



# Report on key issues identified and recommendations following the Scottish Reponse to Ebola Virus Disease Situation Originating in West Africa 2014-2016

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Scottish preparedness, response and case management

DRAFT

## **Acknowledgements**

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Authors: Redman, C., Ahmed, S.

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### **Health Protection Scotland**

NHS National Services Scotland

Meridian Court

5 Cadogan Street

Glasgow G2 6QE

Tel: +44 (0) 141 300 1100

Email: [nss.hpsenquiries@nhs.net](mailto:nss.hpsenquiries@nhs.net)

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# Abbreviations

A&E	Accident & Emergency
ACDP	Advisory Committee on Dangerous Pathogens
CCHF	Crimean Congo Haemorrhagic Fever
CMO	Chief Medical Officer
CWG	Commonwealth Games
EVD	Ebola Virus Disease
GP	General Practitioner
HCW	Healthcare Worker
HPS	Health Protection Scotland
IDU	Infectious Disease Unit
NHS	National Health Service
PHE	Public Health England
PHEIC	Public Health Emergency of International Concern
PPE	Personal Protective Equipment
RAF	Royal Air Force
SAS	Scottish Ambulance Service
UK	United Kingdom
UKBF	United Kingdom Border Force
VHF	Viral Haemorrhagic Fever
WHO	World Health Organization

# 1 Background

In March 2014 the world became aware of a developing outbreak of Ebola Virus Disease (EVD) occurring for the first time in West Africa; previous outbreaks of EVD, first identified in 1976, had occurred in Central and East Africa usually lasting for weeks to months. It was likely that the outbreak was initially caused due to consumption of bush meat but was sustained by local burial practices and the rural location of the cases. In addition the outbreak soon spread to neighbouring Sierra Leone and Liberia, the porosity of borders allowing free movement of fearful and misinformed cases. This undermined initial attempts by local health authorities and the World Health Organization (WHO) to contain the outbreak.

The outbreak soon escalated and on 8 August 2014, the WHO declared a Public Health Emergency of International Concern (PHEIC) which was finally lifted on 29 March 2016 at which point 28616 confirmed, probable and suspected cases had been reported in Sierra Leone, Liberia and Guinea with 11310 associated deaths.<sup>1</sup> A total of 21 possible cases and 1 confirmed case presented in Scotland which were managed by the National Health Service (NHS) territorial Boards, in the main.

## 2 Overview

The Scottish response to EVD might be summarised under three stages being:

**A. Before the PHEIC was declared.** In the months prior to the beginning of the Commonwealth games (CWG) in Summer 2014 and coincident with sudden awareness of the escalating situation in West Africa, Health Protection Scotland (HPS) was planning its surveillance activities for the Games. Part of this preparation ensured that a number of recommendations made as a result of the Glasgow 2012 Crimean Congo Haemorrhagic Fever (CCHF) case were finally implemented.<sup>2</sup> Communications with Scottish Government, NHS Boards and public health were carried out to keep these groups informed. Communications with Public Health England (PHE)/ Advisory Committee on Dangerous Pathogens (ACDP) and Scottish Ambulance Service (SAS) ensured HPS and its stakeholders were kept apprised of any key intelligence.

During the CWG one key focus was on ensuring clarity on guidance for any cases as well as risk to Scotland due to athletes and visitors to the CWG. Another focus was on dealing with the media pressure associated with the perceived risk of Sierra Leonean athletes at the CWG.

**B. After the PHEIC was declared.** Approximating with the end of the CWG the worsening situation in West Africa demonstrated that efforts to control transmission were ineffective. Due to the potential concomitant effect on neighbouring countries WHO declared a PHEIC on 8<sup>th</sup> August 2014.<sup>3</sup> At

this point the greatest concern in terms of risk to the United Kingdom (UK) moved from athletes at the Games to healthcare workers (HCWs) in the affected countries or those planning to travel there; this was highlighted when an infected HCW was medevacked to the Royal Free from Sierra Leone in late August. In addition HPS found itself moving from being at the centre of a Scottish response to being a 'partner' in implementing a UK response with PHE taking the lead.

Two announcements had significant effect on health protection activities in the UK and Scotland being 1) the Chief Medical Officers (CMO) for the UK and Scotland issuing letters on 24<sup>th</sup> September 2014 encouraging UK volunteers to West Africa, as part of UK's commitment to supporting local efforts and 2) the UK government announcing a screening programme at key ports beginning in mid-October in Heathrow, Gatwick, Manchester and Birmingham in order to capture up to 97% of passengers booked through formal/advanced ticketing mechanisms from the affected area.

