Health Sector Security and Resilience Plan 2016

CONTENTS

EXECUTIVE SUMMARY	**3.**
ACTION PLAN	**5.**
UPDATE ON COMMITMENTS MADE IN 2015-16 SECTOR RESILIENCE PLANS	**7.**
IDENTIFICATION AND ASSESSMENT OF RISK	**13.**
ASSESSMENT OF SECURITY AND RESILIENCE	**13.**
Casualty Impact Risks	13.
Service Impact Risks	14.
Service and Casualty Impact Risks	17.
Pandemic Influenza	17.
Extreme Weather	17.
New and Emerging Infections	18.
Horizon Scanning	18.
Climate Change	18.
INCIDENT REPORTING	**19.**
Industrial Action	19.
Supply Chain	19.
Winter Floods 2015-2016	19.
Cyber Incidents	20.
Significant Public Health Incidents	21.
ANNEX I: BACKGROUND TO THE HEALTH SECTOR	**22.**
Health Care Sector	22.
Social Care Sector	22.
ANNEX II: GOVERNANCE, ROLES AND RESPONSIBILITIES	**23.**
Constitutional Position	23.
Department of Health	23.
EPRR Partnership Board	25.
NHS England	25.
Public Health England	26.
NHS Blood and Transplant	27.
ANNEX III: REGULATION	**28.**
NHS Improvement	28.
Care Quality Commission	29.
National Institute for Health and Clinical Excellence	29.
ANNEX IV: KEY INTERDEPENCENCIES	**30.**
Supply Chain	30.
Utilities	30.
Telecommunications	31.
Transportation	32.
ANNEX V: ASSESSMENT CRITERIA USED	**33.**
Criteria for Selection of the Priorities	33.
Criticality Criteria Used for CNI Identification/Categorisation	33.
Vulnerability Criteria Used Against Threats and Hazards	34.
Criteria Used to RAG Assess Progress in Mitigating Vulnerabilities	36.

TABLES

TABLE 1: HSSRP Actions: Next Steps	Separate.
TABLE 2: Upcoming Exercises	6.
TABLE 3: HSSRP Actions Update 2015-16	7.
TABLE 4: Cross-Government Exercises 2015-16	11.
TABLE 5: Significant Public Health Incidents 2015-16	22.
TABLE 6: Powers for Response and Preparation	25.
Public Summary	Separate.

EXECUTIVE SUMMARY

1. Within the health sector, there are generally good levels of resilience, with good preparedness and business continuity arrangements in place.

2. Although the NHS is often working at near maximum levels of capacity, there are backup systems, facilities and/or processes duplicating functionality of operational systems, and mutual aid arrangements available to take over in the event of failure.

3. The health and social care sector is hugely varied and has a unique role in responding to emergencies; it needs to be resilient to a wide range of risks and disruptive challenges which may affect its ability to continue to deliver services, whilst also ensuring it is able to deal with any resulting casualties. Functions are inextricably linked so that where there is disruption to any one area of the sector this can impact the rest of the sector.

4. With respect to social care, the assessment of the DH Social Care, Local Government & Care Partnership Directorate is that the sector could effectively respond to relatively short lived or localised emergency situations, but is likely to be much more challenged during a severe, prolonged emergency. We cannot be fully assured that the sector would be able to continue to arrange and deliver care in the home or in residential/nursing care in severe scenarios, and this may lead to further pressure being put on NHS services.

5. The health sector can be impacted by the majority of risks in the National Risk Assessment (NRA) because of its role in managing and treating any resulting casualties that result from the risk occurring. Because of this, it is essential that within the health sector, national planners are not necessarily considering individual risks in the NRA, but instead are planning against the common consequences of these risks as set out in the National Resilience Planning Assumptions (NRPA). Given the diversity and interconnectedness within the health sector, and the extent to which it needs to respond to the consequences of emergencies in other sectors, emergency preparedness, resilience and response planning in the health sector adopts an "All Risks" approach.

6. There are a number of active work streams that will be progressed during the year for reducing or mitigating those types of risk identified as being particularly significant. The work plan for HSSRP 2016 and progress since 2015 in those areas of work highlighted in that year's HSRP are also outlined.

7. Throughout 2016-17, health organisations in England will continue to ensure that they have their own plans based on national and local risk assessments, and also joint plans and processes related to key dependencies, infrastructure, utilities, the workforce and the supply chain. Lessons identified from real incidents, will be captured and shared. In particular;

    - Department of Health (DH) will be working across the health sector to consider resilience to prolonged electricity supply disruption and fuel shortages and the ongoing National Flood Resilience Review (NFRR);
    - DH, NHS England and NHS BT will continue to progress work on the findings of the Mass Casualties National Capabilities Risk Assessment (NCRA)
    - National supply resilience strategies for critical medical devices and clinical consumables continue to be developed and implemented;

8. The impacts on the health sector can be subdivided into three main categories:

    - Risks that result in a number of casualties which the health sector will need to deal with – Casualty impact risks;
    - Risks that affect the ability of the health sector to continue to provide a service – Service impact risks;
    - Risks that both affect the ability of the sector to provide its service and risks that result in casualties at the same time – Service and Casualty impact risks

9. Casualty impact risks include acts of terrorism such as Improvised Explosive Device (IED)/Vehicle-Borne IED attack on a crowded place, collapsing buildings, aircraft crashes, heatwaves, infectious disease outbreaks, CBRN (chemical, biological, radiological or nuclear) incidents or MTFAs (marauding terrorist firearms attacks);

10. The most notable Service impact risks is flooding;

11. Service and casualty impact risks include pandemic influenza and extreme weather. In future, such risks may increase in number and severity due to new and emerging infections and climate change;

12. During 2015-16, the health sector responded to a number of incidents. In particular;

    - During 2015 the British Medical Association (BMA) has been in formal dispute with employers and the Government. Junior Doctors commenced industrial action, withdrawing labour from elective and subsequently emergency care, this has meant that organisations have tested their plans to respond to staff shortages across a specific staff group, this action has continued into 2016. The BMA agreed to suspend industrial action to allow negotiations under the auspices of ACAS. Junior doctors are now voting on a new contract the results are expected in early July. Agreement was reached between DH, employers and the British Medical Asociation (BMA) in May 2016;
    - Following the December 2015 storms, the health and social care sectors performed well in delivering services and supporting local response and recovery efforts. However difficulties were encountered following disruption to electricity, transport and telecommunication links, demonstrating the importance of, and vulnerability to, interdependencies in the utilities;
    - Over the last 12 months the DH has activated two separate National Supply Disruption Responses. A further 3 significant supply disruption events have been recorded which did not require a national response. As a result of actions taken across the health system, no adverse impacts on patient care were reported in any of these incidents;
    - There have been a handful of cyber incidents reported during 2015-16. In all of the cases reported, effective and swift remedial action was taken at an early stage. Health and Social Care Information Centre (HSCIC) launched CareCERT last year, to provide advice and guidance to the health sector to respond to cyber security threats and to protect from malicious attacks;
    - PHE responded to twelve Level 2 incidents (across multiple PHE Centres), and six Level 3 and Level 4 incidents requiring national coordination (including the Ebola response).

ACTION PLAN

13. There are a number of active work streams outlined in Table 1 seeking to build resilience within the health sector for responding to all types of risk. A common mitigation strategy that is used across the health sector is around prioritising care provision.

14. Background information, Key Risks, and Actions against those Risks are shown in Table 1.

15. To test the resilience and capability of the health sector to respond to a number of incidents, DH will be leading a Tier 1 pandemic flu exercise.

- Exercise CYGNUS has been designed to provide the health and social care sector and other Government Departments with the means to test their plans for an influenza pandemic.
- From a multi-agency perspective, some of the key challenges of Exercise CYGNUS will include the impacts on excess deaths, the delivery of social care (which has never been fully tested under the new health sector arrangements), and widespread pressures on business continuity for a range of partners and services. Specifically all participating organisations will consider the following;

    a) That a national pandemic flu plan is in place, up to date and accessible and that plans of DH, NHS and other partners fit together;
    b) Sufficient numbers of staff are trained and exercised prior to Exercise CYGNUS;
    c) There are incident tasking system in place and that all Emergency Operations Centre facilities have been tested prior to the exercise;
    d) IT systems are maintained during Exercise CYGNUS;
    e) Learning from Exercise CYGNUS is captured and plans put in place to address any gaps identified.

