2020 Annual SHOT Report – Supplementary information

Chapter 6: Acknowledging Continuing Excellence in Transfusion

Case 6.1: Provision of blood components in complete power outage

Due to a lightning strike a complete power outage, including emergency power, occurred across a hospital site for a total of 2 hours. This resulted in total loss of power to all critical storage equipment, blood group analysers, plasma thawers, laboratory information management systems (LIMS) computer terminals, temperature monitoring system, and telephone lines across the site. Uninterruptable power supply (UPS) was maintained with 2 LIMS terminals throughout. Following failures to contact colleagues through back up phone lines, the lone BMS on duty established communication through social media, which triggered a coordinated response. Contact was made with consultants at the blood service to agree provision of emergency group blood components only, and face to face contact with the emergency department was maintained frequently. During this time urgent provision of blood components was required for a major haemorrhage (MHP) and a patient on high dependency unit, a total of 2 RBC and 8 units of FFP were provided. For the MHP 4 units of fresh frozen plasma were thawed using warm water and a risk assessment completed. Infrequent contact was made with Consultant on call due to phone challenges therefore there was no medical input / decision regarding use of blood (concessionary release / discard etc). Staff were working in extremely stressful conditions - darkened conditions (no electricity and no emergency lighting, scaffolding outside due to building works, dark due to weather conditions), lone working, urgent component requests. No adverse patient outcomes were noted.

Organisational systemic factors complicated the response to the event: authorised person on call for the site was unable to determine extent of power outage, there was no formal on call support for electronic health support systems therefore this was not available until the following day, and some telephone lines are networked through IT systems so were unavailable during this IT failure. The organisation held a lesson learned event with all parties involved and identified:

- Communication issues between laboratory and on call consultant, blood service and staff members off site
- Emergency contacts lists were not effective
- Lack of clarity of process for stock management
- Lack of knowledge by laboratory staff of how long fridges and freezers were validated for in the event of power down time (This information is held within validation reports which are not stored within the laboratory)
- Manual temperature monitoring when auto reporting is unavailable
- Lack of clarity on what equipment is covered by UPS

Appropriate preventative and corrective actions have now been implemented at the site.