UK Health Security Agency

Laboratory reporting to UKHSA

A guide for diagnostic laboratories

Contents

The purpose of surveillance

Communicable disease surveillance has a number of goals:

Detection

The early detection of changes in the temporal, geographic and age distribution of new and known diseases that indicate outbreaks of infection, or changes in the pattern of sporadic diseases.

Analysis

Determining the exposure, prevalence, burden, morbidity, mortality, carriage and long-term trends of infectious diseases.

The generation of information on changes in the type, pathogenicity and drug resistance of the organisms causing human and animal disease.

Monitor the use and coverage of an intervention, any adverse events arising from that intervention and the overall impact of disease control measures including immunisation.

Monitor changes in properties such as prevalence, spatial distribution and time distribution of disease-causing hazards including animal diseases, weather and social factors as well as population vulnerability and susceptibility.

Action

Enable appropriate and timely action to be taken in order to protect the public health. This will commonly be at the local level closest to the scene of incidents and outbreaks, but in incidents that are more widespread the action may be regional, national or international, for example the coronavirus (COVID-19) pandemic. In rare instances, a single case may require prompt national/international intervention, for example a case of Ebola virus

Inform the development of policies to detect new threats and emerging problems, to reduce exposure to a particular hazard or to protect individuals in advance of such exposure. Normally such policies will be developed nationally in the light of trends in disease and the available methods of prevention.

Information

Building information on the temporal, geographic and population distribution and epidemiology of new, poorly understood and well understood diseases for informing decision making for public health, health service planning, risk management, research and control priorities.

Inform key disease eradication or control programs. Provide information to support the development of guidance for professionals on the clinical management of individual patients, the choice of the appropriate control strategy and the organisation of services to deliver them to those at risk.

Ensure that the UK makes its full contribution to European and International efforts to protect health.

Informing the public about the risks to individuals and the general public.

In order to meet these surveillance objectives, it is essential that coverage of laboratory reporting is complete and the information provided is accurate and timely. This document sets out standards and procedures that will enable the organisations to meet the laboratory reporting surveillance requirements of the UK Health Security Agency (UKHSA) and the Health Protection (Notification) Regulations 2010.

Health Protection (Notification) Regulations 2010

Since October 2010 the Health Protection (Notification) Regulations (2010) have required diagnostic laboratories to notify UKHSA of the identification of specified causative agents in a human sample (from live or deceased patients) within 7 days, where causative agent can be taken to mean:

- a causative agent listed in Schedule 2 of the Regulations (and replicated in Appendix 1)
- evidence of an infection caused by such an agent

It should be noted, however, that voluntary reporting includes a more comprehensive list of causative agents than that in the Notification Regulations, and notification under these Regulations does not replace voluntary reporting to UKHSA, which should continue.

The legal responsibility to ensure that laboratory notification is carried out in accordance with the Notification Regulations rests with the corporate body that operates the testing service, the director of the laboratory or the relevant persons providing the diagnostic test. Further guidance on the health protection legislation can be found on the Department of Health's archived website.

UKHSA surveillance systems

Second Generation Surveillance System

The Second Generation Surveillance System (SGSS) is an application that stores and manages data on laboratory isolates and notifications, and is the preferred method for capturing routine laboratory surveillance data on infectious diseases and antimicrobial resistance from diagnostic laboratories across England. The data is stored in a central database within UKHSA, and made available to a wide range of users within and outwith the organisation, subject to robust access control mechanisms.