16. In 2016-17, the health sector will also be participating in the following exercises outlined in Table 2 (Tier 1 exercises involve ministers);

TABLE 2: Upcoming Exercise 2016-17

Date	Title	Exercise lead	Description
June 2016	Exercise DELTA II	Department of Health	Command Post exercise, aimed at exercising new Joint CONOPS. Scenario in development. Participants include national planning teams from DH, NHS England and PHE.
June 2016	Exercise RED KITE Tier 1	Home Office	Tier 1 CT exercise. MTFA in Wales. Participants include DH and NHS England.
October 2016	Exercise CYGNUS Tier 1	Department of Health	Tier 1 Command Post and live exercise around a Pan Flu scenario. COBR and LRF play over three days. Participants include representatives from NHS England, PHE, DCLG, CCS, NOMs. Exercise CYGNET, a tri-partite health sector workshop, will be run in August 2016 in preparation.
December 2016	Food borne disease	Department of Health	Command Post food-borne disease exercise. Participants include DH, PHE, NHS England and FSA.
2017	44 Mass Distribution Centre exercise	Department of Health	Scenario yet to be developed.

UPDATE ON COMMITMENTS MADE IN THE 2015-2016 SECTOR RESILIENCE PLANS

17. Since the publication of the 2015 HSRP, work has been continuing across the health and social care system to increase resilience, and identify areas where further improvement is needed.

18. Progress against actions identified in the Health Sector Resilience Plan for 2015 are shown below.

TABLE 3: HSRP Actions Update 2015-16

	Action/Activity	Action Owner	Progress	RAG[1]
1.	Improve Health Sector resilience to Flooding	DH EPRR/NHS England/CCS	Working with the Civil Contingencies Secretariat to consider how the data visualisation tool can be best used to capture up to date information across the health and social care sector, for example, greater use of Resilience Direct.	
2.	Re-examine resilience to National Electricity Network and back-up power source failure in the health and social care sectors and take actions to improve resilience, where appropriate.	DH EPRR & Social Care/NHS England EPRR/PHE/NHS BT/DCLG/DECC	PHE delivered the Exercise DARK STAR series of Table Top exercises focusing solely on the health sector impact and response to a local/wider power outage for hospital site personnel with support from NHS England and external stakeholders. The lessons identified through the facilitated discussions and actions taken of the exercise will seek to improve procedures, planning and preparedness for future disruption to the hospital site(s) Work to continue to look at the effect of fuel shortages on the health and social care sector as part of DECC-led work to review the National Emergency Plan for Fuel (NEP-F).	

[1] See Annex V

	Action/Activity	Action Owner	Progress	RAG
3.	Closer engagement with Social Care sector	NHS England/PHE/ DH EPRR and Social Care/DCLG/Local Government Association (LGA)/ADASS	Work has been continuing with Department of Communities and Local Government (DCLG) and the social care sector to support the sector's ability to respond to emergencies. Of note: Refreshed communication protocols agreed with local government and social care between DH and DCLG (tested during winter 2015 flooding and refined during the Junior Doctor's industrial action) Revised pandemic flu guidance for social care drafted; work ongoing with PHE on distribution of facemasks; social care involved in Exercise Cygnus with social care 'inject' planned. Sector's preparedness covered by Social Care Oversight Group chaired by the Director General, with representation from CQC and DCLG.	
4.	DH to begin to map out the Critical Cyber infrastructure assets for the health sector	DH	A new DH group was created in 2015 to review cyber-assets in the health sector and then asses their potentially criticality. This work is on course and will be completed in 2016-17.	
5.	Critical National Infrastructure- Review of health sector assets.	CNI health sector working group/CPNI	The health physical CNI asset list has been completed and is reviewed on an annual basis taking into account the new revised definition of CNI. PHE has completed the personnel security assessments on these CNI sites. CPNI is working with PHE to implement any recommended improvements.	

	Action/Activity	Action Owner	Progress	RAG
6.	Arrangements for co-ordinating responses with clinical areas and guidance on Supply Resilience for NHS Trust procurers to be drawn up.	DH Commercial Division: Supply Resilience & Sustainability	Guidance developed and issued to NHS provider organisations on the actions they can take to enhance supply resilience through the procurement process (e.g. specification, conditions of contract, contract management). Assessment of key supplier risk and scheduled 1:1 engagement to agree improvement action.	
7.	Supply Risk Assessment (SRA) Tool, hosted on the SID4GOV platform to be further disseminated.	DH Commercial Division: Supply Resilience & Sustainability	Further to pilot testing in 2015, twenty suppliers covering fourteen products have been requested to provide details of their business and supply continuity arrangements as well as specific details on the supply chain and resilience measures in place for specific products. This data collection process is being managed using a Supply Risk Assessment tool hosted on the Government singles supplier information portal 'SID4GOV'. The Supply Risk Assessment tool supports a greater level of analysis of supply risk and the ability to relate supplier information to other sources of incident and event information.	

	Action/Activity	Action Owner	Progress	RAG
8.	Process embedded for capturing Lessons Identified from real incidents.	DH Commercial Division: Supply Resilience & Sustainability	National Supply Disruption Response guidelines have been issued by the DH that set out a process for managing significant national supply disruption events, affecting medical devices and clinical consumables. This guidance covers the identification of 'lessons learned' and is itself regularly reviewed and updated to in light of experience. Over the last 12 months the Department of Health has activated two separate National Supply Disruption Responses, both relating to significant supply disruption incidents in the supply chain of Baxter Healthcare, IV administration consumables. In both cases no adverse impact on patient cares or outcomes were reported. Reports have been produced for both incidents, documenting the causes, response measures taken a review of effectiveness and recommendations for improvement in preparedness and response systems.	
9.	List of Products of concern, and the candidate list to be kept under constant review.	DH Commercial Division: Supply Resilience & Sustainability	Currently six products have been identified as 'Products of Concern' with a further 5 products on the candidate list, undergoing evaluation. National supply resilience strategies drafted for two products of concern with the remaining four in development.	

19. During 2015/16, the Department for Health was involved in the following cross-government exercises;

TABLE 4: Cross-Government Exercises 2015-16

Date	Title	Exercise lead	Description
March 2015	Exercise CENTRUM POINT	Home Office	Live test of capability within the West Midlands to respond to multiple large incidents, including a terrorist attack and a large fire.
June 2015	Exercise STRONG TOWER Tier 1	Home Office	Live test of the test the emergency services and government response to multiple terrorist attacks in central London, including MTFA and siege.
November 2015	Exercise FORT INVICTA	Home Office	Live operational 'proof of concept' CBRN IOR / SOR exercise, to be held in Kent. Participants include local NHS England and NARU.
November 2015	TTX of Operation ESCALIN	Department of Emergency and Climate Change	Table-top exercise to develop and maintain a military training programme and deployment plan, to ensure normal daily supplies in the event of industrial action by fuel tank drivers. Participants include DH, NHS England.
February 2016	Exercise ALICE	Department of Health	Command Post exercise around a Mers CoV scenario. Participants include DH (including CMO's office), NHS England, and PHE.
February 2016	Exercise UNIFIED RESPONSE	London Fire Brigade	Live and Command Post exercise involving Urban Search and Rescue. The scenario is a building collapse involving 800-1000 significant casualties and fatalities. Participants include DH and NHS England.
March 2016	Exercise MERCIAN SHIELD	Home Office	Live conventional explosive attack exercise in Derbs and Notts. Participants include LRFs, regional NHS England.
March 2016	Exercise LEYLAND	Fire and Rescue Service	Live CBRN SOR exercise to be held in West Yorkshire. 300+ casualties. Participants include local NHS England and Ambulance Trust involvement.

