

**NHS BLOOD AND TRANSPLANT
LIVER ADVISORY GROUP**

CUSUM MONITORING: UPDATING EXPECTED 90-DAY MORTALITY RATES

1. For CUSUM monitoring to remain informative expected mortality rates need to be updated on a regular basis to keep them relevant to current practice. Current expected rates are based on centre-specific performance between 1 January 2002 and 31 December 2005 and the revised rates will be based on performance between 1 January 2008 and 31 December 2011. As with current expected rates the calculation to determine the revised rates will give greater weight to the most recent performance. The monitoring period will also be brought forward so that the monitoring period is independent of the period used to calculate the baseline rates. The revised expected rates are presented in **Table 1**.

	Expected mortality (%)		Rate change (%)
	Current rate	Revised rate	
Adult elective			
Newcastle	4.6	6.9	2.4
Leeds	8.4	3.9	-4.5
Cambridge	5.0	2.6	-2.4
Royal Free	8.6	4.4	-4.2
Kings College	4.8	2.7	-2.1
Birmingham	7.7	7.2	-0.5
Edinburgh	7.1	5.2	-1.9
National	6.6	4.6	-2.0
Adult super-urgent			
Newcastle	15.9	5.6	-10.4
Leeds	12.8	17.7	4.9
Cambridge	11.8	5.6	-6.3
Royal Free	23.1	12.0	-11.1
Kings College	20.9	8.9	-12.1
Birmingham	12.2	16.3	4.1
Edinburgh	11.8	10.7	-1.2
National	15.5	11.0	- 4.5
Paediatric elective			
Leeds	2.2	5.6	3.4
Kings College	2.2	2.9	0.7
Birmingham	4.0	5.5	1.5
National	2.2	4.3	2.1
Paediatric super-urgent			
Leeds	13.8	16.7	-2.9
Kings College	9.1	21.3	-12.2
Birmingham	34.7	29.6	5.1
National	19.0	24.0	4.8

2. The consequence of updating the expected mortality rates is that historical signals may disappear if a centre's expected rate has increased. Conversely, additional historical signals may appear if a centre's expected rate has been reduced. New historic signals which appeared as a result of these amendments will not be investigated retrospectively.
3. The revised rates will be incorporated into all subsequent monthly CUSUM reports monitoring 90-day mortality following liver transplant.

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