

## Appendix E: Pathogens in the NNAP

Bacterial, fungal and yeast positive blood cultures reported to the NNAP in 2019 for the Bloodstream infection and Central line associated bloodstream infection measures have been classified as shown below into organisms whose growth would be regarded as indicative of a bloodstream infection without further confirmatory evidence, and into a list of other organisms. This list of organisms included for NNAP reporting is available below. NNAP are grateful to Dr Jim Gray, Birmingham Childrens Hospital, for his help with classifying organisms in this audit. See Fraser C, Muller-Pebody B, Blackburn R, Gray J, Oddie SJ, Gilbert RE, Harron K. Linking surveillance and clinical data for evaluating trends in bloodstream infection rates in neonatal units in England. PLoS One. 2019 Dec 12;14(12):e0226040. doi: 10.1371/journal.pone.0226040. eCollection 2019.

**Table A: List of organisms classified as clearly pathogenic**

Clearly pathogenic organisms		
ANAEROCOCCUS PREVOTII	CANDIDA HAEMULONIS	PASTEURELLA HAEMOLYTICA
BACTEROIDES CAPILLOSUS	CANDIDA KRUSEI	PASTEURELLA MULTOCIDA
BACTEROIDES DISTASONIS	COCCIDIOIDES SP	PASTEURELLA OTHER NAMED
BACTEROIDES OVATUS	CRYPTOCOCCUS ALBIDUS	PASTEURELLA PNEUMOTROPICA
BACTEROIDES SP	CRYPTOCOCCUS SP	PROTEUS PENNERI
BACTEROIDES UNIFORMIS	MALASSEZIA FURFUR	PROTEUS SP
BACTEROIDES VULGATUS	MALASSEZIA PACHYDERMATIS	PROTEUS VULGARIS
CLOSTRIDIUM BEIJERINCKII	MALASSEZIA SP	PROVIDENCIA STUARTII
CLOSTRIDIUM BIFERMENTANS	RHODOTORULA OTHER NAMED	RAOULTELLA PLANTICOLA (KLEBSIELLA PLANTICOLA)
CLOSTRIDIUM BUTYRICUM	RHODOTORULA RUBRA	RAOULTELLA SP
CLOSTRIDIUM PARAPUTRIFICUM	RHODOTORULA SP	RAOULTELLA TERRIGENA
CLOSTRIDIUM SEPTICUM	AEROMONAS CAVIAE	SALMONELLA ABA
CLOSTRIDIUM SORDELLI	AEROMONAS HYDROPHILA	SALMONELLA AGAMA
CLOSTRIDIUM SP	AEROMONAS SALMONICIDA	SALMONELLA AJIOBO
CLOSTRIDIUM SPOROGENES	AEROMONAS SOBRIA	SALMONELLA APAPA
CLOSTRIDIUM TERTIUM	AEROMONAS SP	SALMONELLA ARIZONAE
FUSOBACTERIUM NECROPHORUM	CAMPYLOBACTER FETUS	SALMONELLA BRANDENBURG
FUSOBACTERIUM NUCLEATUM	CAMPYLOBACTER JEJUNI	SALMONELLA COLINDALE
FUSOBACTERIUM SP	CAMPYLOBACTER SP	SALMONELLA COTHAM
GARDNERELLA OTHER NAMED	CAMPYLOBACTER UREOLYTICUS	SALMONELLA CUBANA