20. In addition to the cross-government programme, the health sector ran its own training and exercising programme;

    - NHS England held 4 Regional Exercises and the 24 EMERGO Exercises to test decision making in complex emergencies, in planning and managing the response to a major incident. The exercises enable assessment of how different outcomes could have been achieved (for example, in terms of lives saved and quality of treatment) if different decisions had been made.
    - On behalf of NHS England, PHE delivered a series of events under the name Exercise DARK STAR throughout summer 2015 to test the health sector response to electricity supply disruption.
    - PHE participated in monthly UK-wide multi-agency chemical and radiological exercises at chemical, nuclear and fuel sites.
    - PHE centres and NHS organisations used off-the-shelf exercises including Communicable Disease, Pandemic Influenza, Winter Pressures and hospital evacuation exercises to test new plans and protocols.

21. Work in DH is ongoing to systematically capture and present lessons identified from exercises. In addition PHE keep a list of lessons identified from all the exercises that they have delivered.

IDENTIFICATION AND ASSESSMENT OF RISK

22. The health sector can be impacted by the majority of risks in the National Risk Assessment (NRA) because of its role in managing and treating any resulting casualties that result from the risk occurring. Because of this, it is essential that within the health sector, national planners are not necessarily considering individual risks in the NRA, but instead are planning against the common consequences of these risks as set out in the National Resilience Planning Assumptions (NRPA).

23. The next National Capability Survey (NCS) will take place in spring 2017. In the coming months , DH will be working with health sector partners (NHS England, PHE, National Ambulance Resilience Unit, NHS Blood and Transplant and NHS Business Services Authority) and CCS to review the questions for the 2017 NCS, so that we can ensure that from a health sector perspective the questions are clear, targeted and unambiguous.

ASSESSMENT OF SECURITY AND RESILIENCE

24. Given the diversity and interconnectedness within the health sector, and the extent to which it needs to respond to the consequences of emergencies in other sectors, emergency preparedness, resilience and response planning in the health sector adopts an "All Risks" approach.

25. The impacts on the health sector can be subdivided into three main categories:

- Risks that result in a number of casualties which the health sector will need to deal with – ***Casualty impact risks***;
- Risks that affect the ability of the health sector to continue to provide a service – ***Service impact risks***;
- Risks that both affect the ability of the sector to provide its service and risks that result in casualties at the same time – ***Service and Casualty impact risks.***

Casualty Impact Risks

26. Casualties are defined in the National Risk Assessment (NRA) as being;

"Those requiring medical intervention as a result of an event, either for chronic, acute or psychological effects. Calculation includes those whose existing condition deteriorates significantly as a result of the event (for example by delay to treatment), but not those who seek *medical advice but do not receive an intervention, for example "worried well"."*

27. A casualty may be seen treated and discharged from a permanent healthcare facility such as a Walk in Centre, Minor Injuries Unit or Emergency Department by a Doctor, Nurse or AHP (Allied Health Professional) or a temporary healthcare facility at or close to the scene.

28. A casualty may be required to increase their use of health services following an incident (either attending more frequently, or accessing a different range of services than they would otherwise have needed).

29. Other individuals may not have been affected directly or indirectly by the incident itself, but may have their access to healthcare services affected by the demands of an emergency response (for example cancelled appointments or bed spaces being unavailable). These are not casualties, but it is recognised that they have been affected by the incident or emergency.

30. The impact of the "worried well" cannot be underestimated. Many of these could become revolving door patients and ultimately be diagnosed with PTSD or some Psychological Impact following the events.

31. Many of the **NRA risks** have a **Casualty Impact** that the health sector has to deal with: these include acts of terrorism such as Improvised Explosive Device (IED)/Vehicle-Borne IED attack on a crowded place, collapsing buildings, aircraft crashes, heatwaves, infectious disease outbreaks, CBRN (chemical, biological, radiological or nuclear) incidents or MTFAs (marauding terrorist firearms attacks). Although a number of NRA risks cause an increase in casualties, and the NRPAs give an indication of the numbers expected, these risks themselves are not always specifically planned for. Instead, it is the common impact of the risks (the increased casualties) that are used to plan against.

32. DH leads on the non-contaminated casualty (**mass casualty** planning assumption for the National Resilience Capability Programme. The ongoing Mass Casualty capability assessments, joint work with other government departments and French authorities to identify lessons from the Paris attacks of 2015, as well as results of continuous planning, are positive given the assumed scale of an incident, and showed that the health capabilities in place to respond to an incident that resulted in the consequences set out in the planning assumptions would be relatively good.

33. DH, NHS England and NHS BT has been meeting since summer 2015 to progress work on the findings of the Mass Casualties National Capabilities Risk Assessment and the national supply of blood during an incident resulting in mass casualties. This work is ongoing.

34. Although it is predominantly the NHS that responds to casualties, there are a number of risks that were they to materialise would require a very active role from PHE, for example in infectious disease outbreaks. Similarly, as part of the response to an increase in casualty numbers the surge plans that most hospitals utilise will potentially impact on the social care sector as capacity can be created by moving patients from hospitals into care homes or back to their own homes with support of domiciliary care.

Service Impact Risks

35. An example of a Service Impact Risk would be **flooding** which would potentially result in disruption to services out of proportion to the direct casualties caused. This would include damage to the physical infrastructure of the health and social care sector within which health services are carried out (which include GPs surgeries, NHS hospitals, urgent care centres, walk in centres, care homes and laboratories and sites of PHE and NHSBT), or where services are provided in the patient's own home, or through interruption to the supply of essential utilities (electricity / water / telecommunications).

- The Department of Health is taking part in the cross-government National Flood Resilience Review (NFRR) chaired by the Chancellor of the Duchy of Lancaster, Oliver Letwin, which began in January 2016.
- The review focuses on four key areas: updating climate modelling and stress-testing the nation's resilience to flood risk; assessing the resilience of important infrastructure to flooding (in the healthcare sector itself, and also in utility sectors transport and utility sectors where there are dependencies for the health sector, such as electricity substations; the use of temporary defences; and future investment strategy
- Mapping work has been undertaken by DH to assess the risk of flooding to hospital and ambulance sites, using the PHE owned Strategic Health Asset Planning and Evaluation (SHAPE).
- SHAPE is a web-enabled, evidence-based application which informs and supports the strategic planning of services and physical assets across a whole health economy. It links national datasets for clinical analysis, public health, primary care and demographic data with estates performance and facilities location. However DH is aware that the current data set it outdated. The department is now working with the Civil Contingencies Secretariat to consider how the data visualisation tool can be best used to capture up to date information across the health and social care sector, for example by using Resilience Direct.
- NHS England EPRR at both national and regional levels have examined the significance and contingency arrangements in place at NHS sites listed in SHAPE and shown as being at risk of flooding within the boundaries of two distinct flood mapping products produced by the Environment Agency, the "Extreme Flood Outline" (EFO) that ignores the presence of existing EA flood defences and the "Risk of Flooding from Rivers and Seas" (RoFRS) that does factor in the condition of these defences.
- While all NHS sites will be significant locally to the population served, the NHS acts as a network of sites and services which naturally provides resilience, and allows for populations to continue to access to healthcare in an alternative unaffected site.
- The focus of the NFRR assessment has been on health facilities which are significant on a regional or national level, for example regional trauma centres, which serve very large areas and the loss of which will reduce the standard of care available to trauma patients, specialist national beds, such as ECMO (to support acute respiratory failure) or burns where there are a limited number of commissioned locations offering these services.
- After consultation with NHS England at regional level and contact with the local NHS, it was determined that at those sites that were considered to be of significance, there was either little risk of flooding, high levels of protection was provided by EA defences, or significant efforts at mitigation had been undertaken.
- Therefore no locally significant health sites are assessed as being in need of additional permanent defence measures, although the risk of surface flooding (for which additional defences provide little protection) remains.

36. The Adult Social Care (ASC) Spending Review (SR) settlement gives growth by the end of the parliament, via an additional £3.5bn in 19/20 from a direct grant through the Better Care Fund (BCF) and the ability of councils to raise their council tax by 2% pa through the Social Care Precept. The Clinical Commissioning Group (CCG) contribution via the Better Care Fund will also increase funding to the sector. However, the first two years of this SR period are extremely challenging.

37. Set against significant reductions in ASC budgets over the previous SR, the need for further reductions leads to significant delivery risks.

