



Detection and management of mortality
outliers for the National Hip Fracture Data
Base (NHFD)

Outlier policy for NHFD annual report 2018

Title	Detection and Management of Outliers for National Hip Fracture Data Base (NHFD)
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Description	This document details the identification and management of significantly outlying organisations in the NHFD 30-day casemix-adjusted mortality funnel, which will be published in the NHFD annual report 2018.
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Definitions

BGS	British Geriatrics Society
BOA	British Orthopedic Association
CCG	Clinical Commissioning Group
CEEU	Clinical Effectiveness and Evaluation Unit, RCP
CEO	Chief Executive Officer
CQC	Care Quality Commission
DLES	Data Linkage and Extract Service, HSCIC
FFFAP	Falls and Fragility Fracture Audit Programme, RCP
HQIP	Healthcare Quality Improvement Partnership
NHFD	National Hip Fracture Database
WDT	Workstream Delivery Team

DETECTION AND MANAGEMENT OF OUTLIERS

These recommendations apply to:

- comparisons of providers (hospitals) using batches of data collected over the defined period of monitoring (calendar year of report)
- the chosen key indicator, case-mix adjusted 30 day patient mortality

The IT provider is Crown Informatics.

The statistical analysis is to be carried out by the subcontractor, Oxford University, NDORMS unit.

1. Choice of performance indicator

Case-mix adjusted 30 day mortality is the chosen key performance indicator (KPI), it is a valid measure of a provider's quality of care in that there is a clear relationship between the indicator and quality of care.

2. Choice of target (expected performance)

The expected performance is measured against the previous two years- worth of clinical audit data. Any hospitals that are greater than 2 standard deviations above the mean are considered mortality outliers. Assessment and case-mix adjustment is performed by Oxford University, NDORMS unit, as an external source.

3. Data quality

Three aspects of data quality must be considered and reported on:

- case ascertainment: number of patients included compared to number eligible, derived from Hospital Episode Statistics (HES) data
- data completeness
- case-mix adjustment

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4. Case-mix (risk) adjustment

Comparison of hospitals must take account of differences in the mix of patients between providers by adjusting for known, measurable factors that are associated with the performance indicator.

These include: age, sex, ASA grade, source of admission, mobility and fracture type.

Oxford NDORMS unit uses a funnel plot metric for case-mix adjusted mortality analysis. This model has been rigorously tested with regard to its power of discrimination and its calibration, together with details of the model are reported in the 2017 annual report.

5. Detection of a potential outlier

Statistically derived limits around the target (expected) performance are used to define if a provider is a potential outlier: more than two standard deviations from the target are deemed an 'alert'; more than three standard deviations are deemed an 'alarm'.

6. Management of a potential outlier

Management of potential outliers involves several people:

- NHFD audit team: responsible for managing and running the audit nationally and informing participants of the outlier process, timeline and methodology
- NHFD clinical leads: responsible for assessment on data quality and direct communication with services for outlier status notification
- outlying hospital NHFD lead clinician: clinician contact for NHFD in provider organisation

- outlying hospital medical director and chief executive

The following table indicates the stages needed in managing a potential outlier, the actions that need to be taken, the people involved and the time scale. It aims to be both feasible for those involved, fair to providers identified as outliers and sufficiently rapid so as not to unduly delay the disclosure of comparative information to the public.

7. Involvement of the Care Quality Commission (CQC) and Health Inspectorate of Wales (HIW)

The CQC and Health Inspectorate Wales are included in the guidance so as to provide them with assurance that organisations are engaging appropriately in the process.

The CQC and/or Health Inspectorate Wales, if applicable, are to be notified of both alert and alarm level outliers. This is inclusive of the correspondence from the clinical leads, the replies from providers and steps taken to rectify/ improve the status. The regulators will be notified in the form of:

- written letter (signed by the clinical leads)
- email (copy of the letter above)

The CQC/ Health Inspectorate of Wales will not usually take regulatory action if organisations are responding appropriately to each stage of the outlier management process at alert and alarm level.

