REVIEW OF THE AMBULANCE SERVICES IN WALES – THE EFFECTIVENESS OF INFECTION CONTROL AND CLEANLINESS IN AMBULANCE VEHICLES

This review has been undertaken in response to a request from the Minister of Health and Social Services to review the effectiveness of infection control and cleanliness in ambulance vehicles in the emergency ambulance service. The review was undertaken by:

1. Interviews with key individuals with responsibility for infection control, standards and governance, including Clare Cookson, Non-executive Director with responsibility for governance, Andrew Jenkins (Consultant Paramedic/Clinical Governance Lead), Tony Cowley, Fleet Manager and Illtyd Hollard, Clinical Operations Officer and Project Leader of Infection Control.

2. Visits to ambulance stations and receiving A & E departments in all 3 regions.

3. Inspections of emergency ambulances and rapid response vehicles.

4. Interviews with operational staff in all 3 regions.

1. Introduction

1.1 The importance of infection prevention and control for healthcare providers has been increasingly emphasised in recent years. This has been coupled with much greater awareness by patients and the general public, together with an expectation that standards will be consistently applied to reduce the risks to an absolute minimum. To this end, guidance has been reviewed and refined to provide support to healthcare providers. This has also been facilitated by greater scrutiny and inspection of healthcare organisations and the development of
strategic documents, specifically in Wales, the Strategy for Healthcare Associated Infections in respect of the hospital service and more recently the community service. Although these documents do not refer specifically to the ambulance service in Wales, it is reasonable to expect the principles contained within these documents to apply equally to the ambulance service.

1.2 The review recognises that the Welsh Ambulance Service Trust (WAST) is in the process of reviewing, revising and updating its arrangements for infection control and, thus, the report considers planned developments as well as the current arrangements and practices for infection control. Although the timescale for the review was short, the report nevertheless considers the full range of relevant aspects including management arrangements and clinical governance standards, policies and procedures, audits, training and competencies.

2. **Management Arrangements and Governance**

2.1 The organisation is clearly very receptive and committed to the importance of effective infection control. Accountability and responsibility is addressed in the infection prevention and control policy currently in draft form and due for consideration at the EMG meeting. The key relationship is between the regional Infection Prevention and Control Teams feeding into the Trust-wide Infection Control Working Group which reports directly to the Clinical Governance Committee. This is chaired by the Non-executive Director with responsibility to act as patient champion on cleaning hygiene and infection management. This provides a high level opportunity for the Trust Board to be assured about relevant issues. Development of strategy and practical scrutiny of infection control arrangements lies with the Infection Control Working Group. The key challenge will be to ensure that issues identified by the Infection Control Working Group or the Clinical Governance Committee are then reflected through the Operational Management arm of the
Service via the Locality Ambulance Officers and the Clinical Team Leaders. These two positions have a key role in auditing and ensuring the maintenance of standards at an operational level and also that any problems and difficulties are brought to the attention of those with relevant expertise and responsibility. The Infection Control Working Group needs to consider appropriate process measures, as patient focussed outcome measures for Infection control in the Ambulance Service are very limited,. One area to ensure is given appropriate scrutiny in sharps injuries, including audit of their management. Review of relevant complaints and incident reports should also be included in their remit.

2.2 Infection Control is clearly designed to minimise risk to patients and public, but it is also a crucial issue relating to health and safety and staff safety. In this regard, it is essential that there is appropriate occupational health input into the Infection Control Working Group and also that common standards of infection control and Occupational Health and Safety are applied across the organisation. Consistency of implementation and delivery of the Trust staff immunisation requirements is necessary. Staff member knowledge of hepatitis B immunity status (or timely access to this information) is necessary for effective management of sharps injuries. The trust needs to ensure that the current recommendations for blood borne virus screening for new workers engaged in exposure prone procedures is fully implemented (UK Health Departments 2007).

2.3 The Welsh Ambulance Services Trust requires access to appropriate professional infection control advice and support. WAST should commission access to such advice to support the Infection Control Working Group and the Organisation Lead for Infection Control. Whilst that support should occur at a national level, it is important that there is greater regional and local communication and collaboration with Trust-based infection control teams. It may be appropriate to have local or regional infection control leads within the Ambulance Service as
observers on Trust infection control committees. Alternatively, where a regional infection control committee exists that may provide an appropriate level of input for such communication. In addition, a representative from WAST could useful attend the quarterly Welsh Infection Control Forum organised by the Welsh Healthcare Associated Infection Project Team.

2.4 WAST should develop an annual infection control and reduction programme based on relative risks. In general, the highest risk is associated with failures of hand hygiene followed by patient care equipment. Sharps injuries to staff represent a very considerable risk and need to be accorded the highest priority to reduce these, but also to ensure their effective management when they occur. Finally, the general physical environment of the vehicles is important from a patient perspective point of view, but contributes less to risk of transmission of infections.

