death in December 2015 also exposed inadequate liaison between COCH clinicians and the transport team. There appears to be no formal mechanism or process for joint M&M review across the network for infants who have been transferred between units, and no mechanism to trigger closure of a unit when it has reached capacity.

Recommendation: Clarify between network and commissioners the arrangements for multi-site investigations and timely implementation of actions

Recommendation: The network should develop a policy for temporary closure of a unit to admissions due to capacity concerns

4.5.10 The COCH team works naturally with Arrowe Park NICU and is considering working more closely together (see3.14). Where neonates may require surgery (e.g. swollen abdomen) there is some confusion about the protocol with some clinicians contacting the surgical team at Alder Hey immediately, and others talking through the situation with the neonatologists in LWH or Arrowe Park first. These pathways were explored in a surgical review in April 2016 which made six recommendations for service providers and five for the network including a communication improvement plan and a single surgical model to reduce confusion and delays.

4.6 Are there any identifiable common factors or failings that might in part or in whole explain the apparent increase in mortality in 2015 and 2016?

4.6.1 The Review team considered carefully the various pieces of evidence and the overview provided of the cases in question (set out in Appendix 4). The unit took 11% of network admissions but experienced 13% of the deaths in 2015. The consultants had explored a number of factors themselves but not in a systematic way nor following sound governance and root cause analysis processes, and the involvement of the network clinical governance group had been relatively supervisory, working on the summaries of cases rather than examining each in detail .

4.6.2 A number of recommendations have been included in this report which draw out areas of non-compliance with standards or where practice might be improved. To summarise,

- Staffing levels are inadequate; when mapped to the actual activity and acuity of a LNU under the BAPM standards, both from a nursing and a medical perspective.

- Escalation of concerns to tertiary units for advice or transport was sometimes delayed and network agreement to encourage a lower threshold for escalation and discussion is required.

- Most of the infants had undergone a Post Mortem from one of the three perinatal pathologists at Alder Hey but these did not include systematic tests for toxicology, blood electrolytes or blood sugar since the infants died in hospital