Both of these events resulted in further activity in Scotland, for example liaison between HPS, NHS Boards, as well as the Mining and Oil & Gas industries, in order to ensure volunteers as well as other travellers were given appropriate pre-travel advice and post-travel assessment. While Scotland, in line with scientific evidence on standalone point of entry screening operations<sup>4</sup>, did not follow PHE on introducing a screening risk management components at Scottish ports, co-operation by United Kingdom Border Force (UKBF) was required in order to ensure that post-travel risk assessment and follow-up was carried out and that NHS Boards were informed of returners arriving.

Volunteers began to leave in November 2014 as part the UK (PHE coordinated) component of the international response for short periods of service in the affected area before returning primarily through Heathrow. At the end of 2014, however, one of the volunteers travelling via Heathrow to Scotland became symptomatic and tested positive for EVD. Following guidance the case was assessed and managed in the Brownlee Infectious Disease Unit (IDU), Gartnavel General Hospital, Glasgow before being transferred to the Royal Free Hospital, London. In addition NHS Boards carried out follow-up of contacts of the case while HPS followed up the contacts on board the flight from Heathrow to Glasgow.

In early 2015, the West African outbreak began to show signs suggesting decreasing incidence and increasing control.

**C. During the latter part of the PHEIC to its close.** As the incidence of cases in West Africa began to decline, although the PHEIC wasn't declared over until March 2016, the practice of registering and managing returners became embedded in routine protocol. Scotland was

subsequently able to move the EVD response into Business as Usual in June 2015. The individual case in Scotland diagnosed in 2014 subsequently presented on two occasions (October 2015 and February 2016) with recrudescence EVD. This resulted in short periods of intensive activity in Scotland by NHS Boards and HPS to successfully manage the case and close contacts.

More detailed aspects of the above stages are discussed below.

## 3 Before the PHEIC was declared

### 3.1 Preparedness

Preparedness related to Viral Haemorrhagic Fevers (VHF) in general was already ongoing based on lessons learned from the CCHF case in 2012. <sup>2</sup> As the CWG approached in Summer 2014, HPS liaised with PHE to ensure that ACDP was updated prior to the Games; this ongoing liaison also ensured that Scotland was given time to prepare in order to implement the ACDP guidance, particularly the case assessment algorithm, when it was finally published. HPS was also able to clarify guidance documents, e.g. High Security IDU bed in Newcastle availability at that time, mitigating risk to care as well as reputation at a later date.

A key early action in Scotland, initiated by HPS, was the establishment of a multi-disciplinary VHF working group. This group met regularly over the period and worked well in order to ensure thorough discussion, planning, preparation and exercising, thereby placing Scotland in a confident position to respond to any EVD case presenting. For example the VHF working group, through HPS, gathered information on the availability of adult and paediatric isolation facilities in order to facilitate more detailed planning and allow identification of those regional ID units with greater capability for dealing with suspected cases.

**Recommendation 1: Considering the success of the VHF Working group in engaging across the NHS workforce and its important contribution to preparedness it is recommended that a multi-agency group, the Scottish Health Protection Preparedness Group, be set up to meet on a regular basis with a remit that encompasses high consequence public health risks,\* including infections. This group will be tasked with co-ordinating planning for response to future events involving significant emerging infections/and other threats to public health.**

**Recommendation 2: The Regional IDUs offer a focus for training and knowledge sharing. The status of these units should be reviewed and made more formal, and a network of Infectious Disease Doctors caring for both children and adults (community of practice) should be established as part of this process in order to capture a consensus view on clinical management issues as well as to facilitate cascade of communications where appropriate.**

\*High consequence infectious diseases are those that can spread easily without adequate safeguards and personal protection equipment, have a high case-fatality rate, are difficult to recognise and detect rapidly, and for which there may be no effective treatment.

High consequence environmental incidents are those that can cause contamination of a large area or large number of people, has a high case-fatality rate, and may be difficult to recognise and detect rapidly.

