

NHS BLOOD AND TRANSPLANT

PANCREAS ADVISORY GROUP

SUMMARY OF CUSUM MONITORING OF OUTCOMES FOLLOWING PANCREAS TRANSPLANTATION

INTRODUCTION

1. NHSBT monitors short-term patient outcomes following organ transplantation through centre specific cumulative sum (CUSUM) analyses. These are undertaken quarterly for pancreas transplantation. These 'within centre' analyses enable prompt detection of any changes in failure and mortality rates, providing external assurance and enabling centres to compare current outcomes with their own past performance to assist in internal auditing. Pancreas outcomes following solitary pancreas and simultaneous pancreas kidney (SPK) transplant and kidney outcomes following SPK transplant are monitored.
2. The methods used in the analysis are based on CUSUM monitoring and compare current outcome rates with an expected rate. Each quarter, CUSUM monitoring reports on 30-day graft failure and mortality following pancreas transplantation are produced and sent to each centre. This paper summarises the results of these reports for the time period since the last Pancreas Advisory Group meeting. Where signals have occurred, actions that were taken and lessons learnt are noted.
3. For CUSUM monitoring to remain informative, expected 30-day mortality and 30-day graft failure rates need to be updated to keep them relevant to current practice.

RESULTS

4. **Table 1** shows that in the time period since the last Pancreas Advisory Group meeting there have been no signals in pancreas transplantation nor in kidney outcome following SPK transplant CUSUM reporting.

Month CUSUM report issued	No. reports issued	No. signals	No. signals requiring investigation	No. investigations outstanding
Pancreas outcome				
December 2024	8	0	-	-
March 2025	8	0	-	-
Total	16	0	-	-
Kidney outcome following SPK				
December 2024	8	0	-	-
March 2025	8	0	-	-
Total	16	0	-	-

UPDATING EXPECTED RATES

5. Pancreas transplant centres are monitored against the national graft failure and patient mortality rates in a recent, historical period. Current expected rates are based on performance between 1 January 2015 and 31 December 2018 and the new rates will be based on performance between 1 January 2018 and 31 December 2022. Revised expected national rates of patient mortality and pancreas graft failure have been set at 1.0% and 6.5%, respectively (compared to 1.0% and 7.3% previously). Revised expected national rates of patient mortality and kidney graft failure following SPK transplant have been set at 1.0% and 1.5%, respectively (compared to 1.0% and 2.1% previously). The

monitoring period will also be brought forward so that it remains independent of the period used to calculate the baseline rates.

SUMMARY

6. Over the time period since the last Pancreas Advisory Group meeting, there have been no signals in pancreas transplantation CUSUM reporting. There were also no signals in the kidney outcome following SPK transplantation CUSUM reporting.
7. Expected mortality and graft failure rates have been updated to ensure CUSUM monitoring is relevant to current practice and the revised rates will be implemented in the next CUSUM report due in June 2025. Any new historical signals which appear as a result of these amendments will not be investigated retrospectively.

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April 2025