GARDNERELLA VAGINALIS	CEDECEA LAPAGEI	SALMONELLA DJUGU
PEPTOSTREPTOCOCCUS ASACCHAROLYTICUS	CITROBACTER AMALONATICUS	SALMONELLA DUBLIN
PEPTOSTREPTOCOCCUS MAGNUS	CITROBACTER BRAAKII	SALMONELLA ENTERITIDIS
PEPTOSTREPTOCOCCUS OTHER NAMED	CITROBACTER FARMERI	SALMONELLA GOLD-COAST
PREVOTELLA BIVIA	ENTEROBACTER AGGLOMERANS (PANTOEA AGGLOMERANS)	SALMONELLA HADAR
PREVOTELLA BUCCALIS	ENTEROBACTER HORMAECHEI	SALMONELLA HEIDELBERG
PREVOTELLA ORALIS	ENTEROBACTER INTERMEDIUS (ENTEROBACTER INTERMEDIUM)	SALMONELLA HOFIT
STREPTOCOCCUS ANAEROBIC	ENTEROBACTER SAKAZAKII	SALMONELLA HULL
VEILLONELLA ATYPICA	ESCHERICHIA HERMANNII	SALMONELLA INFANTIS
VEILLONELLA NAMED	ESCHERICHIA OTHER NAMED	SALMONELLA KEDOUGOU
ASPERGILLUS FUMIGATUS	ESCHERICHIA SP	SALMONELLA KIAMBU
ASPERGILLUS NIGER	ESCHERICHIA VULNERIS	SALMONELLA KIBUSI
ASPERGILLUS OTHER NAMED	HAFNIA ALVEI	SALMONELLA KINTAMBO
ASPERGILLUS SP	KLEBSIELLA ORNITHNOLYTICA	SALMONELLA KISARAWA
CANDIDA CIFERRII	KLEBSIELLA OTHER NAMED	SALMONELLA MATOPENI
CANDIDA FAMATA	KLEBSIELLA PNEUMONIAE SUBSP OZENAЕ	SALMONELLA MISSISSIPPI
SALMONELLA MONSCHAUI	SALMONELLA NEWPORT	SALMONELLA MUENSTER
SALMONELLA MONTEVIDEO	SALMONELLA ORANIENBURG	PANTOEA SEPTICA
SALMONELLA MUENCHEN	SALMONELLA POONA	PANTOEA SP
SALMONELLA READING	ENTEROCOCCUS GALLINARUM	PSEUDOMONAS AERUGINOSA
SALMONELLA SAPHRA	ENTEROCOCCUS HIRAE	HAEMOPHILUS INFLUENZAE
SALMONELLA SENFTENBERG	ENTEROCOCCUS SP	PASTEURELLA SP
SALMONELLA SINSTORF	STAPHYLOCOCCUS AUREUS	NEISSERIA MENINGITIDIS
SALMONELLA SP	LISTERIA MONOCYTOGENES	BACTEROIDES FRAGILIS
SALMONELLA STANLEY	CITROBACTER DIVERSUS (C. KOSERI)	CLOSTRIDIUM PERFRINGENS
SALMONELLA TEL-EL-KEBIR	CITROBACTER FREUNDII	CANDIDA ALBICANS (STELLATOIDEA)
SALMONELLA TYPHI AND PARATYPHI	CITROBACTER OTHER NAMED	CANDIDA GLABRATA
SALMONELLA TYPHIMURIUM	CITROBACTER SP	CANDIDA OTHER NAMED
SALMONELLA UNNAMED	COLIFORM	CANDIDA TROPICALIS
SALMONELLA VIRCHOW	ENTEROBACTER AEROGENES	CANDIDA DUBLINIENSIS
SALMONELLA VITKIN	ENTEROBACTER AGGLOMERANS	CANDIDA GUILLIERMONDII
SALMONELLA WICHITA	ENTEROBACTER AMNIGENUS	CANDIDA PARAPSILOSIS
SERRATIA PLYMUTHICA	ENTEROBACTER ASBURIAE	CANDIDA FABIANII
SERRATIA PROTEAMACULAS	ENTEROBACTER CLOACAE	CANDIDA LUSITANIAE
SERRATIA RUBIDAEA	ENTEROBACTER CLOACAE COMPLEX	CANDIDA SP