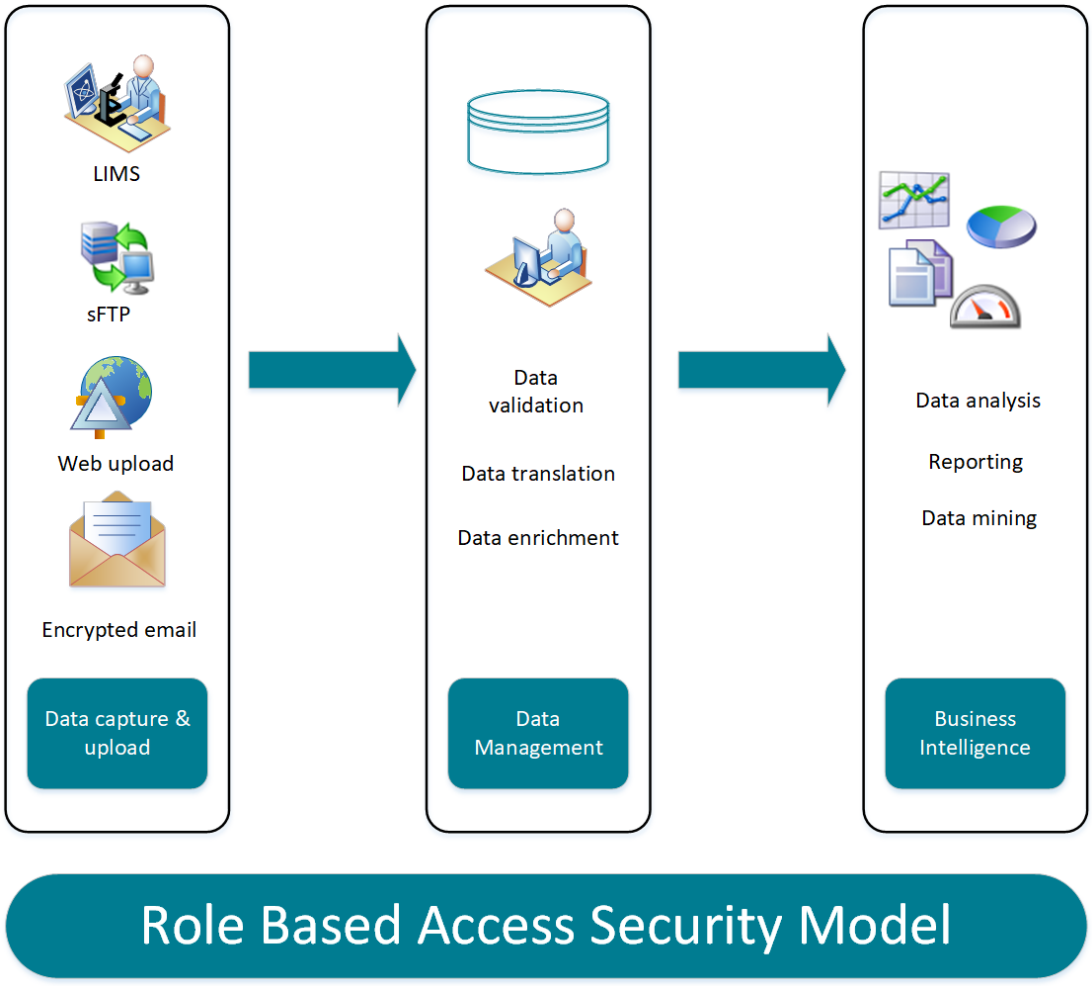

Figure 1 High-level flowchart of SGSS data flow

The flowchart shows that results generated by the Laboratory Information Management System (LIMS) can be sent to SGSS via different routes (that is, secure file transfer protocol (sFTP), web upload or encrypted email). Data Management processes then occur, which include validation, translation of local codes and data enrichment. Finally, the data is made available to the Business Intelligence software for analysis, reporting and data mining. Access to the data is tightly controlled through

use of a role-based access control (RBAC) model that determines if a user can perform a certain task or view a given record.

Lablink+ software enables Communicable Disease Report (CDR) and Antimicrobial Resistance Reports (AMR) reports to be transferred from LIMS and then sent to SGSS via sFTP. It is also possible to upload the reports directly to SGSS using the application's user interface, and there is provision to send data in the legacy encrypted CoSurv format.

Once the reports have been loaded into SGSS, each record is subject to a number of validation processes, and local LIMS codes are translated to SGSS codes to standardise the data for analysis. Patient data is validated against the Demographic Batch Service (DBS), and the record is updated with additional data received from the Spine.

CDR records are transformed into cases using the OPIE principle (explained further in in this document**)** through a deduplication process, before the data is loaded into a data warehouse for further analysis. AMR data is stored at a test level.

Caldicott and data protection

In order to achieve the objectives described on page 3 of this document, Communicable Disease Surveillance needs to contain some patient identifiers in order to:

- enable duplicate reports from the same patient to be identified and avoid overestimation of disease prevalence
- enable appropriate follow up to be undertaken with the reporting laboratory
- enable outbreak investigation to be undertaken (geographic mapping from post code or part post code)
- detect geographical and temporal clusters cases that may represent an outbreak (geographic mapping from postcode)
- examine association between environmental factors such as rainfall and animal population (geographic linkage to other datasets from postcode)
- establish linkage, when appropriate and justified, with the reference laboratory data on the organism concerned

UKHSA undertakes to handle these data in accordance with the Data Protection Act 2018, General Data Protection Regulations (GDPR) and the Caldicott Guidelines.

Specifically, we undertake to ensure that:

- personal identifiers for the minimum time period are held consistent with their public health purpose
- access controls to databases are restricted to named individuals with a need to know
- postcode data is held in a way that individual patients cannot be traced but linkage to Geographical Information Systems, census and other datasets is retained
- patient identifying data are not transmitted to others outside UKHSA without review of the legal purpose of the data sharing

Data containing any personal identifiers being sent to UKHSA electronically should be encrypted. This happens automatically for all data sent via secure File Transfer Protocol (sFTP) using the secure FTP across the Health and Social Care Network (HSCN) or the internet, and the SGSS web application uses 256-bit SSL encryption.

