Foreword

The current Ebola outbreak in West Africa is one of the most challenging global public health threats in recent times. The incubation period is 2 to 21 days and the likelihood of contracting EVD is extremely low unless the person had come into contact with blood or body fluids of a symptomatic person.

While the direct risk of Ebola to Northern Ireland remains low, the Public Health Agency has been working with the health trusts and others to strengthen and test our preparedness to respond to a case. On 3rd October, we took part in a comprehensive exercise to ensure Ebola preparedness in Northern Ireland. Our plans were further tested in November in response to a suspected Ebola case who had recently travelled in an area affected by Ebola, highlighting the need to prepare for all eventualities.

We have also included three articles to illustrate the range of local health protection incidents requiring a prompt response; a cluster of Group B Meningococcal infection in a local school, an increased incidence of Shigella Flexneri in 2014 and local food poisoning notification arrangements.

May I take this opportunity to wish you a safe and Happy Christmas!

Assistant Director of Public Health (Health Protection)
Update on the Spread of Ebola

Ebola: essentials of contact identification and monitoring

The current outbreak of Ebola in West Africa is the worst to date with total deaths over ten times that of the previous largest outbreak. However, despite fears of a more virulent virus the symptoms experienced, the reproductive rate and the case fatality rate are all in line with previous outbreaks of the disease. What is different in the current outbreak is that it has affected large urban centres and overwhelmed healthcare systems in Western Africa. Public fear increased in the UK following cases of secondary spread to healthcare workers in Spain and the USA and the associated media coverage may have distracted from the basic principles of communicable disease control, which have successfully arrested previous outbreaks of the disease in Africa.

Ebola is spread by contact with blood and bodily fluid of symptomatic patients. Stopping transmission relies on early diagnosis, contact tracing, isolation and infection control. Cases are much more infections in the community and should be admitted to isolation in hospital as soon as possible. Contacts must be identified and provided with appropriate information to allow assessment and, if required, admission and isolation. Public Health actions are directed towards identification, assessment and categorisation of contacts, monitoring of high risk contacts and arrangement for evaluation of contacts who become febrile (≥ 37.5°C).
In the UK the two main circumstances in which monitoring of contacts will be undertaken are in response to a confirmed case or follow-up of returning volunteers and healthcare workers (HCWs) assisting the UK support programme in West Africa. Taking the example of a returning volunteer/HCW, the sending organising (e.g. Non-Governmental Organisation) will assess the individual’s level of exposure, categorise the person and provide advice and, if required, equipment to monitor temperature for 21 days following their last possible exposure. Workers registered with the UKAid/DFID programme will be reported to Public Health England, who will forward this information to the Public Health Agency (PHA) in Northern Ireland. A PHA duty officer will contact the returning volunteer, confirm their category and ensure the person is aware of appropriate advice and who to contact should they develop a fever or become symptomatic. Categorisation of contacts is based on the degree of exposure to infective blood or bodily fluids.

- Category 1 volunteers have had no direct contact with infected patients or materials (e.g. laboratory samples) and can resume normal activities. Examples include any person who has visited an Ebola affected area but has had no direct contact with an Ebola case or bodily fluids, laboratory staff (if laboratory operating to UK standards), ministry of defence staff undertaking controlled patient transfers and may also include logistics or operational support workers.

- Category 2 volunteers have had direct contact with infected patients or materials but the risk of exposure is considered low. Workers who wore appropriate personal protective equipment (PPE) and did not experience direct physical contact as part of clinical care are included in this group. Examples include water and sanitation engineers, epidemiologists, health advisors and contact tracers. For this group passive monitoring is undertaken with the volunteer contacting the PHA if pyrexic or symptomatic.

