/ (30232)

9 ((bacillus adj pyocyaneus) or (bacterium adj (aeruginosum or pyocyaneum)) or (blue adj apus) or (Pseudomonas adj (aeruginosa or aureofaciens or pyoceaneus or pyocyanea or pyocyaneus))).ti,ab. (35984)

10 'p. aeruginosa'.ti,ab. (14103)

11 exp Acinetobacter/ (5262)

12 (Acinetobacter or mima or mimae or herellea or acinetobacterium).ti,ab. (8005)

13 exp Proteus/ (8091)

14 Proteus.ti,ab. (9496)

15 exp Serratia/ (5505)

16 Serratia.ti,ab. (6720)

17 exp Citrobacter freundii/ (438)

18 ((Citrobacter adj freundii) or (bacterium adj freundii) or (Escherichia adj freundii)).ti,ab. (1361)

19 exp Morganella morgani/ (133)

20 ((bacillus adj morgani) or (bacterium adj morgani) or (morganella adj morgani) or (morganella adj morgani) or (proteus adj morgani) or (proteus adj morgani) or (salmonella adj morgani)).ti,ab. (601)

21 or/1-20 (360253)

22 (multiresistant or (multi adj resistan\$)).ti,ab. (3949)

23 exp drug resistance, multiple/ (21763)

24 22 or 23 (24405)

25 exp Colistin/ (2107)

26 (belcomycin or colicort or colimycin\$ or colisitn or colisticin or Colistin or colistine or colomycin or (coly adj mycin) or colymicin or colymycin or coly-mycin or multimycin or (Polymyxin adj E) or totazina).ti,ab. (2346)

27 exp Carbapenems/ (6668)

28 (Carbapenem\$ or doripenem or ertapenem or Imipemide or Imipenem or Invanoz or Invanz or meropenem or Merrem or 'MK 0787' or MK0787 or MK-0787 or N Formimidoylthienamycin or N-Formimidoylthienamycin or Penem or Ronem or S 4661 or S-4661 or SM 7338 or SM-7338 or Thienamycin\$).ti,ab. (11771)

29 exp Piperacillin/ (2035)

30 (acopex or avocin or cl 227,193 or Cl 227193 or cl 227193 or cl 227193 or cl227,193 or Cl227193 or cl227193 or cl227193 or Cl-227193 or cl-227193 or cypercil or hishiyaclorin or ivacin or pentcillin or pentocillin or picillin\$ or pipcil or piperahameln or piperacil or piperacillin\$ or piperacin or piperahameln or piperacillin or piperilline or pipraci\$ or pipraks or pipril or piprilin or pitamycin or t 1220 or t1220 or t-1220 or taiperacillin).ti,ab. (4319)

31 (cl 307579 or cl298741 or cl307579 or tazabactam or tazobac\$ or tazocel or tazocillin\$ or tazocin or tazomax or tazonam or tazopril or yp 14 or yp14 or ytr 830 or ytr 830h or ytr830 or ytr830h or zosyn).ti,ab. (2217)

32 exp Amoxicillin-Potassium Clavulanate Combination/ (1914)

33 (aclam or aktil or ambilan or amocla or amoclan or amoclav or amoksiklav or amolanic or amometin or (amox adj clav) or amox-clav or (amoxi adj plus) or (amox adj3 clavulan\$) or amoxiclav or amoxiclav-bid or amoxiclav-teva or amoxsiklav or amoxclin or (amoxycillin-clavulanic adj acid) or ancla or (auclatin adj duo) or augamox or augmaxcil or augmentan or augmentin\$ or augmex or augpen or (augucillin adj duo) or augurcin or ausclav or auspiloc or bactiv or bactoclav or bioclavid or (brl adj '25000') or brl25000 or brl-25000 or cavumox or ciblor or (clacillin adj duo) or clamax or clamentin or clamobit or clamonex or clamovid or clamoxin or (clamoxyll adj duo\$) or clarin-duo or clavamox or clavar or clavinex or clavodar or clavoxil or (clavoxilin adj plus) or clavubactin or clavudale or clavulanate-amoxicillin or clavulin or (clavulox adj duo) or clavumox or (co adj amoxiclav) or (co adj amoxyclav) or coamoxiclav or co-amoxiclav or coamoxyclav or (cramon adj duo) or (croanan adj duo) or curam or danoclav or (darzitol adj plus) or e-moxclav or enhancin or fleming or fugentin or (fullilicina adj plus) or gumentin or hibiotic or inciclav or klamonex or kmoxilin or lactamox or lansiav or moxiclav or moxicle or moxyclav or natravox or nufaclav or palentin or quali-mentin or ranclav or spektramox or stacillin or suplentin or synermox or synulox or (velamox adj cl) or vestaclav or viaclav or vulamox or xiclav or (zami adj '8503')).ti,ab. (9184)

