



PHE Board Paper

Title of meeting	PHE Board
Date	Wednesday 26 March 2014
Sponsor	Paul Cosford
Presenter	Information paper
Title of paper	Flooding events in January and February 2014 and the PHE response

1. Purpose of the paper

- 1.1 The purpose of the paper is to:
- outline the nature and extent of the flooding events in January and February 2014;
 - describe PHE's actions to protect public health as part of the wider multi-agency response; and
 - summarise the findings of PHE's assessment of its response to date, and actions taken so far as a result.

2. Recommendation

- 2.1 The Advisory Board is asked to **NOTE** PHE's actions in relation to the flooding in January and February 2014 and the lessons learned to date.

3. The nature and extent of the floods

- 3.1 Record breaking winter rainfall led to persistent and recurrent major flooding in England in late January and February 2014. The flooding events witnessed were a combination of river, surface water, groundwater and coastal/tidal flooding. Flooded areas included the Somerset Levels, Cornwall, the Thames Valley, Greater London, Kent, Surrey, Sussex, Dorset, Hampshire, and along the River Severn.
- 3.2 The Environment Agency estimates that approximately 6,000 properties have been flooded since the beginning of the year; the Association of British Insurers estimates insurance costs to be in the region of £1.1 billion.
- 3.3 The national elements of this incident were overseen across government by regular ministerial COBR meetings and through regular meetings of Whitehall officials, co-ordinated through lead Government Departments.

4. Flooding and the public's health

- 4.1 Flooding presents a number of risks to health, drowning being the most obvious. Serious injury can be caused by falling into fast flowing water or from hidden dangers under the water although in the UK this is fortunately rare. In addition, there is a risk of injuries, infections, and chemical hazards (eg carbon monoxide poisoning through the inappropriate use of fuel-driven generators and DIY

equipment indoors).

- 4.2 There is often public concern regarding the risks of sewage-contaminated flood water; however, the risk of serious waterborne infections in this country is very low. The stress and strain of being flooded and cleaning up can have a notable impact on mental health and wellbeing and it is these effects that are considered to represent the greatest burden of flood-related disease in England.
- 4.3 Vulnerability to the negative health and wellbeing effects from flooding is due to a complex interaction of factors:
- (i) Severity and rapidity of the flooding;
 - (ii) Health status and need for regular medical treatment;
 - (iii) Access and availability of warning;
 - (iv) Rapidity of response measures;
 - (v) Being located in high-risk areas.
- 4.4 When flooding occurs, regardless of the source, deprived groups as well as people from ethnic minorities and people with disabilities are more likely to experience adverse effects on health and wellbeing than those who are less deprived.

5. PHE's role and response arrangements in a flood event

- 5.1 At national level, the cross-governmental planning and response for flooding is led by the Department for Environment, Food and Rural Affairs (Defra) whilst recovery is led by the Department for Communities and Local Government. At local level, the multi-agency Strategic Co-ordinating Groups (SCGs, usually chaired by the police) lead the response to any major local emergency, with local authorities leading on recovery.
- 5.2 The National Flood Emergency Framework (<https://www.gov.uk/government/publications/the-national-flood-emergency-framework-for-england>) sets out the Government's strategic approach to flood emergency planning, bringing together information, guidance and policies. PHE's role in flooding is described in this framework (page 28).
- 5.3 PHE generic emergency preparedness, resilience and response arrangements are set out in the National Incident Response Plan (NIRP). This describes the mechanisms by which PHE discharges its obligations as a Category 1 responder under the Civil Contingencies Act during events or situations which threaten or damage the health of the public.
- 5.4 In this plan incidents are assessed as being one of five levels. Level 1 and Level 2 are a major part of the normal acute activity of PHE Centres supported by the relevant specialist service of PHE as required. Incidents that are assessed as level 3-5 are considered to need national co-ordination and/or control and leadership, with the extent of national involvement determined on a case by case basis. If national co-ordination is required a National Incident Co-ordination Centre (NICC) is opened. The maximum response level reached during these floods was level 3 with the National Incident Coordination Centre supporting local response teams established in affected PHE Centres.