- Category 3 volunteers have had direct contact with infected patients or materials and the risk of exposure is considered high. All HCWs who have experienced direct physical contact as part of clinical care, whether this was with or without appropriate PPE, are included in this group. Other examples include morgue workers, burial teams and laboratory staff in facilities not operating to UK standards. Any person who had direct contact with a symptomatic case, who suffered direct exposure of skin or mucous membranes (e.g. needlestick injury and splashes to mucosa) or had unprotected sexual contact with a recovering case within 3 months of symptom onset is also included in this group. This group represent the highest risk group. Consequently active monitoring is undertaken with the volunteer contacting the PHA daily to report their temperature and any symptoms.

With regard to work restrictions, category 2 volunteers cannot engage in exposure prone procedures (EPP) while category 3 HCWs cannot have any contact with patients for the 21 day period. The PHA will confirm volunteer details with their UK employer (e.g. Local NHS Trust) and advise when Category 2 and 3 volunteers can return to normal duties. For both category 2 and 3 volunteers infection control advice includes not sharing razors or toothbrushes or engaging in unprotected sex. It is expected that most returning HCWs will be classified as Category 3.

Categorisation of contacts of a locally confirmed case is undertaken in a similar manner based on the level of exposure. If an Ebola case is confirmed locally a significant proportion of community and household contacts will also be classified as Category 3, with active contact monitoring required. Over 125,000 contacts have been traced in West Africa in the current outbreak, which underlines the extent of the logistical exercise required to limit virus transmission. The use of common categories and guidance will assist effective monitoring and follow-up of contacts of Ebola cases.
References


Dr D Bennett
ST2 Specialty Registrar
Ebola in West Africa

If you have returned from **Guinea, Liberia** or **Sierra Leone** or cared for someone with Ebola in the past **21 days**

and

You have a **fever** or **feel unwell**

Without touching anyone, tell a member of staff.

For more information visit [www.gov.uk/phe](http://www.gov.uk/phe) or [www.nhs.uk/ebola](http://www.nhs.uk/ebola)
Ebola in West Africa
Information for emergency department staff

Has the patient returned from Guinea, Liberia or Sierra Leone or cared for an individual with Ebola in the past 21 days?

**YES**

Is the patient complaining of fever or feeling unwell?

**YES**

Without making physical contact, direct the patient to an empty side room IMMEDIATELY and alert triage.

The facts:

- the risk of encountering patients with Ebola in the UK is very low
- people with early signs of disease present a very low risk to staff
- however, patients with Ebola can be infectious if they are suffering from diarrhoea, vomiting or bleeding

For more information visit www.gov.uk/phe or www.nhs.uk/ebola
Updates to the Viral Haemorrhagic Fever (VHF) Algorithm

The recent Public Health involvement in the case of a febrile patient returned from an area affected by Ebola presented a unique opportunity for learning. The Viral Haemorrhagic Fevers Risk Assessment algorithm has subsequently been updated by the Advisory Committee on Dangerous Pathogens (ACDP). At date of publication of this article, the current updated algorithm is Version 5 (6/11/14). Below is a summary of the key changes.

Temperature

- Updated guidance: **Does the patient have a temperature ≥ 37.5°C or history of fever in past 24 hours?** (Previously a higher temperature threshold of 38°C or history of fever in past 24 hours was used.)

An article published in the Lancet discussed the possible limitations caused by fever definitions. It is noted that body temperature varies throughout the day and the article suggests a lower temperature threshold may increase sensitivity of case-finding. It states that 87% of patients with confirmed or probable Ebola have presented with feeling of fever or confirmed fever. Emphasis was placed on the usefulness of the definition from the World Health Organisation which uses 'sudden onset of fever.'

Malaria

- Updated guidance: **If a malaria test is positive and the patient has returned from a VHF epidemic country (Sierra Leone, Guinea, Liberia or Mali) - manage as malaria but consider possibility of dual infection with VHF.** (Previously the algorithm stated manage as malaria; VHF unlikely.)

Sections 3-5 of the accompanying VHF guidance document have been updated in addition to amendments to appendices 4, 8, 10 and 11. It is worth noting that Mali is currently included as a VHF epidemic country in the algorithm. In a recent epidemiological update on Ebola it stated that ‘given the porous nature of the Malian-Guinean border the risk of further importation of cases is recognised.’