SHIGELLA FLEXNERI	HANSENULA SP	ENTEROCOCCUS DURANS
YERSINIA ENTEROCOLITICA	ENTEROBACTER GERGOVIAE	ENTEROCOCCUS FAECALIS
	ENTEROBACTER KOBEL	ENTEROCOCCUS FAECIUM
ENTEROCOCCUS AVIUM	ENTEROBACTER OTHER NAMED	PASTEURELLA SP
ENTEROCOCCUS CASSELI FLAVUS	ENTEROBACTER SP	PROTEUS MIRABILIS
ENTEROCOCCUS FAECALIS (STREPTOCOCCUS FAECALIS)	ESCHERICHIA COLI	PROVIDENCIA ALCALIFACIENS
ENTEROCOCCUS RAFFINOSUS	KLEBSIELLA AEROGENES	RAOULTELLA PLANTICOLA
LISTERIA SP	KLEBSIELLA ORNITHINOLYTICA	SERRATIA LIQUEFACIENS
STREPTOCOCCUS GROUP A STEM	KLEBSIELLA OXYTOCA	SERRATIA MARCESCENS
STREPTOCOCCUS GROUP B STEM	KLEBSIELLA PNEUMONIAE	SERRATIA ODORIFERA
STREPTOCOCCUS GROUP C STEM	KLEBSIELLA SP	SERRATIA OTHER NAMED
STREPTOCOCCUS GROUP D STEM	KLUYVERA SP	SERRATIA SP
STREPTOCOCCUS GROUP G STEM	LECLERCIA ADECARBOXYLATA	ACINETOBACTER BAUMANNII
STREPTOCOCCUS MILLERI GROUP	MORGANELLA MORGANII	
STREPTOCOCCUS PNEUMONIAE		

**Table B: List of other organisms**

<b>Other organisms</b>		
STAPHYLOCOCCUS COAGULASE NEGATIVE	CORYNEBACTERIUM JEIKEIUM (JK)	GORDONIA SP
STREPTOCOCCUS ALPHA AND NON-HAEMOLYTIC	BURKHOLDERIA GLADIOLI	MICROCOCCUS LYLAE
PSEUDOMONAS SP	NEISSERIA POLYSACCHAREAE	STEPHANOASCUS CIFERRII
STAPHYLOCOCCUS OTHER NAMED	RAHNELLA SP	STOMATOCOCCUS SP
PROPIONIBACTERIUM FREUDENREICHII	HAEMOPHILUS APHROPHILUS	HAEMATOBACTER SP
MICROCOCCUS SP	ACHROMOBACTER XYLOSOXIDANS	STREPTOCOCCUS PERORIS
STREPTOCOCCUS SP	EGGERTHELLA LENTA (EUBACTERIUM LENTUM)	OCHROBACTRUM SP
BACILLUS CEREUS	MICROCOCCUS OTHER NAMED	MICROBACTERIUM SP
ACINETOBACTER LWOFFII	BREVIBACTERIUM OTHER NAMED	GORDONIA BRONCHIALIS (RHODOCOCCUS BRONCHIALIS)
MORAXELLA CATARRHALIS	ACTINOMYCES ODONTOLYTICUS	KOCCURIA ROSEA

