APPENDIX 1

Ambulance Control Room Reconfiguration

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1 Introduction

The Ambulance Control Room Reconfiguration document underpins the Trust Service Strategy & Vision and is central to the delivery of the Operational Performance Plan detailing the main changes required to deliver the requirements of *"Taking Healthcare to the patient"* and *"Call to Connect"*.

There is a need for the North West Ambulance Service to ensure that the infrastructure within the separate control rooms is common to enable resilience and allow economies of scale from the merger to be realised. In line with the implementation of the National Digital Radio and the Electronic Patient Record as well as delivering against the "call to connect" targets, the Trust needs to ensure that all vehicles have common AVLS (satellite tracking) and data capabilities

2 Changed Service Model

A new model for the operational delivery of services for the North West Ambulance Service is outlined in the Operational Performance Plan, designed to meet the performance required from 'Call to Connect' and also to reengineer the service delivery around the concepts for 'Taking Healthcare to the Patient'.

To meet the increased performance targets of *'Call to Connect'* requires a significantly improved capacity and efficiency of operation within the control function. This is best achieved through a single virtual call handling arrangement that can route callers to the next available receiver within the North West. Once a requirement for a face to face assessment is determined, a more 'front-end' orientated model with a predominance of Rapid Response Vehicles available to attend and assess patients quickly would be enabled. The ability to respond quickly on a consistent basis with more emphasis on assessment and access to a wider range of services will allow the principles of *"Taking Healthcare to the patient"* to be realised. This approach would be supported by improved infrastructure arrangements within the control environment to ensure consistency, resilience and good governance at all sites. In essence, the service would operate in the following way:

1. A 999 call is connected to the NWAS switchboard (which has a router over a 'virtual network' to every call handler in the different communication centres) and allocated to the next available call handler who picks the call up within 5 seconds. If the call is not answered within 10 seconds, 'call line identification' creates an address and the nearest response unit is automatically responded pending a category determinant.

2. The call handler uses a rapid clinical protocol (such as NHS Clinical Pathways) to determine whether the call is an emergency (Red) or not, within 30 seconds. If the call determinant is Red, then the nearest Rapid Response Vehicle with a level 5 practitioner would be responded via the local dispatch centre.

3. If an Urgent (Amber) call determinant that requires a face to face assessment then the nearest Rapid Response Vehicle with a level 6 practitioner would be responded.

4. Alternatively, the call could be determined Non-urgent (Green) and passed to the clinical advisor (level 6 practitioner) within the local communications centre to assess and process.

5. Once a clinical assessment of the patient has been undertaken and an outcome determined, any transport requirements would then be undertaken by a double manned ambulance.

3 Infrastructure

The national Ambulance Radio Project (ARP) will deliver two systems into predetermined locations within the North West Ambulance Service. The systems are intended to provide a resilient fallback for each other to ensure continuity of service. As the equipment needs to be connected to the ambulance control equipment the logical option is to co-locate the equipment within the control complex itself.

Control sites not receiving this equipment will be reliant upon networks and network equipment to provide the connectivity, and due to the nature of the emergency operation should provide dual routing. Costs of networking are based upon radial distance between the buildings with significant increases being applied over certain distances. These costs have both one-off capital costs plus ongoing revenue consequences of line rental.

To take advantage of the technology being delivered by the radio project it is beneficial from both a resilient point of view and financially for the Trust to extend this functionality to all control room systems and deliver them through the network locally and through the Wide Area Network (WAN). Moving to centralised systems allow the technology to target calls to where capacity exists, to enable all controls to have access to all resources and for managers to have control of the whole system. Again, by maintaining more than one centre the Trust will have fallback options if the primary system fails. Additionally, the Trust will benefit from reduced IT costs as the systems can be maintained, upgraded and repaired from central locations or from data centres.

Technology allows Trusts to build virtual centres where the controls are linked together allowing excess capacity to be used throughout the region. This ensures that peaks and troughs can be accommodated much easier and means that Trusts only need to establish the number of seats required rather than a number of controls it needs to maintain. This ensures that finances are directed away from expensive, fixed buildings and invested in increasing the front line delivery.