## 3.2 Guidance

Prior to the PHEIC being declared the risk to Scotland was considered to be low<sup>5</sup> however it was important that there was proper application of ACDP Guidance in the event of any cases arising. Therefore additional guidance material was developed on the transfer, diagnosis and management of possible EVD cases and isolation facilities and infection control precautions required for VHF for hospitals, primary care and the SAS (in collaboration with SAS). Guidance was produced on waste management and the procurement of United Nations approved containers for the collection and disposal of waste generated during the care of confirmed EVD cases, as well as decontamination of premises and aircraft after engagement with the Government Decontamination Service and other specialist providers.

The National Infection Prevention and Control Manual inclusive of Standard Infection Control Precautions (SICPs) and Transmission based Precautions (TBPs) was first published in 2013 and is mandatory for NHS Scotland. With respect to protection of healthcare staff, it was noted that there was a worrying level of ignorance on the use of Standard Infection Control Precautions (SICPs) among some NHS staff. HPS published guidance on suitable/required Personal Protective Equipment (PPE) products and how they should be worn and worked with National Procurement directly in terms of provisions of PPE. These activities helped enable local ICTs to purchase sufficient PPE for their Board and meant that NHS Scotland was largely prepared when global shortages of coveralls became apparent in October/November 2014. To ensure every board had sufficient stocks of suitable coveralls HPS, with the Scottish Government and National Procurement created a national stockpile of coveralls for EVD preparedness; a stock taking exercise was performed in every NHS board and by December every board had a minimum number of enhanced PPE sets to cover a 48 hour period.

The enhanced PPE required for EVD protection were/are not widely used in routine day to day healthcare, so Healthcare Workers (HCWs) had little or no experience of using these and training materials had to be produced rapidly. In order to support staff HPS and NHS Education Scotland in collaboration with NHS Greater Glasgow and Clyde and NHS Ayrshire and Arran produced a number of educational resources. These resources included a film clip, training slide sets, summary sheet and posters relating to Viral haemorrhagic Fever- correct donning and the safe order for removal and disposal of personal protective equipment. These were distributed to NHS Boards and made available on the NES website.

**Recommendation 3: HPS and NES should do further work to ensure that staff in non acute care settings are aware of the guidance in the National Infection**



**Prevention and Control Manual and if necessary produce further education materials to support the implementation of the guidance contained in the manual.**

**Recommendation 4: HPS and NES should continue to work collaboratively with stakeholders to review and if necessary develop further educational resources and provide training opportunities in relation to enhanced PPE requirements for staff caring for patients with high consequences infections such as Ebola.**

### **3.3 Assessment and management of returning travellers**

Prior to the declaration of the PHEIC, and the resulting volunteering, screening at Scottish ports was rejected on the basis of both the very low risk, low relevant passenger entry numbers and on the basis of evidence on the effectiveness of standalone screening in preventing entry of diseases. Scotland instead relied on the application of ACDP guidance should any suspected cases present. With respect to this guidance there were some documents on management of contacts that were not readily available. Discussions with PHE ensured these were circulated to NHS Boards. In addition, HPS and NES working with NHS Greater Glasgow and Clyde produced a webinar “management of the Febrile traveller” which was placed on the NES website.

### **3.4 Coordination & Co-operation**

Prior to the CWG, NHS Greater Glasgow & Clyde had spent considerable time and effort ensuing care for athletes was robust, given the amount of media attention focussed on the event. With EVD outbreak still in its early stages HPS took a role in producing additional guidance and efforts were made on both sides to ensure clarity of communication.

Coordination across NHS Scotland was aided by the work of the VHF Working group from the outset with support from the CMO’s team and HPS. With the situation in West Africa obviously deteriorating further, PHE began to engage with the Devolved Administrations in order to prepare for a UK-wide approach should the need arise. HPS was represented at all teleconferences and contributed to discussions on port health, clinical care, contact tracing and screening.

### **3.5 Communication**

HPS reviewed the data from West Africa on a daily basis and kept travellers and health professionals informed via TRAVAX, fitfortravel and HPS websites. With the spread of the EVD outbreak to Sierra Leone, a Commonwealth Games country, HPS recognised possible impact on CWG and carried out a thorough risk assessment, assessing the risk as low, which was also communicated to the European Centre for Disease Prevention and Control; who were concerned about the risk of the CWG to Europe.

GGC and HPS engaged well with the media during this high profile period, while maintaining confidentiality of individuals in the Commonwealth Games Village.