CORYNEBACTERIUM SP	BACILLUS PUMILUS	RUMINOCOCCUS GNAVUS
DIPHThEROIDS	ROSEOMONAS GILARDII	AEROCOCCUS URINAE
STREPTOCOCCUS OTHER NAMED	NEISSERIA FLAVESCENS	PARACOCCUS YEEII
BACILLUS SP	ROTHIA DENTOCARIOSIA	CORYNEBACTERIUM PROPINQUUM
OCHROBACTRUM ANTHROPI	CHRYSEOBACTERIUM MENINGOSEPTICUM	CORYNEBACTERIUM COYLEAE
	KOCURIA KRISTINAE	LACTOBACILLUS PARACASEI
ACINETOBACTER SP	ABIOTROPHIA DEFECTIVA	CORYNEBACTERIUM SIMULANS
STAPHYLOCOCCUS SP	PSEUDOMONAS ORYZIHABITANS (FLAVIMONAS ORYZIHABITANS)	CORYNEBACTERIUM AURIS
LEUCONOSTOC SP	RHODOCOCCUS SP	ACINETOBACTER URSINGII
STENOTROPHOMONAS MALTOPHILIA	KOCURIA SP	BACILLUS SILVESTRIS
AEROCOCCUS VIRIDANS	CORYNEBACTERIUM OTHER NAMED	STAPHYLOCOCCUS VITULINUS
AEROCOCCUS OTHER NAMED	ACTINOMYCES NAESLUNDII	HAEMOPHILUS HAEMOLYTICUS
AEROCOCCUS SP	RHIZOBIUM RADIOBACTER (AGROBACTERIUM TUMEFACIENS)	PSEUDOMONAS OLEOVORANS
MORAXELLA SP	NEISSERIA LACTAMICA	STREPTOCOCCUS INFANTIS
CORYNEBACTERIUM STRIATUM	LACTOBACILLUS LACTIS	ACINETOBACTER RADIORESISTENS
NEISSERIA SP	RALSTONIA PICKETTII	ROSEOMONAS MUCOSA
STREPTOCOCCUS VESTIBULARIS	SPHINGOMONAS SP	BREVI BACTERIUM CASEI
STREPTOCOCCUS OTHER GROUP (NOT A-D F G)	CORYNEBACTERIUM MINUTISSIMUM	LACTOBACILLUS GASSERI
PSEUDOMONAS PAUCIMOBILIS (SPHINGOMONAS PAUCIMOBILIS)	BREVUNDIMONAS DIMINUTA	BIFIDOBACTERIUM LONGUM
EIKENELLA CORRODENS	HAEMOPHILUS PARAHAEMOLYTICUS	OCEANOBACILLUS PROFUNDUS
HAEMOPHILUS SP	CAPNOCYTOPHAGA OTHER NAMED	ACTINOMYCES SP
PSEUDOMONAS OTHER NAMED	PHIALOPHORA OTHER NAMED	ACIDOVORAX TEMPERANS
LACTOCOCCUS LACTIS	CHRYSEOBACTERIUM SP	BIFIDOBACTERIUM SP
BURKHOLDERIA CEPACIA	STENOTROPHOMONAS SP	ROTHIA AERIA
ACHROMOBACTER SP	LACTOBACILLUS FERMENTUM	PSEUDOMONAS ALCALIGENES
AURANTIMONAS ALTAMIRENSIS	ACTINOMYCES CARDIFFENSIS	PARABACTEROIDES DISTASONIS
CORYNEBACTERIUM PSEUDODIPHThERICUM	GEOTRICHUM SP	BACILLUS SUBTILIS
HAEMOPHILUS PARAINFLUENZAE	MORAXELLA NONLIQUEFACIENS	MICROCOCCUS VARIANS (KOCURIA VARIANS)