UKHSA takes the Caldicott requirements very seriously and ensures that, in all areas of activity, its work is consistent with both the Caldicott guidelines and the Data Protection Act. Approval needs to be applied for on an annual basis and our cover under Section 251 of the NHS Act (2006) is dependent on continued adherence to high quality data handling standards.

Organism-Patient-Illness-Episode

A record within the CDR component of SGSS is based upon the Organism-Patient-Illness-Episode (OPIE) principle. OPIEs record episodes of infection whereby an episode constitutes each positive organism in a patient in a defined period of time. If an individual is infected by 2 different organisms (including 2 different sub-types of a single species) at the same time, that individual will be represented by 2 distinct OPIEs. Similarly, if an individual is infected on 2 separate occasions by the same organism (with recovery implied between those 2 episodes of infection) they will be represented by 2 distinct OPIEs.

The default episode length is 2 weeks, with the following exceptions:

- Clostridium difficile: 4 weeks
- Influenza A: 6 weeks. This is to capture, within the same episode, the serology test requested for Avian Influenza at 28 days.
- *Salmonella* spp: 13 weeks
- SARS-COV-2: 13 weeks
- *Mycobacterium* spp: 26 weeks
- Monkeypox virus: 52 weeks

Hepatitis B & C, HIV, HTLV and Creutzfeld-Jakob agent each have an indefinite episode length.

UK Standards for microbiology investigations

The UK Standards for Microbiology Investigations (SMIs) are a comprehensive referenced collection of over 200 clinical microbiology Standard Operating Procedures, algorithms (for virology and serology), and guidance notes.

SMIs promote high quality practices and help to assure the comparability of diagnostic information obtained in different laboratories. This in turn improves denominator data and facilitates standardisation of surveillance. The methods are well referenced and represent a good minimum standard for clinical and public health microbiology. In using SMIs laboratories should also take account of local requirements and may need to undertake additional investigations.

Development of SMIs are undertaken through the following working groups:

- the steering committee for the UK standards for microbiology investigations
- the UK standards for microbiology investigations – joint working group for syndromic algorithm
- the UK standards for microbiology investigations – working group for microbiology standards in clinical bacteriology
- the UK standards for microbiology investigations – working group for microbiology standards in clinical virology/serology

UK standard for microbiology investigations (SMIs) are discussed and approved by members of the SMI working groups at meetings through open debate. SMIs take into account the best options for patient care and management, and decisions are reached by consensus although the option is available to vote on proposals. Before being issued, SMIs are edited by a medical editor and the chairs of the working groups. The National Institute for Health and Clinical Excellence (NICE) has accredited the process to produce SMIs. The accreditation is applicable to all guidance produced since October 2009 using the SMI development processes. Accreditation is valid for 5 years until 30th June 2026. The process for the development of SMIs is certified to ISO 9001:2008.

How to report

Laboratories are asked to submit reports to UKHSA as electronic files in one of the following formats:

- the Lablink+ format sent via secure sFTP
- the SGSS Excel template or the SGSS disease/test specific template, sent via secure sFTP
- the Lablink+ format or SGSS template formats described above, uploaded directly to SGSS via the web application

There is also an option to directly enter the data into the forms on the SGSS web application.

Contact the regional SGSS support specialist to discuss electronic file transmission and data file formats. Contact details are in Appendix 5.

Note: Laboratories may send reports to UKHSA in more than one of the formats outlined above, but only one report of any particular episode of illness due to a specific organism should be sent.

It is understood that private laboratories rapidly set up to support testing for the COVID-19 pandemic do not always have established systems report results to UKHSA, however, there is a legal requirement to report. Laboratories in this situation should contact the relevant office listed in Appendix 5 or sgss.helpdesk@ukhsa.gov.uk to discuss directly how to report.

Point of care testing results must also be reported to UKHSA, instructions on how to facilitate this can be obtained by contacting poct.contact@ukhsa.gov.uk, with a description of the proposed testing programme.

When to report

Diagnostic laboratories are required to notify UKHSA of the identification of the causative agents specified in Appendix 1 within a maximum 7 days, but daily reporting is preferred to enable timely public health action. COVID-19 positive test results should be reported within 24 hours, 7 days a week, and if possible multiple times per day.

Local Health Protection Teams (HPTs) should be notified of urgent cases as soon as reasonably practicable after the identification of the causative agent. This should be done orally, usually by telephone. It is recommended that this should always be done

within 24 hours. Urgent oral notification should be followed up by written notification within 7 days of identification of the causative agent.

In determining whether a case is urgent, factors that should be considered include the:

- nature of the causative agent, for example a rare and/or re-emerging disease
- ease of spread of that causative agent, including the infectiousness of cases and route of transmission
- ways in which the spread of the causative agent can be prevented or controlled, taking into account, for example, immunisation, isolation and prophylactic treatment
- nature of the disease it causes, including morbidity and case-fatality
- specific circumstances of the case which might represent particular risks, such as occupation, age and sex – it may be relevant, for example, if a patient is a healthcare worker, a child attending nursery or a woman of child-bearing age.