## 3.6 Cases and Contacts

While modelling papers were published estimating the likelihood and number of potential cases to be exported to Europe from West Africa<sup>6-8</sup> the simple assumption taken in Scotland was that 'it is likely that a case might arrive.

The basis for case and contact management was ACDP Guidance the implementation of which was directed by the VHF Working Group. This was sufficient for the possible cases that were managed during the CWG.

# 4 Activity as a result of the PHEIC

## 4.1 Preparedness

Prior to the PHEIC and the development of a common UK response the VHF Working Group had planned and implemented effectively with respect to surveillance, risk assessment and management of any case. The Working group was a short life group only and once the PHEIC was declared became to all intents and purposes inactive.

While effective in the initial stages of the outbreak, it should be noted that the VHF Working Group was not tested under circumstances that arrived after October 2014 where risk to the UK increased as volunteers begin to depart to the affected area to carry out roles related to care of ebola patients. The volunteering of healthcare workers was not planned for by the Working Group, and arguably, in the early stage was unforeseen as a potential risk for the future; UK Government were the main driver for this aspect of the UK response. In responding to the volunteering PHE were instrumental in developing a system of risk management for volunteers which sought to balance the risk of the disease with giving re-assurance to volunteers and the public.

## 4.2 Guidance

While the Scottish VHF Working Group had operated within the framework provided by the ACDP Guidance in the early stages of the outbreak, PHE were working under greater scrutiny as well as in a situation of greater risk to the UK. Therefore PHE set up further arrangements to handle all aspects of the situation involving staff from across England to manage screening, guidance, and epidemiology as well as the incident response.

PHE were producing and amending a growing suite of materials very quickly. This meant that due to practical response demands and a rapidly changing knowledge base there was not always sufficient time for detailed discussion or advanced warning to Devolved Administration colleagues before publications were finalised.

This aspect of guidance development was a major issue for HPS who regularly had to reschedule business to handle enquiries on new guidance that had been disseminated, as well as revising PHE outputs to make them suitable for use in Scotland; it was acknowledged that HPS did not have the economy of scale compared to PHE.

Some elements of PHE guidance were not directly applicable to Scotland and required modification/adaption for use in Scotland. PHE also modified HPZone to record returning travellers from affected countries. These changes had to be replicated on a number of occasions as definitions and advice changed in response to developing knowledge of disease epidemiology, management and public risk perception. Due to the nature of HPZone contractual arrangement, these changes had to be made in Scotland, independently of that in England even though they were the same changes.

Due to the breakdown in control of the outbreak in West Africa and with increasing cases and exported cases being reported consideration was given to where potential cases might present. Posters were sent out in October 2014 to Emergency Services, Primary Care and Pharmacy endorsed by the Royal College of General Practitioners and the Royal College of Emergency Medicine. These advised Accident & Emergency (A&E) Departments and General Practitioner (GP) surgeries to manage patients appropriately where they arrived on premises as opposed to sending them home. In order to minimise confusion across the Boards it was recommended that the same posters should be used or at least posters with the same message.

**Recommendation 5: With a number of international public health emergencies having occurred since 2005, HPS should review how it collaborate with PHE and other health protection agencies in the devolved administrations on guidance development for the management of such incident.**

**Recommendation 6: Review lessons learned from management of HPZone and how updates to HPZone can be carried out if deemed appropriate in a more cost-effective and time efficient way.**

## 4.3 Assessment and management of returning travellers

The UK Government were keen to allow UK volunteers to help support the global effort in West Africa, and PHE announced that they would begin screening returners from West Africa with activity focussed on English ports. The activity at port was merely the first step in a larger risk and management process based on a modification of ACDP guidance. PHE considered that assumptions and criteria underpinning the risk to HCWs exposed in the UK would not hold for HCWs exposed in Sierra Leone.

Because of the evidence against the utility of standalone point of entry screening operations which were not part of a formalised risk management pathway<sup>4</sup>, Scotland

chose not to screen. In addition PHE was advising all returners to enter the UK through Heathrow or Gatwick, and it was deduced that numbers at Scottish ports were likely to be small, and that there was no need for such screening programme in Scottish ports.

However returners were risk assessed by NHS Boards using criteria developed by PHE who agreed to send kits to HPS to allow for higher risk Category 2 and 3 returners to monitor their own temperature. These were distributed to ports and were handed out by UKBF staff who also gave a letter containing local contact details for health protection teams to allow follow up.

In total 112 known (those registered through the PHE scheme) returning workers were managed in Scotland, of whom 36 were military.