MICROCOCCUS LUTEUS (SARCINA)	CORYNEBACTERIUM AMYCOLATUM	KINGELLA SP
BREVIBACTERIUM SP	BACILLUS LICHENIFORMIS	KINGELLA DENITRIFICANS
STREPTOCOCCUS SOBRINUS	LACTOBACILLUS OTHER NAMED	PAENIBACILLUS GLUCANOLYTICUS
NEISSERIA OTHER NAMED	RHODOCOCCUS OTHER NAMED	BACILLUS CIRCULANS
BREVUNDIMONAS VESICULARIS	COLLINSELLA AEROFACIENS	ACINETOBACTER PARVUS
KINGELLA KINGAE	STOMATOCOCCUS MUCILAGINOSUS	PAENIBACILLUS PABULI
STREPTOCOCCUS ALACTOLYTICUS	STREPTOCOCCUS INFANTARIUS SUBSP NOV	PAENIBACILLUS AMYLOLYTICUS
GEMELLA MORBILLORUM	DERMABACTER HOMINIS	CORYNEBACTERIUM DIPHTHERIAE
MICROSPORUM SP	STREPTOCOCCUS LUTETIENSIS	STREPTOCOCCUS CRISTATUS
MORAXELLA OSLOENSIS	PROPIONIBACTERIUM ACNES	MICROBACTERIUM AURUM
ALCALIGENES FAECALIS	MASSILIA TIMONAE	PSEUDOMONAS LUTEOLA
PSEUDOMONAS STUTZERI	ACTINOMYCES OTHER NAMED	LYSINIBACILLUS SP
NEISSERIA SICCA	LACTOCOCCUS GARVIAE	LACTOBACILLUS SP
GLOBICATELLA SANGUIS	LACTOBACILLUS JENSENII	LACTOBACILLUS CRISPATUS
GRANULICATELLA ADIACENS (ABIOTROPHIA ADJACENS)	BIFIDOBACTERIUM NAMED	PARACOCCUS SP
ARTHROBACTER SP	METHYLOBACTERIUM SP	HAEMOPHILUS PARAPHROHAEMOLYTICUS
ROTHIA SP	ROSEOMONAS SP	PSEUDOCLOAVIBACTER SP
STREPTOCOCCUS GORDONII	CORYNEBACTERIUM AFERMENTANS	BREVIBACILLUS PARABREVIS
ACINETOBACTER JUNII	CHRYSEOBACTERIUM INDOLOGENES	STREPTOCOCCUS THERMOPHILUS
BIFIDOBACTERIUM BREVE	ACINETOBACTER JOHNSONII	ACTINOMYCES ORIS
ACINETOBACTER CALCOACETICUS (ANITRATUS)	DELFTIA ACIDOVORANS (COMAMONAS ACIDOVORANS)	HANSENULA SP
BREVUNDIMONAS SP	COMAMONAS TESTOSTERONI	CORYNEBACTERIUM MUCIFACIENS
LACTOBACILLUS RHAMNOSUS	DERMACOCCUS SP	STREPTOCOCCUS PSEUDOPORCINUS
RAHNELLA NAMED	MORAXELLA LACUNATA	STENOTROPHOMONAS ACIDAMINIPHILA
PEPTOCOCCUS SP	STAPHYLOCOCCUS PETTENKOFERI	SPHINGOBACTERIUM MULTIVORUM
GEMELLA HAEMOLYSANS	ELIZABETHKINGIA SP	BIFIDOBACTERIUM CATENULATUM
PSEUDOMONAS PUTIDA	CORYNEBACTERIUM AURIMUCOSUM	PSEUDOXANTHOMONAS KAOHSIUNGENSIS
LACTOCOCCUS SP	GRANULICATELLA ELEGANS	NEISSERIA CINEREA
PSEUDOMONAS FLUORESCENS	ABIOTROPHIA OTHER NAMED	NEISSERIA PERFLAVA
ACINETOBACTER OTHER NAMED	KOCURIA RHIZOPHILA	ACINETOBACTER HAEMOLYTICUS
BACILLUS OTHER NAMED	CORYNEBACTERIUM IMITANS	ACTINOMYCES VISCOSUS

HAEMOPHILUS OTHER NAMED	PAENIBACILLUS SP	BIFIDOBACTERIUM ADOLESCENTIS
ARCANOBACTERIUM HAEMOLYTICUM	NEISSERIA SUBFLAVA	MICROBACTERIUM PARAOXYDANS
ALCALIGENES SP	ELIZABETHKINGIA MIRICOLA	ACTINOMYCES NEUII
NEISSERIA MUCOSA	PEDIOCOCCUS ACIDILACTICI	LACTOCOCCUS CREMORIS

**Table C: List of organisms classified as not plausible (excluded)**

<b>Organisms not plausible to have been isolated from blood</b>
TREPONEMA PALLIDUM
MYCOBACTERIUM TUBERCULOSIS
TREPONEMA SP
BORDETELLA SP
BORDETELLA PERTUSSIS
MYCOBACTERIUM SP
CLOSTRIDIUM DIFFICILE
MYCOBACTERIUM CHELONAE
MYCOBACTERIUM OTHER NAMED
BORDETELLA PARAPERTUSSIS
MYCOBACTERIUM FLAVESCENS
NEISSERIA GONORRHOEAE