38. The financial constraint on councils is leading to increased pressure on provision across the system, which is largely delivered by the independent sector. Additional pressures on care providers from the National Living Wage may lead to increased market exit and a further decline in capacity and/or quality. There are also significant constraints in the social care workforce across the whole of the sector. Specific shortages include social care nurses and registered managers, but there are also pressures in recruiting domiciliary care workers and care home staff.

39. The level of risk varies across the country, but overall our assessment is that the sector has limited capacity to absorb further pressures which may be put on the system from a prolonged emergency period. Furthermore, the ability of providers to absorb further cost pressures associated with preparing for an emergency, including the vaccination of the workforce, is very limited and we would expect low levels of compliance if specific funding is not identified.

40. A significant proportion of people in need of care fund it themselves – either because they do not pass the means test, or because their needs are not high enough to pass the eligibility threshold. As a result there will be many vulnerable people with social care needs across the country that may not be in direct contact with the LA. Under the Care Act 2014, the LA has responsibilities for these people in terms of ensuring that there is sufficient care provision for their whole population, but LAs' ability to identify and reach self-funders quickly in an emergency situation is relatively untested, this is particularly true for people receiving care in their own homes. Evidence from the 2015 flooding suggests that there is inconsistent practice in terms of LAs having lists of potentially vulnerable people and there is a strong reliance on primary health care services and the community to support self-funders.

41. Against this backdrop, steps have been put in place to specifically support the adult social care sector:

    - DH oversight of the social care system has been strengthened, with the Social Care Oversight Group (DH, DCLG, CQC) regularly reviewing the risks facing the sector, including an emergency response.
    - Working closely with partners to support both emergency planning and response – Department of Communities and Local Government (DCLG), Local Government Authority (LGA), and Association of Directors of Adult Social Services (ADASS). Relationships have been strengthened by recent work on flooding (Christmas 2015) and the industrial action by Junior Doctors.
    - There has been specific work with the sector on preparedness for emergencies with key areas scoped which may need to be reviewed locally (such as holding of vulnerable people lists, treatment of self-funders, and access to utilities). We have agreed that emergency preparedness will form a part of our overall care and health sector led improvement programme for local government.
    - Updating operational guidance on pandemic flu response.
    - From April 2015, the Care Quality Commission (CQC) has been monitoring the financial performance of the most 'difficult to replace' care providers (i.e. those that are large and operate nationally or those that are concentrated in a specific region).
    - DH is working with CQC to agree national roles and responsibilities and test a range of business failure/restructuring scenarios. A further table top exercise is planned for June 2016. The work is linked up to wider civil contingency arrangements.

Service and Casualty Impact Risks

42. Risks that impact the health sector both in terms of the Service and Casualty Impact are particularly challenging because in addition to having to implement business continuity management procedures to maintain as close to normal service levels as possible, the health sector is faced with an increased workload. There are a number of risks that impact the health sector both in terms of both reduced and/or disrupted service delivery and increased casualty numbers.

43. A serious infectious disease outbreak in England would be considered a both a Service and a Casualty impact risk. The UK has robust, well-developed and well-tested public health and NHS systems for preventing and managing infectious diseases including any imported case of this type of disease.

44. The best example of this would be **Pandemic influenza**, which would potentially have a significant effect across the whole health sector. Pandemic Influenza and novel emerging infections are held under constant review as part of a complex matrix working between DH, PHE and NHS England along with external agencies on an international basis. The potential impact from these emerging infections is such that a comprehensive work programme exists across DH, PHE and NHS England to mitigate the resulting effects as far as possible. Governance is at the highest level with the Chief Medical Officer chairing the Pandemic Influenza Preparedness Programme Board to which the respective work stream leads report.

45. During a pandemic all parts of the health (and social care) sector would be facing staff shortages at the same time as the NHS would have an increased patient demand.

46. PHE would be stepping up its surveillance and public health support activities; and social care would potentially need to make more visits to individuals who require more assistance or who perhaps were previously looked after by a family member who is unable to visit due to their own illness. Social care is also particularly susceptible to staff not working if they have their own caring responsibilities (especially in home care where there are flexible working arrangements) potentially leaving those they usually care for others in vulnerable situations. The supply chain and also the ability to transport patients, or healthcare workers, to places for treatment would also be disrupted if drivers were incapacitated by the pandemic illness).

47. Other risks where the health and care sector would have to deal with both a reduction in staff and an increase in patients/service users include **Extreme Weather** of any kind. With severe winter weather, as many health and care workers may struggle to get into work, there would also be an increase in the number of patients/service users suffering from snow and ice-related injuries. During a heatwave, as well as heat related casualties, the air conditioning units of some health and care facilities may become overwhelmed, and therefore the buildings become unsuitable for treating patients/service users, and health and care workers not being able to function and deliver safe health and care in overheating buildings.

48. As a result of this NHS England works with Public Health England and the Department to publish revised annually specific cold weather and heatwave plans, to advise and guide health and social care providers and inform the public. These publications are accompanied by briefings to stakeholders and an accompanying media release.

49. The necessary responses to be triggered a regional level as required locally to ensure that services continue and demand is managed appropriately, these plans also provide advice for the public and social care settings.

50. Robust systems are in place for the detection, assessment and reporting of potential threats from **new and emerging infections**. PHE undertakes routine horizon scanning, and produces a daily email [Mon-Friday] of reports of relevance or of interest. If a significant threat is detected, it is assessed and reported up the management chain in PHE and to DH. Since most emerging infections are zoonoses, any new diseases in animals which might have zoonotic potential or reports of recognised zoonoses in animals are discussed in the Human Animal Infections and Risk Surveillance group – an established cross Government, multidisciplinary horizon scanning group, chaired by the PHE Emerging Infections and Zoonoses section.

51. 2016 has seen the publication by PHE of Travel and clinical advice on Zika: assessing pregnant women following travel; epidemiology; symptoms; transmission. The advice for pregnant women has been developed in collaboration with the NHS and the Royal College of Obstetricians and Gynaecologists and Guidance for neonatologists and paediatricians in England. It has been produced by PHE and a Zika virus neonatal working group.

52. PHE also participated in the development of the cross-Government, all hazards **horizon-scanning** weekly briefing, and the Ministerial briefing infections briefing.

53. NHS England continues to work with health partners to identify new and emerging health risks and ensure that appropriate measures are available to deal with these in all appropriate care settings.

54. Given that many risks are linked to extreme weather, DH plays an active role in the cross government sustainability agenda and in particular to reduce the impacts of **climate change**.

    - A number of risks that impact the health and care infrastructure are linked to climate change and the resulting extreme weather. DH is actively working on these. For example, the Heatwave Plan for England already provides details for ongoing planning requirements to provide shade around hospitals, identify cool rooms within hospitals and identify vulnerable patients and people in the community.
    - DH is actively working on preparing for the impacts of climate change (adaptation) and is responsible for two objectives in the National Adaptation Programme a) to reduce the risk of death and illness associated with severe weather and climate change (thereby we have produced a climate-ready Heatwave Plan for England and 'Under the Weather' toolkit for Health and Wellbeing Boards) b) to promote climate resilience with the health and care sector (eg Health Building Note HBN 00-07: Planning for a resilient healthcare estate – which has been updated to now include climate resilience);
    - Two of the key areas of the National Flood Resilience Review (NFRR) are updating climate modelling and future investment strategy on that basis;

- DH also promotes reducing carbon emissions (mitigation policies) within the health and care sector (such as active travel, reducing air pollution, eating less red meat, sustainable procurement and sustainable care pathways), as these also have health benefits, and works to demonstrate that the health impacts of climate change reinforce the need for urgent mitigation to halt climate change.

55. Wherever possible the impacts on public health and the wider health and care infrastructure are planned for and, where possible, the health and care sector is using sustainable solutions to reduce its negative impact on the environment and improve health.

INCIDENT REPORTING

Industrial Action

56. During 2015 the British Medical Association (BMA) has been in formal dispute with employers and the Government. Junior Doctors commenced industrial action, withdrawing labour from elective and subsequently emergency care, this has meant that organisations have tested their plans to respond to staff shortages across a specific staff group, this action has continued into 2016. The BMA agreed to suspend industrial action to allow negotiations under the auspices of ACAS. Junior doctors are now voting on a new contract the results are expected in early July. Agreement was reached between DH, employers and the British Medical Asociation (BMA) in May 2016.