**Recommendation 7: Review the evidence for entry and exit information and screening processes as part of disease risk management at borders using lessons learned by PHE and define criteria under which risk management approaches at borders would be appropriate.**

**Recommendation 8: In light of experiences during the Ebola outbreak, the Scottish Health Protection Preparedness Group should explore with UKBF whether a protocol should be put in place in order to allow UKBF to share passenger information with the NHS in Scotland for the purpose of protecting public health.**

## 4.4 Coordination & Co-operation

Once the PHEIC was declared and the decision was made to develop a UK-consistent approach, PHE then led the response, utilising its resources over a period of months. This resulted in production of guidance particularly on the risk management of volunteers returning. However not all guidance was applicable to the other DA's. In addition given the wide range of intelligence sources and organisations with which PHE had routine contact and the speed of response requirements, the rationale for decisions on changing guidance were occasionally delayed. This made it difficult for the DAs to understand.

In order to effect some control HPS liaised with National Maritime Information Centre and UKBF to ensure lines of communication that would provide intelligence directly to HPS, just in case information was not forwarded timeously by PHE. This work proved additionally useful in developing the assessment plans at airports as a line of communications to UKBF had already been established.

In addition as questions arose in Scotland on how to implement ACDP guidance at airports and sea ports HPS took the initiative to contact other UK bodies to seek advice and guidance directly. Of particular help was the Government Decontamination Service (GDS) who provided advice and company details for decontamination as well as aiding in negotiations to seek a solution to the issue of aircraft cleaning. However none of the companies on the GDS list were willing to be

involved in the decontamination of a residential dwelling potentially contaminated by the body fluid from a patient.

In Scotland one example of good collaboration and co-operation was the role of NHS24 who were able to respond quickly in order to help triage those with concerns especially when the only Scottish confirmed case was identified.

**Recommendation 9: During any PHEICs there is a need for all UK administrations and health protection agencies to work closely for consistent and coordinated response. Building on that which happened during the Ebola response, there would be value in further consideration being given to the coordination and communication arrangements between PHE and the DA equivalents.**

**Recommendation 10: The GDS should regularly review their list to ensure that there are companies on their list who are prepared to provide a decontamination service in all settings.**

## 4.5 Communication

While efforts were made to ensure communication on the risk of EVD was clear and consistent through the Q & A produced covering some likely scenarios, there were however, some groups in the community from the health and care settings and the media who maintained a high level of concerns over potential scenarios which were highly unlikely to occur. With the widespread coverage of the West Africa Ebola outbreak in the media, communicating to health and care professionals of the low risk that EVD posed in the UK care setting was difficult. This theme of high perception of risk, particularly among some GPs only increased after the declaration of the PHEIC.

**Recommendation 11: HPS should work more closely with professional bodies and colleges to ensure that any concerns expressed by their members are adequately addressed in the early stage of the incident with available evidence.**

## 4.6 Cases and Contacts

A Care Pathway was drawn up for any patients presenting at GP practices and A&E, including guidance on adult and paediatric patients. The Care Pathway indicated that the local Infectious Disease Specialist be contacted in the first instance for further advice on management.

In Scotland issues related to geography became important with the potential, and actuality of returnees coming home to remote locations with little or no infrastructure making evacuation difficult should they be assessed as a possible case.

Many of the possible cases that were assessed and followed up identified problems and issues that were on the whole successfully dealt with. The Problem Assessment Group (PAG) was deemed to be the best way to begin assessing cases, using virtual or face to face meetings at local level depending on circumstances. When a case

was assessed in one Board but treated in another it was agreed that the assessing Board should lead any PAG but involve the Health Protection Team (HPT) of hospital Board when their ID specialist advice was sought.

With respect to laboratory diagnostics, a protocol for laboratories was published on the HPS website by Scottish National Viral Haemorrhagic Fever Test Service (SNVTS) at Edinburgh Virus Laboratory. Transport arrangements for specimens were discussed with regards to Category A and B. The nature of Category A transport, being dependent on the availability of a small number of providers, meant that samples could take up to 12 hours to reach the laboratory, and therefore have the potential to affect patient care. It was recommended that even where EVD was suspected samples could be transported under Category B ensuring that the sample was transported in the most efficient way.

The time to get results back was seen as important as, even though many were low probability cases, early tests results helped manage the patient and public and media concerns/enquiries.