Airport Screening

Entry screening is currently in place at London Heathrow, London Gatwick, Birmingham and Manchester airports, and at London St Pancras station for Eurostar. The screening involves assessing passengers’ recent travel history, contacts and onward destination. In addition, a possible medical assessment by trained medical staff may occur. Passengers are also given advice on what to do if they later develop symptoms. Some seaports are screening in response to shipping movements. Several other ports of entry in England have arrangements for remote screening (by phone) for those arriving from affected areas. Exit screening has also been introduced in airports for those departing from Guinea, Liberia or Sierra Leone.

There are currently no direct flights from the three west African countries to any airport on the island of Ireland. PHA expects to be notified of any Northern Ireland resident identified through the above screening process. Posters informing travelers of the current Ebola outbreak in west Africa are displayed in all major airports and seaports in Northern Ireland.

The effectiveness of port screening for Ebola is subject to debate. Bogoch et al suggest the most efficient intervention for travellers may be exit screening in affected countries. Any decision must be guided by the principles of the 2005 International Health Regulations. The purpose of which is to provide a public health response to the international spread of disease ‘in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade’. Similarly, in an article by Read et al, they describe a modeling exercise predicting that an additional twenty-nine infected passengers would have attempted international travel from west Africa by 31st December 2014. Of these individuals, ten would be prevented from travelling by exit screening and it is expected that one or two of the remaining infected passengers would fly to the UK. In their conclusion, the importance of disease control at the source is highlighted, although attention is drawn to the benefit of providing information to passengers through entry screening.
References


Dr M Ward
LAT ST1 Public Health Registrar
Exercise Gueckedou

Exercise Gueckedou was a half day multi-agency table top exercise aimed at testing local and regional preparedness for a suspected Ebola case in Northern Ireland, instigated by the Chief Medical Officer and the Medical Director/Director of Public Health, Public Health Agency.

Much work has been carried out within Northern Ireland to prepare for the possible importation of suspected cases of Ebola, both in HSC Trusts and in regional organisations. This exercise was jointly organised by the Department of Health, Social Services and Public Safety (DHSSPS) and the Public Health Agency (PHA) to provide organisations with an opportunity to discuss their local plans and the regional co-ordination arrangements.

The exercise was held in Mossley Mill on the 23rd October and involved 84 players and 13 observers from a variety of Health and Social Care and other agencies across Northern Ireland. In the course of the exercise, important issues were identified for local and regional action.

Dr S McGuinness
SpR in Public Health
Duty Room Updates

This section of Transmit aims to bring current Public Health issues and events to the attention of our professional colleagues.

The Duty Room provides specialist health protection advice, guidance and operational support on all health protection matters.

The Duty Team will respond to all enquiries from health professionals and others, including nursing and residential homes, local councils, community health services (including schools and social services). The new contact details for the Duty Room are:

Health Protection Duty Room
Tel: 0300 555 0119
Fax: 02895 363947
Email: pha.dutyroom@hscni.net

Meningococcal Group B Cluster

The Duty Room was notified of a probable case of meningococcal septicaemia on a Friday evening, in a child who tested positive for group B meningococcus from a throat swab and had clinical symptoms of septicaemia. On further investigation it became apparent that this was the second case associated with the same childcare facility within the South Eastern Trust area within a two week period. PHE UK guidance states “If two confirmed/probable cases who attend the same preschool group, school, college or university arise within a four week period and are, or could be caused by the same serogroup, public health action is indicated. It is not necessary to wait for microbiological results on probable cases (high immediate risk of further cases).”

Following a full risk assessment it was agreed the immediate action would be to ensure provision of chemoprophylaxis to all children and staff in the affected area of the facility. This was organised for the Sunday afternoon, when 80 individuals were given chemoprophylaxis, which were supplied by the Trust pharmacy. In the event of a cluster the Men B vaccine, Bexsero®, is recommended to be given as soon as practically possible, but if not immediately available this should not delay the administration of chemoprophylaxis, the latter being the most urgent public health action. Bexsero® is not routinely held in Northern Ireland, however following liaison with the regional procurement pharmacist, delivery was organised for the Wednesday of the same week.