For example, the volume of calls may indicate that the Trust needs to provide 90 seat positions throughout the region. This could then be accommodated by 1 control with 90 positions, 2 with 45, 3 with 30 etc. It is important that whatever numbers of control sites are maintained that they are all roughly similar in size otherwise they are unable to contribute towards a resilient configuration. For example if 90 seats were spread across 3 controls in a distribution of 40, 30 and 20 seats respectively and the larger control failed, the smaller two remaining controls would struggle to accommodate a requirement for nearly 100% extra capacity.

There is a balance in terms of the amount of additional capacity required within each control based on the number of controls within the system. The following table demonstrates this point.

The above assume

Control Rooms	Standard	Call Connect	Fallback	Total per Control
4	22	5	5	32
3	30	7	9	46
2	45	11	28	84

s that 90 seats are required within the system and allows for a growth of 25% for 'Call to Connect' and increased activity. Within a 4-control system each control needs to provide 5 additional seats for fallback, 3 controls need 9 seats and 2 controls 28 seats. The above shows that the 4 control system overall requires the lowest number of seats overall but that's based on the premise that all are roughly equal size in the first instance e.g. they have 22 seats. This is not the case with the existing sites.

In addition, the impact of a failed control in terms of the increase in calls is also significant. The following table shows a regional distribution of 2,500 emergency calls per day.

Controls	Calls	Fallback	Total
4	650	220	870
3	875	430	1305
2	1250	1250	2500

The above shows that in a 4-control system any single failure would increase calls by 33% whilst a 2-control system would receive an increase of 100% but again this is based upon an assumption that all controls were of a similar size.

The above description demonstrates that a 2 control system would struggle to absorb the increase particularly for a protracted period of time and also if the failure occurred at a peak point in activity. Four controls, whilst requiring overall the least number of seats is not significantly different from 3 controls. A 3-control option would therefore appear to provide the most cost-effective approach to providing a fallback. The 3-control option is also the recommendation from the independent Capita report commissioned collectively by the four previous ambulance Trusts.

The control configuration would rely heavily upon the network provision to ensure that the system operated in the manner described. Proximity is important, as previously described. Each control should be geographically independent but close enough to move staff from a control that has failed to the fallback site within a reasonable time.

4. Developments

Within the context of developing the service model in line with *"Taking Healthcare to the patient",* modernisation needs to be in conjunction with the developments in both primary and secondary care. This should include developments in partnership with the wider health economy. As outlined in the recent Department of Health publication *"Direction of Travel for Urgent Care",* there is a consistent message about efficient use of resources:

"6. We need to develop urgent and emergency care services that are more responsive to people and more efficient in the way they deploy resources, and make the most of opportunities from medical and technological advances to deliver better care and support more conveniently for people.

7. This means a consistent way of assessing what people need when they contact services with an urgent care need, whether by telephone or in face-to-face settings. It means changing the way services are configured locally, re-deploying existing resources for optimal care.

8. Understanding how people access urgent and emergency care will help

commissioners and providers shape services in a way that best responds to changing local needs and the changing healthcare environment. Different solutions will be appropriate in different places but these should be based on the same criteria and evidence of what works best and offers the highest quality. "

There are potential possibilities for reutilising the skills of staff and the current facilities of ambulance control centres to provide a different 'health gateway' model for local determination. This may be a model that can be incorporated into existing sites or developed on an available site.

5. Summary

The optimum model for the most cost effective and resilient configuration for the new North West Ambulance Service is 3 controls. How this model is developed over time in conjunction with other ambulance Services and other Emergency and Health Services is yet to be determined, and the eventual sites may well be different to those currently in existence. However, in the short term the configuration of maintaining the controls in Manchester, Liverpool and Preston would seem to be the most efficient. They have geographic independence and are close enough to move staff around if necessary. They are close enough to ensure that network costs are minimised and are all of a similar size or have the capacity for minimal expansion to match their counterparts.

The ambulance service delivery currently provided in the Cumbria region would benefit directly by the technology developments the other legacy Trusts have previously invested in. For example, vehicle tracking, mobile data and integrated navigation systems on all front line vehicles, none of which is currently available in the Cumbria vehicles.

In addition, convergence of systems means that the IM&T department can provide many of the back office functions previously unavailable to Cumbria staff due to its small size and its inability to keep pace with larger, better resourced Trusts. This will ensure that good governance would be assured in terms of data extraction and management information reporting.

A Full Business Case will need to be developed to determine the affordability of the reconfiguration stages and consultation with all stakeholders engaged. Both will need to be completed before final approval can be obtained from the Strategic Health Authority.