34 ((brl adj '17421') or brl17421 or (thiophenemalonamic adj acid) or negaban or temocillin or temopen).ti,ab. (179)

35 (tigecycline or (tbg adj mino) or tygacil or gar 936 or gar936 or (tert adj butylglycinamido\$)).ab,ti. (1161)

36 exp Quinolones/ (33277)

37 ((chinolone adj derivative) or fluoroquinolones or (haloquinolone adj derivative) or ketoquinolines or oxoquinolines or quinolinones or quinolones).ti,ab. (11055)

38 exp Aminoglycosides/ (122582)

39 (Aminoglycosides or Anthracyclines or Aclarubicin or Daunorubicin or Plicamycin or Butirosin Sulfate or Sisomicin or Hygromycin B or Kanamycin or Dibekacin or Nebramycin + or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricins or Streptozocin).ti,ab. (52288)

40 exp Gentamicins/ (16678)

41 (adelanin or alcomicin or apigent or apogen or apoten or azupel or bactiderm or biogaracin or bristagen or cidomycin or danigen or dermogen or dianfarma or dispagent or duragentam\$ or epigent or (frieso adj gent) or garabiotic or garalone or garamicin\$ or garamycin or garbilocin or gencin or gendril or genoptic or genrex or gensumycin or gentabiotic or gentabiox or gentac or gentacidin or gentacin or gentacor or gentacycol or gentacyl or gentafair or gentagram or gentak or gental or gentaline or gentalline or gentalol or gentalyn or gentamax or gentame\$ or gentamicin\$ or gentamina or gentamycin\$ or gentamyl or gentamytrex or gentaplus or gentarad or gentasil or gentasol or gentasone or gentasporin or gentatrim or gentavet or genticin\$ or genticyn or gentiderm or gentimycin or gentocin or gentogram or gentomycin or genum or geomycine or gevramycin or g-mycin or gmyticin or g-mycticin or grammicin or hexamycin or jenamicin or konigen or lacromycin or lisagent or martigenta or migenta or miragenta or miramycin or nichogencin or nsc 82261 or nsc82261 or obogen or ocugenta or ocu-mycin or oftagen or ophtagram or ophagen or optigen or opti-genta or ottogenta or pyogenta or refobacin or ribomicin or rigaminol or rocy gen or roxida or rupegen or sagestam or sch 9724 or sch9724 or sedanazin or servigenta or skinfect or sulmycin or tangyn or u-gencin or versigen or yectamicina).ti,ab. (19829)

42 exp Amikacin/ (3372)

43 (akacin or akicin or amiacina or amicasil or amicin or amiglymide v or amikacin\$ or amikafur or amikalem or amikan or amikayect or amikin or amiklin or amikoazit or amiktam or amitracin or amixin or amukin or apalin or bb k 8 or bb k8 or bbk 8 or bb-k 8 or bbk8 or bbk-8 or bb-k8 or biclin or biklin or biokacin or briclin or briklin or chemacin or cinnik or fabianol or gamikal or glukamin or kacinth-a or kanbine or kormakin or likacin or lukadin or miacin or mikasome or onikin or oprad or orlobin or pediakin or pierami or riklinak or savox or selaxa or selemycin or sulfate amikacin or tybikin or vs 107 or vs107 or yectamid).ti,ab. (7140)

44 exp Fosfomicin/ (1378)