57. In the NHS, there are well rehearsed plans for staff shortages. These involve amending rotas to ensure that there is appropriate cover from available staff and utilising additional resources from across the NHS.

58. Where this is not providing adequate cover, hospitals are able to prioritise resources by reducing or stopping certain elective activities or non-essential clinics.

Supply Chain

59. Over the last 12 months the Department of Health has activated two separate National Supply Disruption Responses, both relating to significant supply disruption incidents in the supply chain of Baxter Healthcare, IV administration consumables. In both cases no adverse impacts on patient care or outcomes were reported.

60. Reports have been produced for both incidents, documenting the causes, response measures taken a review of effectiveness and recommendations for improvement in preparedness and response systems.

61. The Department of Health is working closely with Baxter Healthcare on the implementation of remedial actions to reduce the risk of further supply disruption events and to improve preparedness arrangements to mitigate against the impact of incidents, should they occur.

62. In addition, a further 3 significant supply disruption events have been recorded, affecting: J&J (Ethicon) - sutures, Medicina – IV and enteral feeding consumables, Smith Medical – tracheostomy tube inner cannulas. In all three instances, there was not a need to mobilise a National Supply Disruption Response. Action was locally and by individual bodies to mitigate the impact. No adverse impacts on patient care or outcomes were reported.

Winter Floods 2015-2016

63. The record-breaking rainfall associated with Storm DESMOND (05-06 December 2015) caused severe disruption flooding 5,200 homes across Lancashire and Cumbria. Several major roads across the north of England and Scotland were flooded and there was major disruption to rail services in the north of England while a landslide closed a section of the West Coast mainline between Preston and Carlisle. 43,000 homes across north-east England were left without power and on 5 December 61,000 homes in Lancaster lost power when the electrical substation was flooded.

64. Storm EVA moved across the UK bringing gales across Ireland and the northwest of the UK on 24 December. The storm came on top of existing disruption where Storm Desmond had already brought heavy rainfall and flooding to Cumbria.

65. This was followed by Strom FRANK from 29 - 30 December 2015 with a spell of wet and windy weather and gales in western parts of the UK with gusts as high as 85 mph in northwest Scotland. The storm resulted in further flooding across the UK and caused disruption to transport and infrastructure in affected areas.

66. Delivery of health and social care services were not seriously affected by these storms. The NHS responded well. Local teams supported Strategic Coordination Groups (SCGs) and affected communities as required, in line with established plans and procedures. PHE operational capability was maintained.

67. The main challenges for the health sector were the loss of electricity (most notably the Royal Lancaster Infirmary (RLI) running on emergency generator power for almost a week until power supplies stabilised) and access due to transport/road disruptions, and also telecommunications problems, particularly after the loss of Tadcaster Bridge on 29 December 2015.

68. Yorkshire Ambulance Service invoked Business Continuity arrangements following Storms EVA and FRANK to manage issues with one of their control centres and a loss of data services to Ambulances. This had a minor impact on Ambulance operations as calls were redirected to another Yorkshire Ambulance control room and rehearsed BC plans implemented.

69. In general, the risk of infection from flood water is low, especially if basic hygiene advice is followed (no outbreaks of infectious disease in previous flooding events in England were detected). PHE used routine surveillance sources to monitor impacts of flooding on public health including syndromic surveillance as well as monitoring any chemical incidents. There were no major changes in syndromic indicators for gastroenteritis, diarrhoea and vomiting

70. Because of the comparatively minor impact on the sector, health participation in the Ministerial Recovery Group for the Winter Floods was not required.

Cyber Incidents

71. The NHS, like any organisation, is subject to malicious attacks on its systems. The Health and Social Care Information Centre (HSCIC) launched CareCERT last year, which is a cyber-emergency response team for the NHS.

72. CareCERT will provide a responsive and expert service to the health and care sector, giving up to the minute advice and guidance that supports staff to respond effectively and safely to cyber security threats and to protect from malicious attacks.

73. HSCIC asks Trusts to report cyber security incidents which are graded at Level 2 to them, through HSCIC's Information Governance Toolkit. Level 2 incidents are those which are considered to be high profile in nature or which breach the Data Protection Act or Common Law Duty of Confidentiality.

74. HSCIC don't routinely publish details of cyber-attacks as this could pose a security risk to the organisations involved or to the system, but that there have been a handful of incidents reported during 2015-16 where ransomware was found in individual machines on the network. These were not all severity Level 2 incidents, but have been shared with HSCIC as a matter of good practice. To put this in context, there have been fewer than five reports of incidents involving ransomware and there are around two million people working in health and care.

75. In all of the cases reported, effective and swift remedial action was taken at an early stage and as far as HSCIC are aware, no ransoms have been paid.

Significant Public Health Incidents

76. Responding to public health incidents is part of the core business of PHE. Level 2 incidents require involvement from several PHE Centres, while Level 3 and Level 4 incidents are of a scale where national coordination is required.

77. During 2015 to 2016 PHE responded to the following number of level 2, 3 and 4 incidents;

TABLE 5: Significant Public Health Incidents 2015-16

Level 4	Ebola (later stood down, initially to a Level 3)
Level 4	1 in Total
Level 3	Zika Virus
Level 3	The increased incidence of Meningococcal Disease Type W
Level 3	A national increase in the incidence of Pertussis
Level 3	Patient notification following identification of a blood born virus (BBV) in a healthcare worker
Level 3	The increased incidence in cases since 2009 of Carbapenemase producing Enterobacteriaceae
Level 3	5 in Total
Level 2	Measles clusters
Level 2	VTEC 0157 Phage type Verotoxin
Level 2	Clusters of Hepatitis B seen in various parts of the country
Level 2	12 in Total

ANNEX I: BACKGROUND TO THE HEALTH SECTOR

1. Since 1948 the National Health Service (NHS) has been the core of health provision in the UK, with most services provided by increasingly autonomous NHS organisations. Although the vast majority of UK healthcare is NHS (and therefore state-) funded, a growing range of services are provided by private or third sector organisations NHS medical provision is complemented by the private sector (mainly hospitals and elderly care institutions) and the corporate sector supplies pharmaceuticals and medical consumables and devices.

Health Care Sector

2. The "Health Care Sector" includes acute hospitals; inpatient mental health facilities; outpatient; primary care; community care; NHS Blood and Transplant centres, Public Health England laboratories; NHS 111 call centres; NHS Supply Chain warehouses; national NHS IT datacentres; and Ambulance Service assets. For the purpose of this plan, primary care and social care facilities within the "Social Care Sector" are also considered within the "Health Sector" unless explicitly differentiated.

3. The 2016 HSSRP considers resilience and security of the infrastructure for the health sector itself, and also wider work being undertaken supporting the resilience of the social care sector. The Plan defines the "Health Sector" as including matters within the remit of the Department of Health (DH), NHS England, Public Health England (PHE) and NHS Blood and Transplant (NHSBT).

4. Unless explicitly stated, the 2016 HSSRP uses the term "health sector" to refer to NHS England and the NHS in England (including the ambulance service, aspects of which are- also covered by the emergency services plan), Public Health England (PHE), and NHS Blood and Transplant (NHSBT). Where applicable, the HSSRP will also cover the ambulance service.

Social Care Sector

5. The "Social Care Sector" here refers to adult social care only. DfE is the Lead Government Department for child social care. Responsibility for the policy and legislative framework lies with DH, and DH also writes the Health Sector Resilience Plan. DCLG owns the relationship with Local Authorities (LAs), who are responsible for commissioning social care and meeting various statutory duties. Most providers are in the independent and voluntary sector.

6. The Care Act 2014 modernised legislation to focus on promoting individual well-being and set out the LA's responsibility to promote the market in care and support services, and to protect people in the event of a provider failure. The Act gives Local Authorities a responsibility to oversee local markets – including for those funding their own care.

7. The social care sector is diverse in the types of activities it includes for both acute and chronic conditions. The vast majority of both residential and domiciliary care is provided by the independent sector through an active and competitive market of independent providers, with the remainder a mixture of public and voluntary provision, including individuals (e.g. family members) providing social care. The market is plural and not dominated by one large provider. Parts of the market is split between State and self-funded care.