A vaccine clinic was organised within the childcare facility on Thursday which was facilitated by both Health Protection medical staff and South Eastern Trust staff. Bexsero® requires a 2, 3 or 4 dose course depending on age; further doses were to be administered by the GP. Parents were provided with letters to take to their GP and arrangements were made for correct number of doses to be delivered to each surgery. The management of this cluster was a resounding success, 100% of contacts received both chemoprophylaxis and the vaccine. The process required a vast amount of organisation and liaison with South Eastern Trust staff, the Public Health Agency, the childcare facility as well as with the parents involved.
Since the beginning of 2014 there have been 43 cases of meningococcal disease notified to the Duty Room. Of the 43 cases, 27 are lab confirmed. The 27 cases can be broken down into the following serogroups:

- 22 serogroup B,
- 2 serogroup C,
- 2 serogroup W135
- 1 non-groupable

For the same period in 2013

- 54 cases notified
- 32 were laboratory confirmed
- 21 serogroup B,
- 4 serogroup C
- 4 serogroup Y,
- 1 serogroup W135
- 2 non-groupable

[NOTES]
2014 data is provisional at present
Data is based on onset dates
Meningitis B Vaccine

Following independent advice from the Joint Committee on Vaccination and Immunisation (JCVI), the Department of Health will work to introduce the meningococcal B (MenB) vaccine into the childhood vaccination programme in the UK. The JCVI, the Government’s vaccine experts, says evidence shows that the Bexsero® vaccine is effective in preventing MenB in infants and should be rolled out, subject to it being made available by the manufacturer at a cost-effective price (Department of Health and PHE publication 21 March 2014) https://www.gov.uk/government/publications/meningococcal-b-vaccine-jcvi-position-statement

Negotiations with drug company Novartis to secure a price for MenB vaccine have begun in a bid to add it to the childhood immunisation programme (Department of Health and PHE publication 1 August 2014). If introduced it will be offered at 2, 4 and 12 months. https://www.gov.uk/government/news/meningitis-b-vaccine-price-negotiations-begin

In advance of it being introduced into the routine schedule subject to successful outcome to the negotiations there are certain situations for which Bexsero® is already recommended:

- Those without a functioning spleen should be given 2 or 3 doses dependant on age
- Bexsero® should not be given to Index cases unless they are at-risk and were previously unimmunised or partially immunised with Bexsero®
- After a single case of confirmed or probable invasive meningococcal disease (IMD), Bexsero® should not be routinely offered to household contacts, even if the strain is subsequently identified as vaccine-preventable. However any at risk household contacts (asplenia, splenic dysfunction or known complement deficiency) should receive both the Bexsero® and MenACWY conjugate vaccine according to national recommendations
- If a second Men B case occurs in the same family, Bexsero® should be offered in addition to chemoprophylaxis for all household contacts, even if the interval between the two cases is >30 days and/or the strains are subsequently identified to be different

Use of Bexero® in Educational Settings:

- Bexsero® should not be routinely offered to contacts in an educational setting following a single case of probable or confirmed IMD, even if the strain is later identified to be vaccine preventable
- Following confirmation of a MenB cluster, Bexsero® should be offered to the same group that would receive antibiotic chemoprophylaxis as soon as practically possible unless molecular typing confirms that the cluster is not caused by a vaccine-preventable MenB strain
- In the event of a cluster Bexsero® should be offered “as soon as practically possible”. Providing antibiotics should not be delayed to give at same time as vaccine. Vaccination should not be delayed if serotype is unavailable, assume that it is Group B if there is no evidence to the contrary https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/328835/Invasive_meningococcus_secondary_case_prevention_April_2014.pdf

Mrs C Mallon
Health Protection Nurse Practitioner
Increased Incidence of Shigella Flexneri in Northern Ireland

What is Shigellosis?
Shigellosis is an acute infection of the intestine caused by a gram negative bacteria of the genus shigella. There are 4 types of shigella, shigella flexneri, shigella dysenteriae, shigella boydii, shigella sonnei which can sometimes be referred to as types A-D.