45 (fosfocil or fosfocin or fosfocina or fosfomicin or fosfomicin or fosfonomycin or 'mk 0955' or mk 955 or mk0955 or mk955 or monuril or phosphomicin or phosphonomycin).ti,ab. (1779)

46 exp Aztreonam/ (1233)

47 ((az adj threonam) or azactam or azenam or azthreonam or aztreonam or (corus adj '1020') or dynabiotic or primbactam or SQ 26,776 or sq 26,776 or sq 26776 or SQ-26,776 or sq26776 or sq-26776 or urobactam).ti,ab. (2333)

48 exp Nitrofurantoin/ (2253)

49 (berkfurin or biofurin or chemiofuran or dantafur or f 30 or f30 or fua-med or furaben or furadantin\$ or furadantoin or furadina or furadoine or furadonin or furadonine or furalan or furanpur or furantocompren or furantoin\$ or furobactina or furofen or furophen or infurin or ituran or ivadantin or macrobid or macrodantin\$ or macrofuran or macrofurin or micofurantin\$ or mitrofuratoin or nephronex or nierofu or nifurantin or nifuryl or (nitro adj macro) or nitrofuracin or nitrofuradantoin or nitrofurantine or nitrofurantoin\$ or nitrofurin or novofuran or nsc 2107 or nsc2107 or orafuran or parfuran or phenurin or (potassium adj furagin) or ralodantin

or trocurine or urantin or (uro adj tablinen) or urodil or urodin or urofuram or urolong or urotablinen or uro-
tablinen or urotoina or uvamin).ti,ab. (2721)

50 exp Cephalosporins/ (35352)

51 (Axepim\$ or bmy 28142 or bmy28142 or BMY-28142 or Cefepim\$ or cefepitax or ceficad or cepimax or
forzyn beta or maxcef or maxfrom or maxipime or Quadrocef).ti,ab. (1916)

52 ((Cephalosporanic adj Acid\$) or Cephalosporin\$ or Cefamandole or Cefoperazone or Cefazolin or Cefonicid
or Cefsulodin or Cephacetrile or Cefotaxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or
Cefadroxil or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycins or Cefmetazole or
Cefotetan or Cefoxitin).ti,ab. (35099)

53 exp Amdinocillin Pivoxil/ (199)

54 ((amdinocillin adj pivoxil) or (FL adj '1039') or FL1039 or fl1039 or FL-1039 or pivamdinocillin or
Pivmecillinam or Selexid or coactabs or (ro adj '109071') or (ro10 adj '9071') or ro109071).ti,ab. (237)

55 or/25-54 (246506)

56 21 and 24 and 55 (3195)

57 exp clinical trial/ (706293)

58 exp randomized controlled trials/ (85563)

59 exp double-blind method/ (118498)

60 exp single-blind method/ (17086)

61 exp cross-over studies/ (30990)

62 randomized controlled trial.pt. (342334)

63 clinical trial.pt. (476450)

64 controlled clinical trial.pt. (85694)

65 (clinic\$ adj2 trial).mp. (552367)

66 (random\$ adj5 control\$ adj5 trial\$.mp. (443104)

67 (crossover or cross-over).mp. (59003)

68 ((singl\$ or double\$ or trebl\$ or tripl\$) adj (blind\$ or mask\$)).mp. (162179)

69 randomi\$.mp. (509202)

70 (random\$ adj5 (assign\$ or allocat\$ or assort\$ or reciev\$)).mp. (150717)

71 or/57-70 (968331)

72 (review or review,tutorial or review, academic).pt. (1758734)

73 (systematic\$ adj5 review\$.tw,sh. (40365)

74 (systematic\$ adj5 overview\$.tw,sh. (663)

75 (quantitativ\$ adj5 review\$.tw,sh. (3684)

76 (quantitativ\$ adj5 overview\$).tw,sh. (153)

77 (quantitativ\$ adj5 synthesis\$).tw,sh. (1107)

78 (methodologic\$ adj5 review\$).tw,sh. (2696)

79 (methodologic\$ adj5 overview\$).tw,sh. (180)

80 (integrative research review\$ or research integration).tw. (78)

81 meta-analysis as topic/ (12608)