6. PHE's strategic aims in relation to the floods of January and February 2014

6.1 These were:

- (i) To provide technical and specialist advice, particularly with regard to microbiological and chemical hazards and mental health impacts. This was provided to national and local partners including the Cabinet Office Briefing Rooms (COBR), the Department of Health and Ministers, NHS England, the EA, local multiagency Strategic Co-ordinating Groups and local government;
- (ii) To raise public awareness of the potential risks and consequences during and after a flooding event, and to provide public and professional guidance and reassurance as appropriate;
- (iii) To monitor the impact on health through real-time syndromic and other surveillance, particularly in relation to gastro-intestinal disease;
- (iv) To maintain business continuity through the provision of mutual aid from unaffected areas as appropriate.

7. PHE's engagement and activities during response and recovery

7.1 24 January – 7 February 2014

On 24 January, in light of the continued flooding of the Somerset levels and forecast heavy rainfall, both Somerset County Council and Sedgemoor District Council declared a major incident. The Devon, Cornwall and Somerset PHE Centre attended the Strategic Co-ordinating Groups meetings, giving public health advice based on the pre-existing PHE material on health and flooding. The incident was level 1 within the National Incident Response Plan.

7.2 24 January – 7 February 2014

Over the following two weeks, flood alerts were announced across Southern England, particularly Kent, Surrey and Sussex, and the Thames Valley, and there were concerns about possible flooding at a water treatment works in South London. These events were initially also managed as level 1 incidents under the National Incident Response Plan. This was because only local areas were affected and local PHE centres were able to provide the local public health response. Scientific and practical support was provided to local response teams by the Extreme Events and Emergency Response Departments of the Health Protection and Medical Directorate, and national and regional communications support.

7.3 7 – 9 February 2014

The Devon Cornwall and Somerset Centre declared a level 2 incident, with now significant input of PHE Centre and Regional staff to Strategic Coordination Groups (SCGs) across Southern England. Situation reports from potentially affected areas were submitted from PHE to DH as requested. It became clear from Met Office warnings that other areas were quickly experiencing, or at risk from the effects of significant flooding.

7.4 10 February 2014 – 25 February

On the 10 February, in view of the widespread nature of the floods and the need for stronger national co-ordination of PHE's response, the decision was taken to

declare a level 3 response and activate the National Incident Coordination Centre (NICC). This was staffed from 8am to 6pm seven days a week until 24th February, with frequent working beyond those times as required. Under these arrangements:

- (i) **PHE centres** remained the key focal point for local PHE response teams, attending daily Strategic Co-ordinating Group meetings, providing public health advice, and providing regular reports on issues of public health concern. They ensured that situational awareness was maintained, appropriate support was available and reported daily to the National Incident Coordination Centre.
- (ii) **The PHE National Incident Coordination Centre and staff from the Emergency Response Department** provided overall co-ordination including:
 - a. Daily telephone conferences with the eight affected PHE centres and the national specialist teams supporting them;
 - b. A daily PHE situation report (sitrep);
 - c. Daily telephone conferences with the Department of Health and NHS England to ensure cross health system co-ordination;
 - d. Advice to the Department of Health and ministers attending 40 COBR meetings;
 - e. Contributing to numerous parliamentary questions and enquiries from the public.
- (iii) The National Incident Coordination Centre was supported by a national scientific and technical advisory cell, a communications cell, a surveillance cell and a mutual aid cell – each supporting a specific strategic aim as described in section 6.1.
- (iv) The **scientific and technical advisory cell** updated the pre-existing “frequently asked questions” on the Health Protection Agency website, re-published existing leaflets for the public and for professionals on coping with the mental health effects of flooding, on preparing for and staying safe during floods, and on cleaning-up safely after floods. A recovery guidance document was also produced. Material was updated regularly in response to comments and questions received from partners at national and local level.
- (v) The **communications cell** implemented a major information campaign including:
 - a. PHE spokespeople undertaking over 100 broadcast media interviews;
 - b. A PHE editorial article for regional communications teams in affected areas to syndicate to regional/local print and online press;
 - c. Producing 10,000 laminated copies of the ‘clean-up’ leaflet for onward distribution by PHE centres;
 - d. Commissioning two radio advertisements on cleaning up safely and highlighting the danger posed by carbon monoxide poisoning that were broadcast on local radio stations in affected areas for two weeks;
 - e. Using social media routes extensively to highlight the key public health messages.
- (vi) The **surveillance cell** co-ordinated PHE’s monitoring of the health status of the populations affected by the flooding. They produced a co-ordinated disease surveillance report bi-weekly including syndromic surveillance, lab-based reports and outbreak and incident reports. No syndromic, notifiable disease or laboratory identified outbreaks of infectious diseases associated with flooding have been identified thus far.
- (vii) The **mutual aid** cell supported centre directors to ensure that workloads were not overly onerous and that business continuity arrangements, including mutual aid, were invoked where necessary. This recognised that the bulk of

