A case study on the potential outliers identified in the first prospective cataract audit report

Background

The Royal College of Ophthalmologists has been commissioned by the Healthcare Quality Improvement Partnership (HQIP) to undertake a National Ophthalmology Audit in England and Wales. The project concentrates on cataract surgery and forms part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). These projects give individual surgeons, healthcare providers and the public benchmarked reports on performance, with the aim of improving the care provided.

An outliers' policy has been developed to help clinicians understand the process and stages involved when their centre level or individual level outcome is identified as an outlier i.e. outside of the nationally acceptable statistical range. A copy of the outliers' policy is available on the NOD Audit website, https://www.nodaudit.org.uk/resources/policies.

Following the analysis of the data collected in the first year of the prospective cataract audit, three potential outliers, one surgeon and two centre outliers were identified as their risk adjusted rates were higher than the upper limits of acceptable practice. The upper limit takes accounts both case complexity and the number of cases undertaken (statistical uncertainty). It is calculated as the nationally accepted benchmark (mean) plus three standard deviations (3SD).

This document has been developed to help clinicians improve the completeness and accuracy of their audit data collection, which will help to improve data accuracy and drive quality improvement.

Approach

- The NHS cataract surgical centres participating in the audit collect data on their Electronic Medical Record (EMR) systems or in-house databases for a 12-month period, after which the relevant audit data are extracted/ submitted for that data collection period.
- Following the data submission, the audit analysis team undertakes data analysis and any centres or surgeons that have their outcome outside of the nationally acceptable statistical range are flagged as potential outliers.
- The NOD Audit outliers' policy is used to engage with any potential outliers identified. In line with the policy, the audit provider is required to inform the surgeon, the clinical lead and the medical director at the centre of their potential outlier status.
- The relevant audit data are provided to those involved to investigate issues locally and feedback comments e.g. a justifiable explanation for their outlier status or identification of

possible data errors. This gives centres and surgeons the opportunity to check the data submitted and allows for any necessary recalculations depending on the findings locally.

Findings

Investigations were carried out locally by all the potential outliers and in each case it was clear that there were significant data uncertainties. They all indicated that they were not accurately recording their case complexities (risk factors) and it was also discovered that one of the centres had not entered a significant number of their cataract operations (about 800 cases) due to slow uptake of the Electronical Medical Record (EMR) system by their staff.

If cataract surgeons perform complex cases and the case complexity (risk factors) information are not accurately recorded on the data collection tool (EMR systems/in-house databases), it is not possible for the audit analysis team to account for unrecorded case complexity (risk factors) and it is assumed that exclusively or predominantly low risk operations have been performed.

In these instances, the large volumes of data involved made it unfeasible to go back and check all the cases submitted to the audit in the available timeframe.

Conclusion

After careful consideration of the investigation findings, it was concluded that the outcomes of the potential outliers were not fit for publication due to the inaccuracies and poor quality of data submitted, a problem which would render the audit results for these outliers as unreliable.

It is important that surgeons collect accurate and complete data for each cataract operation undertaken as imperfect recording of case complexity will result in an adverse impact on their outcomes.

The NOD audit's engagement with the potential outliers encouraged them to focus on quality improvement, and assurance was received that the issues identified would be picked up as a learning point to improve their audit data collection going forward.