Preparation for Infectious Hazards affecting the Community

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United Kingdom Advisory Committee on Dangerous Pathogens (ACDP)

- Advises Government on infection hazards proleptically and in emergency
- Tripartite Expert Committee
  - Department of Health
  - Health and Safety Executive
  - Department of Environment and Rural Affairs
- Wide expertise across Human and Animal Health
- Meets three times per year
  - Ad hoc subcommittees
Advisory Committee on Dangerous Pathogens

• Established 40 years ago
  – Primarily for workplace infection

• Strategic remit
  – Risk assessment

• Statutory Remit
  – Annual National Risk Assessment of Infection
  – Maintenance of Microbiological Hazard Categories CL2, CL3, and CL4
  – Management of Group 4 viral haemorrhagic fevers and similar infections
Microbiological Hazards Group

Containment Level 3 (CL3)

• Influenza
• Lethal infection but vaccine and antiviral chemotherapy
• Zoonosis

Containment Level 4 (CL4)

• Viral haemorrhagic fevers
• EBOLA, LASSA
• No vaccine, supportive treatment (mortality around 50-60%)
• New infections – SARS, ZIKA
Influenza: Zoonosis

• Poultry principal vector
  – Culling intensive poultry farms
• Mutation renders humans susceptible
• Serological classification on haemoglutinin & neuroaminidase (e.g. H5N7, H1N1)
• Best assessment of animal prevalent strain for vaccine
ACDP Subcommittees

• Prion disease
• Research:
  – 1 in 2000 tonsillar tissues prion positive
  – 1 in 2500 appendix specimens prion positive

  ? clinical significance

• Pet passports
  – Rabies vaccination
  – ? Hydatid treatment
EBOLA

• First ACDP guidance 23 years ago
  – Laboratory containment safety
  – Disinfection and air filtration
  – Specialised CL4 laboratories

• Two laboratories in the UK
  – PHE
  – Porton, Colindale

• Research
  – Epidemiology
  – Viral pathogenesis
  – Diagnosis
Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence

Advisory Committee on Dangerous Pathogens

November 2015
Guidance: Management of group 4 viral haemorrhagic fevers and similar infections

- Regular revisions
- Human containment
  - Awareness and diagnosis
  - Protection of workforce
  - Transport of patients
  - Medical and nursing care
- Establishment of specialised clinical units (mothballed)
- Trexler clinical isolation
INFECTION CONTROL PERSONAL PROTECTION MEASURES:

MINIMAL RISK
- Standard precautions apply
- Hand hygiene, gloves, plastic apron
- Eye protection and fluid resistant surgical face mask for splash inducing procedures

STAFF AT RISK
- Hand hygiene, double gloves, fluid resistant disposable coverall or gown, full length plastic apron over coverall/gown, head cover e.g. surgical cap, fluid resistant footware e.g. surgical boots, full face shield or goggles, fluid resistant N95 respirator

CONFIRMED VHF
- Contact High Level Isolation Unit for transfer (030 7794 0030; Nocal Road)
- Launch full public health actions, including categorisation and management of contacts
- Inform lab as hospital lab tests are needed

HIGH POSSIBILITY OF VHF
- Isolate patient in a side room
- Urgent Malaria Investigation
- Full blood count, U&Es, LFTs, C reactive protein, glucose, blood cultures
- Inform laboratory of possible VHF case (for specimen waste disposal purposes if confirmed)

LOW POSSIBILITY OF VHF
- Urgent Malaria Investigation
- Urgent local investigations as normally appropriate, including blood cultures

STAFF
- Does the patient have a fever (≥37.5°C) or history of fever in past 24 hours?

PATIENT
- Was the patient developed symptoms within 21 days of leaving a VHF endemic country? (See above info box for data on VHF endemic country)
- Has the patient come into contact with body fluids or handled clinical specimens (blood, urine, faeces, tissues, laboratory cultures) from an individual or laboratory animal known or strongly suspected to have VHF within the past 21 days?

LOW PROBABILITY
- VHF unlikely; manage locally
- VHF unlikely; manage locally

HIGHER PROBABILITY
- VHF unlikely; manage locally
- VHF unlikely; manage locally

Malaria test
- VHF unlikely; manage locally
- VHF unlikely; manage locally

VHF unlikely; manage locally
- VHF unlikely; manage locally

VHF unlikely; manage locally
- VHF unlikely; manage locally
Trexler isolation unit
Containment
Containment
EBOLA epidemics

- Classical cordon sanitaire to contain infection
- 2015 Epidemic City based
  - UK responsible for Sierra Leone
- Guidance from ACDP
  - Provision of UK facilities
  - Provision of diagnostic and clinical facilities in Sierra Leone
  - Department of Health responsible
Field Hospital
EBOLA: UK Response

- ADDP meet weekly to update guidance in the light of developing epidemic
- Diagnostic Algorithm sent to every doctor in UK
  - (Emergency Centres, GP)
- Close collaboration with Air Force and ambulance service for specialised patient transport
EBOLA: Sierra Leone

• ACDP guidance
  – Detailed, enabled raid procurement of equipment

• Public Health England
  – Responsible for establishing rapid diagnosis
  – Established regional service based on PCR

• Massive local response
  – 3000 individuals from UK involved
PHE response
Screening and clinical facilities for EBOLA in UK

• Only rapid screening: body temperature
• Introduced at airports after political decision
• Insensitive – incubation period
• Rapid PCR diagnosis established
• Emergency overflow clinical facilities in six centres throughout UK
Challenges during Epidemic

- Routine blood diagnostics: FBC, biochemistry
- Roche advised their diagnostic equipment should not be used
- ACDP immediately entered into discussion with Roche
- Disinfection solutions for laboratory equipment problem
Conclusions

• ‘Better safe than sorry’

• ACDP establishes core strategies to protect communities and workforce against infection

• ACDP responds to emerging situations advising Government response