the work associated with this incident is being borne by PHE centres and local teams. Mutual aid was supplied by East Midlands and Anglia and Essex PHE centres to Kent, Surrey and Sussex and Devon, Cornwall and Somerset centres respectively.

7.5 **26 February 2014 – 12 March**

As areas began to move into the recovery phase, PHE formed a national recovery working group to further develop guidance for use at local level on the 26th February. The recovery working group continued to receive logistical and administrative support from the National Incident Coordination Centre.

The recovery working group included members of the scientific and technical advice cell and a psychological support group was established to consider advice for any medium to long-term mental health effects from the floods. Their work is now incorporated in a longer term psychosocial and behavioural issues subgroup which will support PHE's emergency preparedness functions in the longer term.

A research and evaluation subgroup was also established, which is developing proposals for further research to understand better the health impacts of flooding and the factors associated with poor outcomes.

There were few requests for further recovery guidance and the last version of the recovery guidance and FAQs was published on 27th February. On the 12th March, the recovery working group and the National Incident Coordination Centre was stood down and the debrief process commenced.

8. Assessment of PHE's response to date

8.1 Through the actions taken and the mechanisms established to respond to the floods, PHE was able to meet all of its strategic aims. The response to this level 3 incident was regarded as successful, both within PHE and by external partners.

8.2 An interim initial "hot" debrief process has been undertaken and some of the lessons identified are discussed in section 7. A further more detailed constructive debrief is now being held, the feedback from which will be considered further by PHE senior staff and key stakeholders. This will further inform development of plans, training programmes and other preparedness activities for future emergencies.

9. Lessons learned and action taken thus far

9.1 However successful, there are always lessons identified in any major incident response which can lead to further improvement in the organisation's response capability. Some examples are:

- Staff have joined PHE from many organisations. Some are familiar with PHE's Category 1 statutory response responsibility, some are less so. An important general point from this flooding response is that PHE needs to improve awareness of this duty and the need of all staff to support PHE's Emergency Preparedness, Resilience and Response (EPRR) responsibilities including incident response;
- This has been the first real test in PHE of a multi-centre incident and has

highlighted the need for flexibility across PHE's incident planning arrangements;

- The importance of the rapid availability of advice for both the public and professionals, via the media, social media, traditional media and the PHE website;
- The crucial importance of good on-going communication with partner agencies both at local (Local Resilience Forum) and national level;
- Further analysis is needed to ensure continuity arrangements are able to maintain responses over prolonged periods, again both locally and nationally;
- There is a need for further clarity over PHE's role in responses which are not primarily public health or health incidents such as flooding;
- Liaison with the Department of Health and NHS England was good particularly at national level. Joint teleconferences daily were very useful for co-ordination of health sector response, and this activity in large scale responses needs to be further formalised;
- There is a need for some streamlining of situation report templates within PHE.

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