

NHS BLOOD AND TRANSPLANT
LIVER ADVISORY GROUP

**SUMMARY OF CUSUM MONITORING OF OUTCOMES FOLLOWING
LIVER TRANSPLANTATION**

INTRODUCTION

1. NHSBT monitors short-term patient outcomes following organ transplantation through centre specific cumulative sum (CUSUM) analyses. These are undertaken monthly for liver transplantation. These 'within centre' analyses enable prompt detection of any changes in mortality rates, providing external assurance and enabling centres to compare current outcomes with their own past performance to assist in internal auditing. CUSUM monitoring compares current outcome rates with an expected rate.
2. Each month, CUSUM monitoring reports on 90-day mortality following liver transplantation are produced and sent to each centre. This paper summarises the results of these reports for the six-month period since the last CUSUM monitoring update from May 2025. Where signals have occurred, actions that were taken and lessons learnt are noted.
3. CUSUM monitoring reports have been sent out to Dublin since October 2023 and there have not yet been any signals against the centre specific, UK and national rates.

RESULTS

4. **Table 1** shows that there was three signals from CUSUM charts produced between May and October 2025.
 - a. Adult elective transplants performed at Cambridge signalled against the centre-specific rate in October 2025 for transplants up to 31 May 2025. This signal did not require a formal response.

Table 1 Summary of CUSUM signals for charts produced between May and October 2025				
Month CUSUM report issued	No. reports issued	No. signals	No. signals requiring investigation	No. investigations outstanding
May 2025	8	0	0	0
June 2025	8	0	0	0
July 2025	8	0	0	0
August 2025	8	0	0	0
September 2025	8	0	0	0
October 2025	8	1	0	0
Total	48	1	0	0

CONCLUSION

5. Over the last six months, there has been one signal against centre-specific rate for adult elective liver transplant.