

NHS BLOOD AND TRANSPLANT

CARDIOTHORACIC ADVISORY GROUP – HEART

SUMMARY OF CUSUM MONITORING OF OUTCOMES FOLLOWING HEART TRANSPLANTATION

INTRODUCTION

- 1 NHSBT monitors short-term patient outcomes following organ transplantation through centre specific cumulative sum (CUSUM) analyses. These are undertaken monthly for cardiothoracic 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.
- 2 The methods used in the analysis are based on CUSUM monitoring and compare current outcome rates with an expected rate.
- 3 Each month, reports are sent to each centre monitoring their short-term mortality following heart transplantation. This paper summarises the results of these reports for the six month period since the last Cardiothoracic Advisory Group meeting. Where signals have occurred, actions that were taken and lessons learnt are noted.
- 4 In April 2022 the outcome for the heart transplant CUSUMs was changed from 30 day to 90 day mortality following agreement from the Cardiothoracic Advisory Group. Additionally, DCD heart transplants are now included in the expected mortality rates as well as the monitoring cohort.

RESULTS

- 5 **Table 1** shows that over the six month period since the last Cardiothoracic Advisory Group meeting there has been one CUSUM signal; Papworth signalled in November against their centre-specific mortality rate following a transplant performed in June 2024.

Table 1 Summary of CUSUM analysis results

Month CUSUM report issued	No. reports issued	No. signals	No. signals requiring investigation	No. investigations outstanding
September 2024	7	0	0	0
October 2024	7	0	0	0
November 2024	7	1	1	0
December 2024	7	0	0	0
January 2025	7	0	0	0
February 2025	7	0	0	0
Total	42	1	0	0

CONCLUSION

- 6 Over the six month period since the last Cardiothoracic Advisory Group meeting there has been one centre-specific rate signal in the CUSUM reporting for heart transplantation.