Overall, the key consideration will be the likelihood that an intervention is needed to protect human health and the urgency of such an intervention.

All other reports should be made as soon as possible after the organism has been identified, preferably at the same time that the laboratory report is being issued to the requester. Any subsequent information should be reported by updating the original record on SGSS. Reports should be made no later than 6 months after identification. If circumstances exist where reports older than 6 months will be made, please discuss this with your local SGSS support specialist.

Who reports

In most cases the source laboratory or testing service (for example, providers of Point-of-Care tests) will report to the UKHSA when they first receive the clinical specimen from which an organism is cultured or otherwise identified. In some cases, the source laboratory will refer the specimen to a reference laboratory, which provides specialist diagnostic or typing services for specific organisms. The reporting laboratory is the laboratory submitting the report to UKHSA. All reports to UKHSA must identify the source and reporting laboratories (which will usually be the same) and where appropriate, the reference laboratory.

Note: If the source laboratory refers a specimen to another laboratory (for whatever reason) a clear agreement as to which laboratory will report the result to UKHSA will be needed and

communicated to the UKHSA Field Service (FS) team (see Appendix 5). Such an arrangement is necessary to minimise the chance of both or neither laboratory submitting the report. Normally the source laboratory will do the reporting, and, for the organisms specified in Appendix 1, it is the source laboratory's legal responsibility to ensure the case is notified to UKHSA. The day of identification for notification purposes is taken as the day on which the source laboratory becomes aware of the identification of the organism by the other laboratory.

What to report

Organisms/infections to be reported

The CDR extract should have:

- all organisms specified in Schedule 2 of the Health Protection (Notification) Regulations 2010, and listed in Appendix 1 of this document
- all clinically significant infections caused by the organisms listed in Appendix 2
- all clinically significant isolates from sterile sites such as blood, CSF, joint fluids, bone, pleural and pericardial fluids, heart valves, and abscesses in the brain, liver and spleen – Appendix 3 lists further sterile sites that may be considered to indicate invasive disease
- every organism causing meningitis or encephalitis
- every organism causing haemorrhagic fever
- asymptomatic infections when of clinical or epidemiological relevance (for example viral infections in pregnancy, asymptomatic individuals associated with outbreaks, asymptomatic persons infected with HIV, *Legionella pneumophila*, or *Salmonella typhi*)
- organisms related to ongoing public health emergencies, for example enteroviruses to support investigations into polio virus circulating in London sewers

Due to surveillance requirements in advance of and during pandemic influenza, laboratories are now requested to report isolates and susceptibility test information for *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Staphylococcus aureus* from lower respiratory tract sites including sputum when this information can be provided automatically (recognising that with the increase in reports, those laboratories that report manually may not be able to provide these data).

Surveillance requirements during the COVID-19 pandemic require testing services to report positive and negative results of tests seeking to detect SARS-CoV-2 (genes, antigen or antibody) and influenza virus.

In accordance with amendments to the Health Protection (Notifications) Regulations 2010, from 1 October 2020 the AMR extract should include:

- all reports of bacteria that have tested positive for an acquired carbapenemase (identified either locally or at the national reference laboratory)
- all reports of bacteria that have antimicrobial test results (from 1 October 2020 diagnostic laboratories have a duty to report antimicrobial susceptibility results for all causative agents listed in Schedule 2) – all antibiotic susceptibility results should be included, including those suppressed on the LIMS
- any resistance mechanism(s) identified in any of causative agents listed in Schedule 2

Organisms/infections not to be reported in CDR extract

- *neisseria meningitidis* identified in a throat swab should not be reported unless associated with invasive disease in that individual
- uncomplicated urinary tract infections unless caused by organisms listed in Appendices 1 or 2
- the isolation of BCG from immunisation sites unless associated with extensive local or disseminated BCG infection

Note: If a single organism is identified in different specimen types, report it only once, listing each specimen type from which it was identified during that episode. If different organisms are identified as co-infections in the same patient, they should all be reported separately.

Report infections identified in mothers and their babies or foetuses as separate infections by cross-referencing to the other report, using the following appropriate feature description; child of infected mother; contact of case; maternal infection; perinatal transmission; pregnant and feature comment field if necessary.

What information a report should contain

Core data

The following core surveillance data are required on all reports submitted to UKHSA.

Fields marked with an * are mandatory.