3. Standards, Policies and Procedures

3.1 The Ambulance Service Association has produced a national policy and strategy framework and this has been incorporated into the WAST Infection Prevention Control Policy.

3.2 In addition, the Welsh Healthcare Standards apply to WAST. The key policies and procedures are the WAST Infection Control Guidance and Procedure policy dated October 2004 and the Guidance for Treatment and Reporting of Inoculation Injuries dated February 2004. Whilst these documents remain fit for purpose, it is important that they are reviewed in the near future by the Infection Control Working Group. In addition, the hand hygiene policy has been implemented in accordance with the NPSA Clean Your Hands campaign. This has been very successful and all the staff interviewed were well aware of the importance of hand hygiene and were fully committed to
implementation of the policy including widespread use of alcohol gel and disposable gloves when indicated.

3.3 Other aspects of use of personal protective equipment (PPE) should be reviewed. Whilst the relevant procedure makes reference to use of aprons, in practice, these seem to be rarely used, possibly because their limited suitability for paramedic use as opposed to use in a hospital setting where patient contact is more controlled and at an appropriate height. Such a review of PPE should also take account of the arrangements for uniform cleaning and storage.

3.4 The infection control policy makes reference to organism based control measures. Whilst this method has commonly been used in the past, it is known that many individuals carrying an organism such as MRSA will not be known to the health service and thus it may be more appropriate to move to a precaution based approach. For example, this has been successfully utilised with undertakers and funeral directors such that the level of precaution is based upon the identified risk and mechanism of transmission rather than the presence or absence of specific organisms. This is something that would be facilitated by links with local infection control teams.

4. **Training and Education**

4.1 All staff had received induction training and relevant training in the infection control aspects of procedures and practices and use of equipment. Specific ongoing infection control training and education is more variable, although it is excellent to see that staff are being given training via the Welsh Infection Control E-Learning Tool. This has been very well received and the intention is for all clinical team leaders to undergo this training. This will provide a very substantial resource in infection control expertise for use at an operational level. It would be timely with the provision of this advice for WAST to review its training requirements and develop a training plan and to ensure that that
protected time is available both for those undertaking this training, and also to enable them to provide cascade training to others.

5. **Audit and Cleanliness**

5.1 An extensive and comprehensive audit tool and programme has been developed for ambulance stations and emergency ambulance vehicles. This is very detailed and will provide comprehensive information to managers at a local and national level as to compliance with the standards and also facilitate the identification of areas where there is consistent poor performance with a view to developing corrective and preventative action. Review of the ambulance vehicles identified a number of areas for further work. The new Mercedes 515 ambulances have been designed to support the infection control requirements and make it easy to maintain high standards. All the ambulances examined were of an acceptable level of cleanliness and had very few design problems. It is important to highlight, however, the use of webbing patient restraints on the trolleys. The nature of the woven fabric is such that adequate decontamination is very difficult if not impossible and consideration should be given to substituting with a more suitable material.

5.2 Additionally, it was regularly commented that it was sometimes difficult to access cleaning materials and space in A & E departments. In many sites, this was dependent upon goodwill and an informal understanding between the local staff. A formal agreement should be obtained between the WAST and local Trusts to provide ambulance staff, particularly paramedics, with access to suitable storage for cleaning materials. Additionally, arrangements for replenishment of used linen should be covered by the agreement together with disposal of clinical waste generated at the scene of the patient incident and carried on board the vehicle. Where major refurbishment or rebuilds of A & E departments are being undertaken, the Welsh Ambulance Service Trust should be fully consulted to include the arrangements for
effective infection control and cleaning and decontamination. The make ready system should ensure that clean ambulances are available at the start of the day (it may be helpful to have a check system to confirm the cleanliness status of the vehicle at handover), and will also deal with ambulances where there has been significant environmental contamination. However, there will always remain a need for simple and rapid cleaning and decontamination of patient trolleys etc between patient carriage. Many staff stated that the operational demands for the service made it very difficult to ensure that this happened on every occasion. However, it may be that the improvement in waiting times outside A & E departments will enable more time to be devoted to this essential purpose.

5.3 A number of ambulance stations were inspected, and there was clearly considerable variability in the suitability of cleaning facilities. The basic requirements should consist of a sluice suitable for cleaning a spinal board, sink for other equipment and separate wash hand basin. It is important to ensure that in store cupboard sufficient shelving is provide such that equipment/material are not stored on the floor, making cleaning more difficult.

5.4 These are, of course, issues that should be identified by the audit process and reviewed through the governance structure.