What symptoms does Shigellosis cause?
The symptoms of shigellosis can range from mild to severe and usually occur 12-96 hours after initial exposure. Symptoms and severity vary between the various types of shigella; however, common symptoms among all types include diarrhoea which can sometimes be bloody in nature, abdominal cramps, fever and nausea. Symptoms typically last 4-7 days.

How is it transmitted?
Shigellosis is spread via the faeco-oral route either directly or by contamination of food, water or the environment. Shigellosis can be associated with travel, especially within many developing countries, with the highest incidence in countries such as Africa, South America and Asia. Transmission may also occur through sexual contact, particularly within the men who have sex with men (MSM) community via the anal-oral route. A very small number of bacteria is enough to cause infection. Diagnosis of infection can be confirmed through culture of rectal swab or a stool sample.

Management of Shigellosis
Antimicrobial treatment may be indicated in the early stages of illness and individual assessment should be carried out by clinician. Direct person to person spread is extremely common in households and other institutions with 30-50% of contacts becoming infected therefore containment measures are crucial in the management of shigellosis. Enteric precautions should be discussed with cases as well as thorough hand washing and regular cleaning of environment as some species of shigella can survive up to 20 days in a favourable environment. Exclusion from work/school and clearance samples may be required depending on the occupation of both the case and their household contacts.

Incidence

Confined cases of Shigella flexneri, 2000 - 2014

- Foreign Travel
- No foreign travel or unknown

Foreign travel is defined as travel outside UK and Ireland
As seen from the graph, our data shows that there has been a sharp increase in the number of cases of shigella flexneri within Northern Ireland in comparison to previous years. The majority of these cases do not appear to be associated with travel or travel history is unknown. These figures correlate to the recent increase in shigella flexneri seen within the MSM community in England where there has been a marked increase in notifications which Public Health England have attributed to being acquired sexually.

Changes to public health management of Shigellosis

It is important that we liaise closely with environmental health in order to obtain a comprehensive assessment of each notification including demographics and occupation as well as to ascertain whether there has been any recent travel which may be the potential source of infection.

The management of shigellosis is largely related to containment, so hand hygiene and enteric precautions should be discussed with each case. However, due to the increase in numbers of apparent non-travel related shigella infections, in particular Shigella Flexneri the public health management of these cases has been reviewed.

From the environmental health interview we should be able to ascertain whether or not the case has any history of recent travel outside UK and Ireland. A duty officer will then contact the case directly for further discussion if no travel history has been noted.

It is important that the case should be made aware that shigellosis can be transmitted sexually. If the case feels that there is a chance he/she could have contracted the infection sexually we will advise the case to self-refer themselves to their local GUM clinic if they have not already done so as there is a possibility that they may be at risk of other sexually acquired bacterial and viral infections.

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<thead>
<tr>
<th>Area</th>
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<tbody>
<tr>
<td>Belfast Trust</td>
<td>028 9063 4050</td>
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<td>Northern Trust</td>
<td>028 7034 6028</td>
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<tr>
<td>South-Eastern Trust</td>
<td>028 4483 8133</td>
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<tr>
<td>Southern Trust</td>
<td>028 3083 4215</td>
</tr>
<tr>
<td>Western Trust</td>
<td>028 7161 1269</td>
</tr>
</tbody>
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References

http://www.ncbi.nlm.nih.gov/books/NBK8038/

Mr N Tohani
Health Protection Nurse Practitioner
Notification of Diseases (Food Poisoning)

There are currently 35 infectious diseases that are classified as notifiable. Within these notifications are gastroenteritis in under 2 years and food poisoning. Notification of infectious diseases serves as a means to detect outbreaks and clusters of cases by investigation, questionnaires and contact tracing. It is important that notification is timely in order to prevent further transmission to the public.