ANNEX II: GOVERNANCE, ROLES AND RESPONSIBILITIES

1. As Health is a devolved matter, the **constitutional position** DH HSSRP only covers England. Scotland, Wales and Northern Ireland have their own arrangements for tracking and improving the resilience of their health infrastructure. There are mechanisms for the consideration of EPRR matters on a "Four Countries" basis, but these are outside the scope of this plan.

2. The **Department of Health**, as Lead Government Department (LDG) oversees planning and response across the health sector, in conjunction with NHS England, providing assurance to Minsters about the resilience of the health sector, including both public health and social care. In the context of social care, DH performs a policy making role along with high level planning.

3. Section 253 of the National Health Service Act 2006 and Section 47 of the Health and Social Care Act 2012 set out the powers available to the Secretary of State for Health. When it is appropriate to do so by reason of an emergency, the Secretary of State can give directions to all English NHS bodies, the National Institute for Health and Care Excellence (NICE), the Health and Social Care Information Centre (the Information Centre) and any provider of NHS services.

4. The Secretary of State may direct the body:

   - About the exercise of any of its functions;
   - To cease to exercise its functions;
   - To exercise its functions concurrently with another body; or
   - To exercise the functions of another body under the NHS Act

5. In relation to providers, the Secretary of State can direct the provider

   - About the provision of NHS services by the provider;
   - To cease to provide services or to provide additional services.

6. Other legislative powers available to ensure resilience are shown in Table 6.

[2] http://www.legislation.gov.uk/ukpga/2012/7/section/47/enacted
http://www.legislation.gov.uk/ukpga/2012/7/section/46/notes

TABLE 6: Powers for Response and Preparation

Legislation	Exercised by	Over	Objective
Section 8 NHS Act 2006	SoS	NHS trusts, special health authorities e.g. NHS Business Services Authority and the NHS Blood and Transplant.	SoS may direct these bodies about the exercise of their functions.
Section 254 Health and Social Care Act 2012	SoS	Health and Social Care Information Centre (HSCIC)	SoS may direct HSCIC to establish and operate a system for the collection or analysis of information.
Reg 32National Institute for Health and Care Excellence (Constitution and Functions) and the Health and Social Care Information Centre (Functions) Regulations 2013/259	SoS & NHS England	HSCIC	The SoS or NHS England may give directions to HSCIC requiring the Centre to exercise such systems delivery functions of the Secretary of State or (as the case may be) the Board as may be specified in the direction.
Section 252A NHS Act 2006	NHS England	NHS England, Clinical Commissioning Groups (CCG) and NHS service providers	NHS England and CCGs must take appropriate steps for securing that they are properly prepared for dealing with an emergency which might affect them. NHS England must also take such steps as it considers appropriate for securing that each relevant service provider is properly prepared for dealing with an emergency which might affect it.

7. These powers ensure that the Secretary of State may give directions to both NHS bodies and providers of NHS services not only regarding their own activities but also to ensure coordination between bodies in exercising their activities in times of emergency.

8. The **EPRR Partnership Board**, chaired by the Director General of the Public Health Directorate within DH, is presented with information from NHS England and PHE about the respective resilience of the organisations. This is then used to assure Ministers of the resilience of the Health Sector.

9. For social care, responsibilities are shared. DH has the policy lead for social care but Local government provides the delivery mechanism. Department for Communities and Local Government (DCLG) is in charge of co-ordination of social care as the lead department for local government but does not lead for all local government functions. For example, Department for Education (DfE) are lead department for schools including those under LA control.

10. Both PHE and NHS England have regional and local representation. This coordination is further supported by both organisations being represented at local health resilience partnerships (LHRPs). LHRPs provide strategic fora for organisations in the local health sector (including private and voluntary sector where appropriate) to conduct joint health planning for emergencies and support the health sector's representative(s) at Local Resilience Fora (LRFs). NHS England would be represented at a Strategic Coordination Group if one is established.

11. **NHS England** has published a suite of Core Standards which set out the EPRR standards that NHS England organisations and providers of NHS-funded care are required to achieve. The Core Standards for EPRR aims to enable NHS organisations and providers of NHS-funded care across the country to a consistent framework for self-assessment, review and more formal control processes carried out by the NHS England and regulatory organisations.

    - The Core Standards will be reviewed and updated on an annual basis in accordance with the changing operational environment,
    - NHS England has a suite of risk-specific plans, including Mass Casualties and Surge Guidance, which will also be updated during the year.
    - NHS England Emergency Preparedness, Resilience and Response (EPRR) Planning for the Shelter and Evacuation of people in healthcare settings was published in January 2015

12. NHS EPRR assurance is conducted by self-assessment against the Core Standards for EPRR with suggested evidence of compliance. NHS organisations are expected, through their respective Accountable Emergency Officers3, to provide a Board level report demonstrating their organisations' compliance against the Core Standards for EPRR each year.

13. The annual statement of compliance/board report along with any improvement plan is submitted to the Clinical Commissioning Group and LHRP for consideration. Following submission, the Local Health Resilience Partnership arranges a review and selects sample evidence to support that review. The review also includes a specific area for "deep dive" during 2014 this will be into CBRN preparedness, in future years topics will include Pandemic Influenza Preparedness and Disruption to the Electricity Supply Chain.

[3] http://www.england.nhs.uk/wp-content/uploads/2012/12/eprr-officer-role.pdf

14. A report will be taken to the NHS England Board annually detailing the overall compliance of NHS England and the NHS in England against the core standards whilst highlighting any gaps or development needs for inclusion in an improvement plan. Based on this, a statement will be provided to the EPRR Partnership Board providing EPRR assurance to the Department of Health about the resilience and preparedness of the NHS.

15. An EPRR Oversight Group has been established under the chair of the Director of Operations and Delivery and with representation from the four regions, this group will ensure that the EPRR work programme the core standards and EPRR assurance processes are fit for purpose.

16. The **Public Health England** EPRR Assurance process is comprised of three strands, all three of which are summarised for the Partnership Board. The first strand involves sending out a questionnaire to emergency preparedness leads across PHE which sets out the key service requirements against PHE's EPRR core standards. Each component part of PHE completes the questionnaire and is asked to provide a statement of EPRR assurance based on their responses to the core standards questionnaire. The EPRR core standards and key service requirements cover all elements of the organisation's response to outbreaks and emergencies, namely;

    - Leadership and planning,
    - Command and Coordination arrangements,
    - Alerting,
    - 24/7 availability in an emergency,
    - Sustaining the response phase,
    - Risk assessment and advice,
    - Communications in an emergency,
    - Surveillance,
    - Business continuity,
    - Emergency Operations Centres,
    - Records/information management,
    - EPRR Training.

17. The EPRR assurance standards have been developed as internal standards in line with the Health and Social Care Act, the DH standards for Better Health, regulated by the Care Quality Commission (CQC) and with the expectations of the Civil Contingencies Secretariat (CCS) and the National Capability Survey (NCS).

18. The second strand involves the organisation's input into the National Capabilities Survey, a national overarching capability assessment performed by all Category One responder organisations every other year. This is overseen and co-ordinated by the Civil Contingencies Secretariat (CCS).The responses received for the annual EPRR assurance process enables PHE to provide a national organisation-wide response into the NCS.

19. The main difference between the two strands is that the PHE internal assessment requires responders to provide evidence of compliance against the internal EPRR assurance standards. This evidence provides a means of measuring year-on-year improvement in the organisation's EPRR capability.

20. The EPRR assurance report and statement of assurance from this process will be reviewed and endorsed by the PHE EPRR Oversight Group and an annual report on PHE's EPRR capability will be presented to the National Executive.

21. This process will support the development of plans and promote best practice in the area of emergency preparedness, resilience and response.

22. The third strand will be an external assessment by a panel of partner organisation experts, of the EPRR system and governance in PHE (which will include NHS England and CCS). This will take place annually in March and the assessment will be based on externally derived protocols. The results will be shared with the Partnership Group.

23. Although **NHS Blood and Transplant (NHSBT)** does not itself have statutory responsibilities under Civil Contingencies Act 2004, as critical supplier to NHS hospitals, NHSBT will work with the Department, NHS England, PHE and the NHS to ensure support for the effective emergency response plans that are in place, take part in national exercises, and coordinate responses as necessary.