- **Source Lab:** ideally always be specified
- **Reference Lab:** if relevant

- **Reporting Lab*:** must always be specified, will usually be source lab, in some cases reference lab
- **Patient identification*:** - one of the following must be present:
    - Patient's surname and initial† or soundex code and initial
    - Patient's Hospital number (Patient PID no.)
    - Patient's NHS number†
- **Date of birth (DOB)* :** the patient's DOB where known or patient's age
- **Sex*†:** male, female or not known
- **Organism*:** the full organism name and any typing results, or the description of the illness (for example, toxic shellfish poisoning)
- **Date of onset:** (dd/mm/yyyy format) the date of onset of the illness caused by the organism being reported
- **Specimen type(s)*:** for example, CSF, blood, sputum, serum (where the diagnosis is based on serology, please use serum as the specimen type)
- **Specimen date(s)*:** (dd/mm/yyyy format): the date the specimen was collected from the patient. If this is not known, use the date the specimen was received at the source laboratory
- **Identification method(s):** the method used to identify the organism
- **Postcode†:** the full postcode of the patient residence
- **Ethnicity†:** required under the Race Relations Amendment Act 2001

For notifications of organisms listed in Appendix 1 insofar as it is known, the following information must also be provided to UKHSA:

- name and address of the diagnostic laboratory
- patient's home address
- patient's current residence (if not home address)
- name, address and organisation of the person who solicited the test which identified the causative agent.
- Indicate if a patient is a Care Home resident
- Indicate if patient is a Health Care Worker
- any antimicrobial susceptibility test result and resistance mechanism(s) identified

AMR data also requires the requesting organisation details. This is used by SGSS to indicate the source of the specimen and includes where the requesting organisation of the specimen is:

- a GP Practice the pathology system code will be translated to the NHS Organisation Data Service (ODS) practice code
- an acute hospital the pathology system code will be translated to the ODS site code

- a community hospital the pathology system code will be translated to the ODS Site code

Organism-specific data

The following surveillance data are requested on all reports submitted to UKHSA:

- for SARS-CoV-2 antibody and antigen test results each report should contain appropriate information on the testing method used (that is, test manufacturer and model designation of device)
- each Hepatitis B report to contain information on whether the case is acute or chronic, and/or if the antibody to core IgM is positive or negative
  Note: The suggested case definitions for Hepatitis B are:
    - **Acute** - HBsAg positive **and** anti-HBc IgM positive **and** abnormal liver function tests with a pattern consistent with acute viral hepatitis. Associated risk factors should be reported for all acute infections (Appendix 4).
    - **Chronic** - HBsAg positive twice at least 6 months apart **or** HBsAg positive **and** antiHBc IgM negative **and** anti-HBc positive. Please also indicate when occurring in risk groups such as pregnant women and health care workers (Appendix 4).
- each Hepatitis C report to contain information on the result for the Hepatitis C core antigen (HCV AG) and/or the HCV RNA (which is usually detected by PCR test) – the feature codes HCV AG and HCV RNA should be used to capture these results
- *clostridium difficile* reports should indicate whether identified by toxin detection or culture of the organism
- *corynebacterium diphtheriae* whether toxigenic & non-toxigenic
- Enteric *Escherichia coli* with the serotype specified
- plasmodium reports should specify the species
- all cases of acute infectious syphilis (primary, secondary or early latent in the first 2 years) confirmed by the reference laboratory

In addition to normal communicable disease deporting via SGSS there is a need to urgently inform the local Health Protection Team who would be expected to inform national teams at Colindale about conditions with severe or unusual presentations or of public or professional concern, for example toxic shock syndrome, toxic food poisoning, serious cellulitis, gangrene, or infections that could indicate potential terrorist threat (for example anthrax, tularaemia).

Augmented surveillance data

UKHSA has established a number of programme areas to tackle infectious disease priorities. These currently include:

- health-care associated infections and antimicrobial resistance
- gastrointestinal
- hepatitis B and C
- HIV and sexually transmitted disease
- vaccine-preventable diseases
- pandemic influenza
- tuberculosis
- emerging health threats
- deliberate release

Surveillance is conducted for diseases other than those covered by programmes and the routine generic reporting provided by the CDR system ensures that there is a safety net able to detect incidents or increases across the broad number of infections covered by CDR.

For many organisms, certain clinical and epidemiological data represent important useful information. Inclusion of such data where laboratories have them is welcomed by UKHSA but is not considered a mandatory part of the laboratory report. When these data are recorded on request forms UKHSA would welcome their inclusion in electronic outputs via Lablink as comment fields. When pathology and clinical systems are closely linked, UKHSA would welcome the reporting of the following clinical and epidemiological features in a codified manner.