Policy

Stage	What action?	Who?	Schedule
1	Report data slice (1 Jan to 31 Dec 2018) extracted from data base and sent to NHS- Digital	IT provider (Crown)	February 2018
2	HES linked NHFD data transferred to Oxford NDORMS unit via secure transfer mechanism	NHS- Digital	February 2018
3	ONS linked NHFD data transferred to Crown Informatics via secure transfer mechanism	NHS- Digital	February 2018
4	Identification of centres with unusual patterns of case-mix adjustment which may impact on mortality analysis	Oxford, NDORMS	March 2018
6	Linked data transferred to Oxford NDORMS via secure transfer mechanism	IT provider	April 2018
7	Provisional funnel plot provided to NHFD WDT <ul style="list-style-type: none"> • Outliers (both high and low mortality) identified • Table of case-mix factors for outliers provided, alongside national descriptor figures (mean/range) - as a credibility check on data quality • Careful scrutiny of data handling, matching and analyses performed to determine in which hospitals there is a case to answer Where outlier status can be clearly associated with poor case-mix data quality <ul style="list-style-type: none"> • Centre will <u>not</u> be excluded from analysis or reporting • Organisations informed – letter to CEO, medical director, and lead clinician • Advised on data quality/checking in advance of next report period • Commentary in report will describe context of finding ie data quality issue • FFFAP and CEEU clinical director to be informed 	Data analyst NHFD WDT	June 2018

8	Updating of all Trust contact details for outlying hospitals (both high and low outliers) – CEO, lead clinician, medical director, clinical governance lead	NHFD team	June 2018
9	Final funnel plot provided to NHFD team	Oxford, NDORMS	June 2018
12	Weekly update of hospital contacts maintained by NHFD project manager for NHFD data base	NHFD project manager	June- July 2018
13	Acknowledgement of receipt received by NHFD Follow-up letters if no acknowledgement received in five working days	Provider CEO	August 2018
14	Provider appeals outlier status and provides evidence to support this: Provider failure <ul style="list-style-type: none"> Provider accepts/claims that there has been a failing in local coding and data checking If this appears true we indicate in report that finding is on the basis of data quality If no evidence to support a claim of coding failure then reported as clinical finding NHFD error Site highlights an error in NHFD analysis. Corrections applied, and reconsideration of outlier status is made	NHFD clinical leads	August 2018
15	Provider fails to respond to letter within 14 working days <ul style="list-style-type: none"> Letter resent NHFD clinical lead phones provider CEO and asks for acknowledgement with action plan	NHFD clinical leads	August 2018
16	Provider fails to respond to NHFD telephone call within 7 working days <ul style="list-style-type: none"> Final letter to CEO Copied to CEEU clinical director 	NHFD clinical leads	August 2018
17	Final draft of NHFD report is submitted to HQIP	NHFD WDT	July 2018
18	Embargoed report made available to outlying trusts, to BOA and BGS	NHFD WDT	August 2018
	Report published as per HQIP SRP timeline	NHFD WDT	September 2018
19	Review of the progress/results of investigations undertaken by Outlier Provider Follow-up protocol Until adequate update on findings/remedial measures received from Provider CEO: <ul style="list-style-type: none"> Further reminder letter sent at 2 weeks Telephone call to provider lead clinician at 4 weeks Notification of FFFAP and CEEU leads if no response before end of January 2019 Notification of HQIP if no response before end of February 2019 (see below)	NHFD clinical leads	December/ January 2018
20	All outlier issues finally closed <ul style="list-style-type: none"> either closed as adequate responses or escalated to HQIP as inadequate responses 	NHFD WDT	March 2019
	CGC/ HIW notified by letter and email of; <ul style="list-style-type: none"> Units who are outliers Units responses and management strategies	NHFD WDT	March 2019

Scope

This policy will be applied to measures of specific patient safety concern – currently 30 days mortality rate. Other unusual findings identified by the NHFD annual report will be managed out with the scope of this policy by communication between the NHFD clinical leadership and the local lead clinician.

Process

Prepared on behalf of the NHFD WDT and FFFAP board by

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