24. In support of this, NHSBT will comply with the terms of its Service Level Agreement (SLA) with the Department on emergency preparedness. In addition, NHSBT will comply with the relevant core standards in NHS England's Core Standards for Emergency Preparedness Resilience and Response and provide an annual statement of compliance to the EPRR Partnership Group.

ANNEX III: REGULATION

1. From 1 April 2016, **NHS Improvement** is responsible for overseeing foundation trusts and NHS trusts, as well as independent providers that provide NHS-funded care. NHS Improvement offers the support these providers need to give patients consistently safe, high quality, compassionate care within local health systems that are financially sustainable. By holding providers to account and, where necessary, intervening, the NHS is helped to meet its short-term challenges and secure its future. NHS Improvement is the operational name for an organisation that brings together:

    - Monitor
    - NHS Trust Development Authority
    - Patient Safety, including the National Reporting and Learning System
    - Advancing Change Team
    - Intensive Support Teams

2. NHS Improvement builds on the best of what these organisations did, but with a change of emphasis. The priority is to offer support to providers and local health systems to help them improve.

3. The NHS Trust Development Authority (TDA) provided support, oversight and governance for all (non-Foundation) NHS Trusts. The range of services provided by NHS Trusts covers the entire spectrum of healthcare, from acute hospitals to ambulance services through to mental health and community providers; the size of organisation varies from very small providers through to some of the largest organisations in the NHS, and therefore each Trust has a set of unique challenges. Due to this variation, TDA recognises that there is not going to be a 'one size fits all' solution to the challenges Trusts face. Their goal is first and foremost to help each and every NHS Trust to improve the services they provide for their patients.

4. Each NHS Trust is required to appoint a Local Security Management Specialist (LSMS) and to have a Board Member who is designated to act as Security Management Director. They are employed by their host NHS trust but receive direction, support and guidance from NHS Protect. It is, however, for individual NHS trusts to fund and implement security and resilience measures based on their risk appetite and how they perceive the threat in their area. NHS LSMSs have the opportunity to undertake security training offered by CPNI, with priority given to those LSMSs that work at health care assets deemed to be critical. Emergency preparedness, resilience and response work is lead in each NHS Trust by the emergency planning and liaison officer who works closely with the LSMS as and when necessary.

5. Monitor was an executive non-departmental public body of the Department of Health. As the sector regulator for health services in England, their job was to make the health sector work better for patients, preserving the values of the NHS as a universal health service, free at the point of use, as set out in the NHS Constitution.

    - Independent NHS foundation trusts are well-led so that they can provide quality care on a sustainable basis;
    - Essential services are maintained if a provider gets into serious difficulties;
    - The NHS payment system promotes quality and efficiency;
    - Procurement, choice and competition operate in the best interests of patients.

6. All providers of health and adult social care registered with the **Care Quality Commission** (CQC) are required to meet the fundamental standards regulations. These set out the basic standards of quality and safety that must be met. CQC publishes guidance to help providers understand what they should do to meet these standards. The regulations and guidance combined highlight the need for providers to plan for service impact risks.

7. Regulation 12 of the CQC fundamental standards requires that "Care and treatment must be provided in a safe way for service users", and as part of this, providers must comply with the nine descriptors in the regulation. CQC's guidance about complying with this regulation elaborates on the things providers should do to mitigate risks of unsafe care, and to ensure that appropriate planning takes place to ensure the health, safety and welfare of service users. This includes the following:

    - *"To make sure that people who use services are safe and any risks to their care and treatment are minimised, providers must be able to respond to and manage major incidents and emergency situations.*

    - *This includes having plans with other providers or bodies in case of events such as fires, floods, major road traffic accidents or major incidents, and natural disasters such as earth quakes or landslides (see Annex A for link to the Civil Contingencies Act 2004)".*

8. Non-care services (including a wide range of support and personal assistance services) are not regulated and limited information is held centrally.

9. The **National Institute for Health and Clinical Excellence** (NICE) provides national guidance and advice to improve both health and social care. NICE's role is to improve outcomes for people using the NHS and other public health and social care services. They do this by;

    - Producing evidence based guidance and advice for health, public health and social care practitioners;
    - Developing quality standards and performance metrics for those providing and commissioning health, public health and social care services;
    - Providing a range of informational services for commissioners, practitioners and managers across the spectrum of health and social care.

10. Since 1999, NICE have provided the NHS, and those who rely on it for their care, with an increasing range of advice on effective, good value healthcare, and have gained a reputation for rigor, independence and objectivity. In April 2013 they gained new responsibilities for providing guidance for those working in social care;

ANNEX IV: KEY INTERDEPENDENCIES

Supply Chains

1. The UK Essential Medicines Buffer Stock (EMBS) which provides a stock of key medication for use in the event of a pandemic or critical market shortage (three months' stock of approximately 220 medicines).

2. The DH has a team of pharmacists which deals specifically with medicines supply problems. It works closely with the MHRA, the pharmaceutical industry, NHS England and others operating in the supply chain to help prevent shortages and to ensure that the risks to patients are minimised when they do arise.

3. Established and tested processes are in place for the management of significant supply disruption incidents at a national level (National Supply Disruption Response guidance).

4. Multi stakeholder, Supply Resilience Advisory Panel sits three times a year to review and inform supply resilience action. This panel includes representatives from DH, MHRA, NHS England, NHS Improvement, NHS Trusts, Ambulance Trusts, Pharmaceuticals, Blood and Transplant, NHS Supply Chain, and the NHS Business Services Authority.

5. Guidance developed and issued to NHS provider organisations on the actions they can take to enhance supply resilience through the procurement process (e.g. specification, conditions of contract, contract management).

6. Currently six products have been identified as 'Products of Concern' with a further 5 products on the candidate list, undergoing evaluation.

7. National supply resilience strategies drafted for two products of concern with the remaining four in development.

8. Further to pilot testing in 2015, twenty suppliers covering fourteen products have been requested to provide details of their business and supply continuity arrangements as well as specific details on the supply chain and resilience measures in place for specific products. This data collection process is being managed using a Supply Risk Assessment tool hosted on the Government singles supplier information portal 'SID4GOV'.

9. The Supply Risk Assessment tool supports a greater level of analysis of supply risk and the ability to relate supplier information to other sources of incident and event information.

10. National Supply Disruption Response guidelines have been issued by the DH that set out a process for managing significant national supply disruption events, affecting medical devices and clinical consumables. This guidance covers the identification of 'lessons learned' and is itself regularly reviewed and updated to in light of experience.

Utilities

11. As is the case for many sectors, the health and social care service is dependent on key utilities such as electricity, fuel and water etc. A number of risks can result in the loss of utilities ranging from extreme weather, industrial action and local water, drainage and sewerage infrastructure failure.

12. Planning for disruption of utilities is part of broader emergency planning and preparedness. It should be taken account of in existing plans for Business Continuity, Major Incidents, Fire Response etc. If the scale of disruption is such that these plans are overwhelmed, further mitigation depends on the risks in question. They could vary from priority electricity reconnection for health care establishments or alternative feeds and stand-by generators, to specific arrangements with water companies for provision of bowsers and / or bottled water in the event of loss of water supplies.

    - NHS England has published its business continuity guidelines for the NHS in England[4]. NHS organisations and organisations providing NHS funded care are required as part of the standard contract to have robust arrangements in place to ensure continuity of service. The NHS England guidance covers a range of disruptive challenges covering all aspects of the NHS, Acute, Primary Care and Ambulance settings.
    - On behalf of NHS England, NARU is working closely with Ambulance Services to support the enhancement of existing business continuity plans to the ISO 22301 standard. NARU is also working closely with local commissioning teams to ensure a national interoperable standard is maintained for specialist NHS capabilities (including Hazardous Area Response Teams and Mass Casualty Preparedness) thus enhancing the ability to bring together national mutual aid when required.
    - PHE – All PHE sites are required to have appropriate measures in place to ensure they are able to continue operations and to provide critical service functions following an incident. An annual assurance cycle which will be maintained as part of a rolling programme.