Epidemiological features/Risk factors
Recent travel abroad (within 1 year prior to infection) including dates and reasons for travel[1]
Resort country (where they have resided /travelled) [1]
Patient country (of birth) and dates they first arrived in the UK [1]
Outbreak
Hospital acquired
Sexual orientation
Animal contact

Epidemiological features/Risk factors
Transplant recipient
Blood recipient
Vaccine status[2]
Immunocompromised
Pregnancy
Injecting drug use
Congenital infection
Food source/vehicle
Transmission agent (person to person, waterborne, animal, foodborne)

Clinical/syndrome features
Died
Bacteraemia
Conjunctivitis
Bronchiolitis
Arthritis
Meningitis
Invasive
Pneumonia
Croup
Enteric fever
Haemolytic Uraemic Syndrome (HUS)
Asymptomatic

Notes:

[1] It is increasingly important to capture information on imported infections in migrants and/or travellers because of changes in global epidemiology and travel patterns. For a wide range of infections SGSS is the only way in which information about travel and migration history can be captured. This information helps to target appropriate public health action.

[2] All vaccine preventable diseases are under enhanced surveillance and laboratories may be contacted for further details about the patient if key information is not supplied as UKHSA are required to follow up most cases.

Antimicrobial susceptibilities

Please report antibiotic susceptibility results via susceptibility section for all bacterial infections, noting the following:

- extended-spectrum Beta-Lactamases (ESBLs) reports – If there is confirmatory evidence that the isolate is an ESBL producer then please record in the antibiotic field using the “EXTENDED SPECTRUM B-LACTAMASE” entry. Identify ESBL producers with a result of ‘R’ (Resistant) and non-producers as ‘S’ (Susceptible)
- for Enterococci – please report, if available, susceptibility results for high-level gentamicin (for example, disc content of 200 micrograms) to differentiate from inherent resistance (for example, disc content of 10 micrograms). These reports should be reported selecting the antibiotic field entry “HIGH LEVEL GENTAMICIN”
- reporting of antifungal susceptibility results are also welcome

Appendix 1: notifiable organisms

Causative Agents listed in Schedule 2 of the Health Protection (Notification) Regulations 2010 Note: These organisms must be reported to UKHSA within 7 days

Viral infections	Infections to be reported	Clinical and/or risk factor data requested as part of report?	Enhanced surveillance in place?	Likely to be urgent?
Chikungunya virus	All			No, unless thought to be UK acquired
Crimean-Congo Haemorrhagic Fever virus	All			Yes
Dengue virus	All			No, unless thought to be UK acquired
Ebola virus	All			Yes
Guanarito virus	All			Yes
Hanta virus	All			No, unless thought to be UK acquired
Hepatitis A	All	✓	✓	All acute cases and any chronic cases who might represent a high risk to others, such as healthcare workers who perform exposure prone procedures
Hepatitis B	All	✓	✓	
Hepatitis C	All	✓	✓	
Hepatitis Delta	All			

Viral infections	Infections to be reported	Clinical and/or risk factor data requested as part of report?	Enhanced surveillance in place?	Likely to be urgent?
Hepatitis E	All	✓	✓	
Influenza virus	All	✓		
Junin virus	All			Yes
Kyasanur Forest disease virus	All			Yes
Lassa virus	All			Yes
Machupo virus	All			Yes
Marburg virus	All			Yes
Measles	All	✓	✓	Yes
Monkeypox virus	All			Yes
Mumps	All	✓	✓	No
Omsk Haemorrhagic fever virus	All			Yes
Polio virus	All	✓		Yes
Rabies virus	All	✓		Yes
Rift Valley fever virus	All			Yes
Rubella virus	All	✓	✓	No
Sabia virus	All			Yes

Viral infections	Infections to be reported	Clinical and/or risk factor data requested as part of report?	Enhanced surveillance in place?	Likely to be urgent?
SARS coronavirus	All			Yes
SARS-CoV-2	All			Yes
Varicella zoster virus	All			No
Variola virus	All			Yes
West Nile virus	All			No, unless thought to be UK acquired
Yellow Fever virus	All			No, unless thought to be UK acquired

Bacterial infections	Infections to be reported	Clinical and/or risk factor data requested as part of report	Enhanced Surveillance in place	Likely to be urgent?
Acquired carbapenemase producing Gram-negative bacteria	All (including screening specimens)			No, unless part of a known cluster
Bacillus anthracis	All			Yes

Bacterial infections	**Infections to be reported**	**Clinical and/or risk factor data requested as part of report**	**Enhanced Surveillance in place**	**Likely to be urgent?**
Bacillus cereus	Food poisoning and invasive disease			No, unless part of a known cluster
Bordetella pertussis	All	✓		Yes, if diagnosed during acute phase
Borrelia spp	All			No
Brucella spp	All			No, unless thought to be UK acquired
Burkholderia mallei/pseudomallei	All			Yes
Campylobacter spp	All			No, unless part of a known cluster
Chlamydophila psittaci	All			Yes, if diagnosed during acute phase or part of a known cluster
Clostridium botulinum	All	✓		Yes
Clostridium perfringens	Food poisoning			No, unless known to be part of a cluster
Clostridium tetani	All	✓		No, unless associated with injecting drug use
Corynebacterium diphtheriae	All	✓		Yes
Corynebacterium ulcerans	All	✓		Yes