**Recommendation 12: Scottish Health Protection Preparedness Group should liaise with the SNVTS and develop a protocol to ensure that specimen transport is as rapid as practicable to facilitate appropriate patient care. The issue of the suitable number of service providers should be considered.**

On the subject of patient transport it was recommended that for any suspect **high possibility** VHF cases PHE Imported Fever Services should be contacted for advice as to whether the case was a **low or high probability** case. This advice would then inform as to whether a SORT ambulance would be required, for example.

However during the period of the PHEIC it became clear that SAS had their own guidelines which diverged from the view taken by the VHF Working Group, PHE and the Ambulance Service in England. While the latter organisations all recommended the use of Standard Infection Control Precautions (SICPs) for **low probability** cases and full PPE for **high probability** cases, SAS used SORT Ambulances and full PPE for attending crews for both low and high probability cases. The SAS felt that their staffs operate in a close and confined environment during transportation of a patient with additional risk of infection transmission.

**Recommendation 13: The Scottish Health Protection Preparedness Group should discuss the issue of patient transportation further with the SAS to ensure that a risk based approach to PPE is adopted as detailed in the National Infection Prevention and Control Manual. This should include a detailed risk assessment involving specialist clinicians, public health and SAS taking into account the additional environmental challenges that the SAS staffs have to operate during patient transportation.**

On 29th December 2014 the first case of EVD to be diagnosed within the UK was confirmed in Scotland by the SNVTS. The patient was a healthcare worker who had recently returned from Sierra Leone to Glasgow via London Heathrow.

Following confirmation of EVD infection, the case was managed in the Brownlee Centre, Gartnavel General Hospital, Glasgow prior to transfer to the Royal Free Hospital in London. Appropriate staffing levels, PPE and isolation facilities were deployed in the Brownlee Centre and there was no onward transmission of EVD infection. Review of the processes involved indicated that measures applied were safe and effective.

While the case was managed clinically by Greater Glasgow and Clyde NHS Board, HPS carried out contact tracing on passengers who had been on the flight taken by the case from London, identifying 76 possible contacts. By 31 December 2014, all of these passengers had been contacted, interviewed, given advice and, where appropriate had ongoing monitoring arranged. Healthcare contacts in the Brownlee and family contacts were also managed by a number of Scottish NHS Boards. There were some communications issues between HPS and the airline which were traced back to confusion at the switchboard shared by NHS Great Glasgow & Clyde and HPS. Actions involving the airline, HPS and PHE were overall successful.

**Recommendation 14: In light of the number of airlines flying directly into Scottish Ports, HPS and the NHS Boards should rehearse contact tracing on board aircraft to ensure that their health protection staffs are fully familiar with the process involved. This should also include agreeing protocol with the airline industry for the need for sharing relevant passenger manifest to facilitate early contact tracing.**

In light of the fact that Scotland managed not only a Crimean Haemorrhagic Fever case in 2012 but also the EVD case in 2014, it is recognised that NHS Scotland should be able to manage both low level localised disease in Scotland without having to transfer patients out to other facilities as well as managing patients initially prior to transfer to a specialist unit outside Scotland. This may however, depend on investment in improving facilities as well as developing an agreed protocol.

**Recommendation 15: The Scottish Health Protection Preparedness Group should review the ID care facilities (both for children and adults) in Scotland to ensure that the services are able to initially manage patients with high impact emerging infections. This review should include consideration of how long the most serious cases should be able to be cared for safely in Scottish facilities.**

## 5 Activity during the latter part of the PHEIC

### 5.1 Preparedness

Lessons continue to be learned from the Ebola PHEIC and this is on-going with some lessons were applied during the Zika PHEIC. The focus should be on those risks that have either pandemic potential and/or those that can spread easily without adequate safeguards and personal protective equipment, have a high case fatality rate, are difficult to recognise and detect rapidly, and for which there may be no effective treatment.

## 5.2 Communication

While communications settled as the risk decreased there were examples of where communications could have been better handled in the case of the single EVD case. On occasion communications between local services/agencies and national services/agencies were not as well coordinated as they might have been.