13. A health sector Workshop is to be set up to identify and work through the health and social care issues raised by the revised the National Risk Assessment risk H41 – "*Total failure of GB's National Electricity Transmission Network as a result of severe weather conditions and technical failure*" t in greater detail and commission further action. The most significant issues are expected to be;

    - Primary care (storage, dispensing, patient records)
    - Community care (especially those with medical devices in the home);
    - Definition and identification of the "vulnerable"/"at risk"/"more at risk"/"newly vulnerable";
    - Preservation of vaccine and immunisation stocks;-
    - High security hospitals.

[4] http://www.england.nhs.uk/wp-content/uploads/2013/08/pol-bus-cont.pdf
http://www.england.nhs.uk/wp-content/uploads/2014/01/toolkit-cover-doc.pdf

Telecommunications

14. All UK Ambulance Services voice and data communications with responders is via TETRA, more commonly known as Airwave. The system has been installed across all Emergency Operations Centres (Ambulance Control Centres) and front line response vehicles. The current Emergency Services Mobile Communications Programme (ESMCP) which is due to start roll out in 2017 has recently been put out for tender. Airwave has not been successful.

15. Airwave has a contract in place with DH for TETRA provision to health until 2020. ESMCP will continue to work closely with Trusts in order to ensure that Airwave continue to deliver effective mobile communications for the length of the current contract and ESMCP are also working closely with the Department of Health in order to protect the delivery of services to Trusts. Resilience was not a factor in airwave not being successful in their bid for the procurement of the new system. Regarding the replacement system, it is too early to be definitive on the replacement system, as the procurement is still on-going. But the resilience currently offered by Airwave will be used as a benchmark for the new system

Transportation

16. Physical disruption of transport routes or industrial action of the transport network or deliveries of fuel can impact on health and social care staff's ability to get into work, which has the potential to impact on the health and social care workforce's ability to deliver services without also resulting in direct casualties.

17. Dealing with the impact of staff shortages are part of good business continuity planning, so much of the work set out under the utilities section above, would be relevant for ensuring resilience against staff shortages.

    - In the NHS, there are well rehearsed plans for staff shortages. These involve amending rotas to ensure that there is appropriate cover from available staff and utilising additional resources from across the NHS.
    - Where this is not providing adequate cover, hospitals are able to prioritise resources by reducing or stopping certain elective activities or non-essential clinics.

18. Fuel shortages pose a challenge to the domiciliary social care sector workforce which is heavily reliant on personal vehicles to enable care workers to visit people in their own homes and also to privately contracted non-emergency patient transport used to transport patients to and from hospital for appointments, operations and treatment including oncology treatment and dialysis

19. Further work on this issue will be part of the ongoing work with social care and with independent providers.

ANNEX V. ASSESSMENT CRITERIA USED

Criteria for selection of the priorities.

1. The HSSRP takes an "All Risks approach", informed by the cross-government National Risk Assessment and the National Resilience Planning Assumptions. Particular attention is paid to Common Consequences that may prohibit or disrupt the delivery of health and social care services.

Criticality criteria used for CNI identification/categorisation

2. Critical infrastructure is a broad term used to describe Critical National Infrastructure (CNI) and other infrastructure of national significance as well as infrastructure and assets of local significance. The CNI definition was revised in the THRC(O) meeting on the 23rd September 2014 as follows;

   Those critical elements of infrastructure (namely assets, facilities, systems, networks or processes and the essential workers that operate and facilitate them), the loss or compromise of which could result in;

   - *Major detrimental impact on the availability, integrity or delivery of essential services – including those services, whose integrity, if compromised, could result in significant loss of life or casualties – taking into account significant economic or social impacts; and/or;*
   - *Significant impact on national security, national defence, or the functioning of the state.*

3. A small number of health assets across the health sector are classed as CNI. In order to oversee work in this area and share best practice between sub-sectors, DH established the CNI health sector working group. The Centre for the Protection of National Infrastructure (CPNI) has continued to provide advice and guidance to those sites deemed as health CNI assets to help inform the security work plans and business continuity plans. We have begun work to identify our cyber assets.

4. For the purposes of civil emergency planning, the emergency responders may need to make special provisions for other infrastructure of primarily local significance in their emergency response plans. These might include arrangements for infrastructure whose loss would impact on delivery of essential services, or have other significant impacts on human welfare or the environment within the local area, or be needed to support a local emergency response.

5. Accordingly, HSSRP 2016 considers CNI, but also takes into account more general resilience work applicable to all health sector infrastructure.

6. There have been no changes in number of assets in each category since 2015.

Vulnerability Criteria Used Against Threats and Hazards.

Physical Security:

High vulnerability: one or more significant physical security vulnerabilities apply to any of the following:

- **One single 'Category 5' site; or**
- **More than 40% of 'Category 4' sites; or**
- **More than 70% of 'Category 3' and 'Category 4' sites combined.**

Medium vulnerability: not a single 'Category 5' site has a significant physical security vulnerability, but the following are thought to have at least one significant physical security vulnerability:

- **20-40% of 'Category 4' sites; or**
- **30-70% of 'Category 3' and 'Category 4' sites combined.**

Low vulnerability: not a single 'Category 5' site has a significant physical security vulnerability and only the following are thought to have a significant physical security vulnerability:

- **Less than 20% of 'Category 4' sites; and**
- **Less than 30% of 'Category 3' and 'Category 4' sites combined.**

Cyber Security:

- **High vulnerability: vulnerable to untargeted, unsophisticated attacks**

- **Medium / high vulnerability: vulnerable to targeted, unsophisticated attacks**
- **Medium vulnerability: vulnerable to moderately sophisticated attacks**

- **Low/ Medium vulnerability: vulnerable only to very sophisticated attacks**
- **Low vulnerability: not vulnerable to known capabilities**

Personnel Security:

- **High vulnerability: Majority of companies are not engaged, utilising guidance or demonstrating changes to build a security culture**

- **Medium vulnerability: Around half of companies engaged, utilising guidance and demonstrating changes to build a security culture**

- **Low vulnerability: Majority of companies are engaged, utilising guidance and demonstrating changes to build a security culture**

Flooding, Storms and Snow:

- **High vulnerability: significant disruption expected from at least 2 of the following natural hazards: significant flooding, severe storms & gales; and significant snow.**

- **Medium vulnerability: the sector may have a high vulnerability to 1 of these natural hazards but has some resilience to the other 2 natural hazards, even if some disruption might still be expect from these.**

- **Low vulnerability: the sector is resilient to significant flooding, storms & gales; and snow, such that only minimal disruption would be expected any of these.**

Loss of Electricity

- **High vulnerability: critical services would face significant disruption in the event of widespread power loss, with only patchy provision of generators and/or only a couple of days' generator fuel supply on site**

- **Medium vulnerability: generators are in place across most of the critical parts of the sector (with some back-up generator fuel supply which can be accessed without the need for electricity). However they are either;**
- **insufficiently widespread to maintain critical services across the majority of the sector AND/OR**
- **Do not have 5 days' generator fuel on site.**

- **Low vulnerability: critical services have regularly-tested generators across the majority of the sector (including the most critical parts of the sector) and at least 5 days' fuel supply on site, which can be accessed without the need for electricity.**

Staff Absence Risks:

- **High vulnerability: no business continuity plans are in place for staff absence; or significant disruption to critical services would be expected during a pandemic illness or the 'reasonable worst case scenario' strike action within the sector.**

- **Medium vulnerability: some disruption would be expected, even to critical services, during a pandemic illness or 'reasonable worst case scenario' strike action within the sector itself.**

- **Low vulnerability: only minimal disruption to critical services would be expected during a pandemic illness or reasonable worst case strike action within the sector.**

Criteria used RAG assess progress in mitigating vulnerabilities.

RED:
Issues encountered in plans to reach target vulnerability. No progress being made.
Target vulnerability is High (i.e. sector accepting this level of vulnerability)

AMBER:
At risk of issues or delays that will impact progress to target vulnerability and target vulnerability is Medium or below.
Target vulnerability is Medium High (i.e. sector accepting this level of vulnerability)

GREEN:
All planned actions are on track. Progress is being made to reach target vulnerability and target vulnerability is medium or below