Bacterial infections	Infections to be reported	Clinical and/or risk factor data requested as part of report	Enhanced Surveillance in place	Likely to be urgent?
Coxiella burnetii	All			Yes, if diagnosed during acute phase or part of a known cluster
Francisella tularenis	All			Yes
Haemophilus influenzae	Invasive disease	✓		Yes
Legionella spp	All	✓	✓	Yes
Leptospira interrogans	All			No
Listeria monocytogenes	All			Yes
Mycobacterium tuberculosis	All			No, unless healthcare worker or suspected cluster or multi-drug resistance
Neisseria meningitidis	Invasive disease			Yes
Rickettsia spp	All			No, unless thought to be UK acquired

Bacterial infections	Infections to be reported	Clinical and/or risk factor data requested as part of report	Enhanced Surveillance in place	Likely to be urgent?
Salmonella spp	All			Yes, if *S. Typhi* or *S. Paratyphi* or suspected outbreak or food handler or closed communities such as care homes. No, if sporadic case of other Salmonella species
Shigella spp	All			Yes, except *Sh. Sonnei* unless suspected outbreak or food handler or closed communities such as care homes
Streptococcus pneumoniae	Invasive disease	✓	✓	No, unless part of a known cluster
Streptococcus pyogenes	Invasive disease			Yes
Verocytotoxigenic *Escherichia coli*	All		✓ for O157	Yes
Vibrio cholerae	All			Yes
Yersinia pestis	All			Yes
Coxiella burnetii	All			Yes, if diagnosed during acute phase or part of a known cluster

Protozoa infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced Surveillance in place	Likely to be urgent?
Cryptosporidium	All			No, unless part of a known cluster, known food handler or evidence of increase above expected numbers
Entamoeba histolytica	All			No, unless known to be part of a cluster or known food handler
Giardia lamblia	All			No, unless part of a known cluster, known food handler or evidence of increase above expected numbers
Plasmodium falciparum, vivax, ovale, malariae, & knowlesi	All			No, unless thought to be UK acquired

Appendix 2: core organisms

Core organisms. Report all clinically significant identifications unless specified.

Notes:

- these lists are not definitive, and do not include the notifiable organisms, which can be found in Appendix 1
- invasive disease is defined as isolation of the organism, from blood culture, CSF or other normally sterile body site (Appendix 3)

Viral infections	Infections to be reported	Clinical and/or risk factor data requested as part of report	Enhanced surveillance in place
Adenovirus	All		
Arbovirus	All		
Astrovirus	All		
Calicivirus	All		
Coronavirus	All		
Cowpox	All		
Coxsackie virus	All		
Cytomegalovirus	All		
Echovirus	All		
Enterovirus	All		
Epstein-Barr virus (EBV)	All		
Herpes simplex virus	All		
HIV	All	✓	✓
Human T-cell lymphoma virus (HTLV)	All	✓	
Lymphocytic choriomeningitis virus	All		
Middle East Respiratory Syndrome coronavirus (MERS)	All		
Norovirus	All		
Orf/paravaccinia	All		

Viral infections	Infections to be reported	Clinical and/or risk factor data requested as part of report	Enhanced surveillance in place
Orthopox virus	All		
Papillomavirus	All		
Papovavirus	All		
Parainfluenza	All		
Parvovirus B19	All	✓	
Polyomavirus	All		
Reovirus	All		
Respiratory syncytial virus (RSV)	All		
Rhinovirus	All		
Rotavirus	All		✓
Sapovirus	All		

Bacterial infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced surveillance in place
Acinetobacter spp	Invasive disease		
Actinomyces spp	All		
Aeromonas spp	Invasive disease		
Bartonella spp	All	✓	
Chlamydia pneumoniae	All		
Chlamydia trachomatis	All		
Citrobacter spp	Invasive disease		
Clostridium difficile	All		
Clostridium perfringens	All		
Clostridium spp	Invasive disease		
Coxiella spp	All		
Enterobacter spp	Invasive disease		
Enterococcus	Invasive disease		
Erysipelothrix spp	All		
Escherichia coli spp	All enteric infections and invasive disease		✓ for O157

Bacterial infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced surveillance in place
Klebsiella spp	Invasive disease		
Leptospira spp	All		
Listeria spp	All	✓	✓
Lymphogranuloma venereum (LGV)	All		✓
Morganella morganii	Invasive disease		
Mycobacterium spp	All	✓	✓
Mycoplasma spp	All		
Neisseria gonorrhoeae	All		
Nocardia spp	All		
Pasteurella spp	Invasive disease		
Plesiomonas spp	All enteric infections and invasive disease		
Proteus spp	Invasive disease		
Providencia spp	Invasive disease		
Pseudomonas spp	Invasive disease		
Serratia spp	Invasive disease		
**Staphylococcus aureus*	Invasive disease	✓	✓
Staphylococcus spp	Invasive disease	✓	
Stenotrophomonas maltophilia	Invasive disease		
Streptobacillus moniliformis	All		
Streptococcus spp	Invasive disease	✓	
Treponema pallidum	All	✓	✓
Treponema spp	All		
Vibrio spp	All		
Yersinia spp	All		