**Recommendation 16: Learning from the issues arising it is recommended that for any future event involving a high profile case who is transferred from Scotland to England for specialist care, it is important that a confidential channel of communication is established with an identified single point of contact between England and Scotland. This will help ensure cohesiveness of messages, as well as reduce anxiety among patients and relatives.**

## 5.3 Cases and Contacts

On the third admission of the EVD case risk assessment was carried out by clinical staff at the Brownlee IDU, Queen Elizabeth University Hospital and the Royal Free which resulted in transfer by RAF Hercules from Glasgow to London. The cost of this operation was substantial and SG were unaware of this arrangement until details were finalised. It was therefore suggested that a more inclusive risk assessment should have been undertaken involving clinicians from both hospitals and staffs from HPS, SAS and Scottish Government.

**Recommendation 17: In the matter of using aircraft to transfer high risk patients between hospitals, clear procedures should be drafted by the Scottish Government and the Ministry of Defence in liaison with the SAS. These should identify criteria when aircraft may be considered, and who should be involved in carrying out the risk assessment informing this decision.**



## 6 Summary of Recommendations

**Recommendation 1.** Considering the success of the VHF Working group in engaging across the NHS workforce and its important contribution to preparedness, it is recommended that a multi-agency group, the Scottish Health Protection Preparedness Group, be set up to meet on a regular basis with a remit that encompasses high consequence public health risks,\* including infections. This group will be tasked with co-ordinating planning for response to future events involving significant emerging infections/and other threats to public health.

**Recommendation 2.** The Regional IDUs offer a focus for training and knowledge sharing. The status of these units should be reviewed and made more formal, and a network of Infectious Disease Doctors caring for both children and adults (community of practice) should be established as part of this process in order to capture a consensus view on clinical management issues as well as to facilitate cascade of communications where appropriate.

**Recommendation 3.** HPS and NES should do further work to ensure that staff in non acute care settings are aware of the guidance in the National Infection Prevention and Control Manual and if necessary produce further education materials to support the implementation of the guidance contained in the manual.

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**Recommendation 8.** In light of experiences during the Ebola outbreak, the Scottish Health Protection Preparedness Group should explore with UKBF whether a protocol should be put in place in order to allow UKBF to share passenger information with the NHS in Scotland for the purpose of protecting public health.

**Recommendation 9.** During any PHEICs there is a need for all UK administrations and health protection agencies to work closely for consistent and coordinated response. Building on that which happened during the Ebola response, there would be value in further consideration being given to the coordination and communication arrangements between PHE and the DA equivalents.

**Recommendation 10.** The GDS should regularly review their list to ensure that there are companies on their list who are prepared to provide a decontamination service in all settings.

**Recommendation 11.** HPS should work more closely with professional bodies and colleges to ensure that any concerns expressed by their members are adequately addressed in the early stage of the incident with available evidence.

**Recommendation 12.** Scottish Health Protection Preparedness Group should liaise with the SNVTS and develop a protocol to ensure that specimen transport is as rapid as practicable to facilitate appropriate patient care. The issue of the suitable number of service providers should be considered.

**Recommendation 13.** The Scottish Health Protection Preparedness Group should discuss the issue of patient transportation further with the SAS to ensure that a risk based approach to PPE is adopted as detailed in the National Infection Prevention and Control Manual. This should include a detailed risk assessment involving specialist clinicians, public health and SAS taking into account the additional environmental challenges that the SAS staffs have to operate during patient transportation.

**Recommendation 14.** In light of the number of airlines flying directly into Scottish Ports, HPS and the NHS Boards should rehearse contact tracing on board aircraft to ensure that their health protection staffs are fully familiar with the process involved. This should also include agreeing protocol with the airline industry for the need for sharing relevant passenger manifest to facilitate early contact tracing.

**Recommendation 15.** The Scottish Health Protection Preparedness Group should review the ID care facilities (both for children and adults) in Scotland to ensure that the services are able to initially manage patients with high impact emerging infections. This review should include consideration of how long the most serious cases should be able to be cared for safely in Scottish facilities.

**Recommendation 16.** Learning from the issues arising it is recommended that for any future event involving a high profile case who is transferred from Scotland to England for specialist care, it is important that a confidential channel of communication is established with an identified single point of contact between England and Scotland. This will help ensure cohesiveness of messages, as well as reduce anxiety among patients and relatives.

**Recommendation 17.** In the matter of using aircraft to transfer high risk patients between hospitals, clear procedures should be drafted by the Scottish Government and the Ministry of Defence in liaison with the SAS. These should identify criteria when aircraft may be considered, and who should be involved in carrying out the risk assessment informing this decision.

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