A timely notification to Public Health will help initiate a faster response to an identifiable source. NOIDS cards are a formal means of notification however in relation to food poisoning and gastroenteritis, verbal notification from a clinical suspicion is all that is required for public health to initiate a response. Waiting for laboratory confirmation of a diagnosis is not required; this will follow if samples have been submitted. If it is found the diagnosis is wrong the actions can be amended.

Public Health actions include measures such as requesting sampling and advising exclusion from work and/or school which can be commenced as a legal requirement if necessary, for example, under the Public Health Act. Specific exclusion rules apply to individuals in specified risk groups e.g. food handlers, healthcare workers, young children attending pre-school groups. The Public Health Agency will advise these individuals on the exclusion requirements as part of their follow up investigation.

Food Poisoning

In light of the Christmas festivities under way in the traditionally busy December period, the increase of people eating out and the extent of catering for large parties, the Public Health Agency are asking for increased vigilance surrounding the recognition of food poisoning, usually characterised as diarrhoea and/or vomiting. Of course, not all instances of diarrhoea and/or vomiting are caused by food poisoning but most of the organisms that do cause it can be passed by direct person to person contact. It is also important to note that whilst in most cases patients presume that poisoning occurs immediately after their suspicious meal but that consideration should be given to incubation periods which can vary from a few hours to several days.

Food poisoning should be reported to the Health Protection Duty Room, Public Health Agency. The Duty Room will act upon verbal and lab confirmations of food poisoning and work collaboratively with Environmental Health to identify a source to prevent further transmission. The importance of public health actions in cases of food poisoning is to act as timely as possible, therefore early notification of food poisoning allows for prompt actions.

As a clinician, if you are presented with gastroenteritis suspected as food poisoning during this period, please ask patients to submit a sample for testing so that the pathogen causing the illness can be identified. Further follow up of suspect samples will be carried out by the Public Health Agency in conjunction with local council Environmental Health Departments. Following notification, the Duty Room will notify an Environmental Health Officer who will contact the patient, and complete a questionnaire primarily via telephone call. The questionnaire is then risk assessed by the Duty Room so that public health actions may be implemented if necessary.
Even if an identifiable source of food poisoning is not obvious it is still important to highlight the risk of onward transmission to others. A food poisoning factsheet can be found on the Public Health Agency website http://www.publichealth.hscni.net/sites/default/files/directorates/files/food_poisoning_factsheet.pdf

References

- Preventing Person to Person spread following gastrointestinal infections: guidelines for public health physicians and environmental health officers: Communicable Disease and Public Health Vol 7 No 4 2004.

- Public Health Agency Website: Directorates: http://www.publichealth.hscni.net/directorate-public-health/health-protection/notifications-infectious-diseases

Ms P Graham
Health Protection Nurse Practitioner
PHA Web Links to Surveillance Data

Surveillance data on the main topics of Public Health interest are available through the following web links:

**Notifications of Infectious Diseases:**

**Group B Streptococcus:**
http://www.publichealth.hscni.net/directorate-public-health/health-protection/group-b-streptococcus

**Vaccination coverage:**
http://www.publichealthagency.org/directorate-public-health/health-protection/vaccination-coverage

**Avian Influenza:**

**Brucellosis:**

**Gastrointestinal infections:**

**Hepatitis:**
http://www.publichealthagency.org/directorate-public-health/hepatitis

**Healthcare Associated Infections:**

**Meningococcal disease:**

**Respiratory infections:**

**Sexually transmitted infections:**

**Tuberculosis:**
http://www.publichealthagency.org/directorate-public-health/health-protection/tuberculosis
**DHSSPS Web Links**

CMO Letters and Urgent Communications relevant to Health Protection, and issued in the three months preceding publication of this edition of Transmit, are accessible through the following web links:

**CO Poisoning**

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We welcome your feedback on the content of Transmit. Please feel free to contact emma.walker@hscni.net with your suggestions or articles that you would like to see included.