* For those laboratories able to provide data automatically reports are additionally requested from lower respiratory tract sites

Fungal infections**	**Infections to be reported**	**Clinical and/or risk factor data desirable as part of report**	**Name transmitted**
Absidia spp	All		
Acremonium spp	All		
Alternaria spp	All		
Aspergillus spp	Invasive Disease		
Blastomyces spp	All		
Candida spp	Invasive disease		
Coccidioides spp	All		
Cladophialophora spp	All		
Cryptococcus spp	All		
Curvularia spp	All		
Epidemophyton spp	All		
Exophiala spp	All		
Exerohilum spp	All		
Fusarium spp	All		
Histoplasma spp	All		
Microsporum spp	All		
Paracoccidioides spp	All		
Penicillium marneffii	All		
Phialophora spp	All		
Pichia spp	All		
Pneumocystis spp	All		
Rhizomucor spp	All		
Rhizopus spp	All		
Rhodotorula spp	All		
Saccharomyces spp	All		
Scedosporium spp	All		
Scopulariopsis spp	All		
Sporothrix spp	All		

Protozoa infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced Surveillance in place
Acanthamoeba	All		
Cyclospora	All		
Hartmannella	All		
Leishmania	All		
Naegleria	All		
Plasmodium spp	All		
Toxoplasma	All		
Trichomonas spp	All		
Trypanosoma	All		

Fungal infections**	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Name transmitted
Trichophyton spp	All		
Trichosporon spp	All		

** Manual reporters should prioritise reports of invasive infections.

Helminths infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced Surveillance in place
Clonorchis	All		
Diphyllobothrium	All		
Dracunculus	All		
Gnathostoma	All		
Hymenolepis	All		
Echinococcus	All		
Fasciola	All		
Filaria	All		
Hookworm	All		

Helminths infections	Infections to be reported	Clinical and/or risk factor data desirable as part of report	Enhanced Surveillance in place
Schistosoma	All		
Strongyloides	All		
Taenia	All		
Toxocara	All		
Trichuris	All		

Appendix 3: sterile sites

Bladder	Lung
Blood/blood components	Lymph node
Bone	Ovary/fallopian tube
Bone marrow	Ocular fluid
Brain	Pancreas
Csf	Peritoneum
Fascia/muscle	Pleura
Gall bladder	Surgical implant eg vascular shunt/ graft
Gland, such as thyroid, parotid	Spinal cord
Heart	Spleen
Heart valve	Tissue/tissue fluid
Joint	Uterus
Kidney	Vascular system (vein/artery)
Liver	

Appendix 4: Hepatitis B risk factors and groups

Risk factors
Dialysis†
Heterosexual contact of case
Homosexual contact of case
Household transmission
Injecting drug user
Perinatal transmission
Recent residence in an institution
Recent surgery/dental work
Recent transfusion
Relevant recent travel abroad
Skin piercing†
Tattooing†

Risk Groups
Child of infected mother
Healthcare worker
Pregnant
Prisoner†

†Add to comments field if appropriate.

Appendix 5: contacts

UKHSA field epidemiology services teams

The SGSS systems specialist is the initial contact point for reporting issues.

Region	Address	Phone Number
East Midlands	UKHSA East Midlands Seaton House City Link Nottingham NG2 4LA	0344 225 4524
East of England	UKHSA East of England Institute of Public Health University Forvie Site Robinson Way Cambridge CB2 0SR	0300 303 8537
London	UKHSA London 3rd Floor, Nobel House 17 Smith Square London SW1P 3JR	0344 326 2052
North East	UKHSA North East Floor 2 Citygate Gallowgate Newcastle Upon Tyne NE1 4WH	0300 303 8596 (option 1)
North West	UKHSA North West Suite 3B 3rd Floor Cunard Building Water Street Liverpool L3 1DS	0344 225 0562

Region	Address	Phone Number
South East	UKHSA London 3rd Floor, Nobel House 17 Smith Square London SW1P 3JR	0344 326 2052
South West	UKHSA South West 2 Rivergate Bristol BS1 6EH	0300 303 8162
West Midlands	UKHSA West Midlands Level 2, Zone 1 23 Stephenson Street Birmingham B2 4BH	0344 225 3560 (option 2)
Yorkshire & Humber	UKHSA Yorkshire & Humber Blenheim House West One Duncombe Street Leeds LS1 4PL	0113 386 0300

About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

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For queries relating to this document, please contact: sgss.helpdesk@ukhsa.gov.uk

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