82 (meta-analys\$ or meta analys\$ or metaanalys\$).tw,sh. (62359)

83 (meta synthesis or meta synthesis or metasynthesis).tw,sh. (215)

84 (meta-regression or meta regression or metaregression).tw,sh. (1650)

85 meta-analysis.pt. (37918)

86 (synthes\$ adj3 literature).tw. (1070)

87 (synthes\$ adj3 evidence).tw. (2956)

88 integrative review.tw. (583)

89 data synthesis.tw. (6328)

90 (research synthesis or narrative synthesis).tw. (463)

91 (systematic study or systematic studies).tw. (5679)

92 systematic comparison\$.tw. (953)

93 systematic comparison\$.tw. (953)

94 evidence based review.tw. (965)

95 comprehensive review\$.tw. (5290)

96 critical review.tw. (9227)

97 quantitative review.tw. (382)

98 structured review.tw. (376)

99 realist review.tw. (24)

100 realist synthesis.tw. (11)

101 review.ti. (212126)

102 (review\$ adj4 (papers or trials or studies or evidence or intervention\$ or evaluation\$)).tw. (80949)

103 metanaly\$.tw. (137)

104 letter.pt. (766872)

105 editorial.pt. (310993)

106 comment.pt. (493546)

107 or/104-106 (1166749)

108 or/72-103 (1897061)

109 108 not 107 (1860495)

110 intervention?.ti. or (intervention? adj6 (clinician? or collaborat\$ or community or complex or DESIGN\$ or doctor? or educational or family doctor? or family physician? or family practitioner? or financial or GP or general practice? or hospital? or impact? or improv\$ or individuali?e? or individuali?ing or interdisciplin\$ or multicomponent or multi-component or multidisciplin\$ or multi-disciplin\$ or multifacet\$ or multi-facet\$ or multimodal\$ or multi-modal\$ or personali?e? or personali?ing or pharmacies or pharmacist? or pharmacy or physician? or practitioner? or prescrib\$ or prescription? or primary care or professional\$ or provider? or regulatory or regulatory or tailor\$ or target\$ or team\$ or usual care)).ab. (128957)

111 (pre-intervention? or preintervention? or 'pre intervention?' or post-intervention? or postintervention? or 'post intervention?').ti,ab. (7451)

112 demonstration project?.ti,ab. (1742)

113 (pre-post or 'pre test\$' or pretest\$ or posttest\$ or 'post test\$' or (pre adj5 post)).ti,ab. (52427)

114 (pre-workshop or post-workshop or (before adj3 workshop) or (after adj3 workshop)).ti,ab. (472)

115 trial.ti. or ((study adj3 aim?) or 'our study').ab. (500725)

116 (before adj10 (after or during)).ti,ab. (314768)

117 ('quasi-experiment\$' or quasiexperiment\$ or 'quasi random\$' or quasirandom\$ or 'quasi control\$' or quasicontrol\$ or ((quasi\$ or experimental) adj3 (method\$ or study or trial or design\$))).ti,ab,hw. (84783)

118 ('time series' adj2 interrupt\$).ti,ab,hw. (744)

119 (time points adj3 (over or multiple or three or four or five or six or seven or eight or nine or ten or eleven or twelve or month\$ or hour? or day? or 'more than')).ab. (7043)

120 pilot.ti. (32084)

121 Pilot projects/ (74648)

122 (clinical trial or controlled clinical trial or multicenter study).pt. (595489)

123 (multicentre or multicenter or multi-centre or multi-center).ti. (24301)

124 random\$.ti,ab. or controlled.ti. (624993)

125 (control adj3 (area or cohort? or compare? or condition or design or group? or intervention? or participant? or study)).ab. not (controlled clinical trial or randomized controlled trial).pt. (342332)

126 'comment on'.cm. or review.ti,pt. or randomized controlled trial.pt. (2652864)

127 (rat or rats or cow or cows or chicken? or horse or horses or mice or mouse or bovine or animal?).ti. (1254855)

128 exp animals/ not humans.sh. (3812817)

129 (or/110-126) not (or/127-128) (3811646)

130 71 or 109 or 129 (4107075)

131 56 and 130 (822)